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Decentralized but Dependent: Clientelism through Workfare

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Abstract

This paper studies how discretionary intergovernmental transfers can sustain political dependence in decentralized systems. We develop a probabilistic voting model of two-layered clientelism in which the central government allocates workfare across municipalities while choosing whether programs are administered locally by mayors or centrally by state agencies. When mayors control access to jobs, the center can condition future allocations on local electoral performance, turning mayors into vote brokers. Using municipality-level administrative data on Hungary's workfare program and a difference-in-differences design, we show that higher workfare intensity increased support for both the national incumbent party and local mayors—but only when programs were administered by mayors rather than by state-owned enterprises following bureaucratic rules. Consistent with the model, municipalities that delivered weaker support in national elections subsequently received fewer positions in mayor-managed programs, and the electoral returns to workfare are larger where mayoral races are more competitive. Together, these findings show how discretionary local control and politically contingent funding can transform decentralization from a mechanism of accountability into one of vertical clientelism.

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Keywords

workfare program, clientelism, decentralization

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1 Introduction

Political decentralization is often expected to strengthen democratic accountability by bringing politicians closer to citizens and making them more responsive to local needs. In practice, however, local governments frequently lack the administrative capacity and fiscal resources to govern independently. Because their budgets rely heavily on transfers from the central state, they often bear responsibility without full control. This vertical imbalance—local accountability combined with fiscal dependence—is a well-documented feature of decentralized systems (Bardhan, 2002).

Fiscal dependence creates a structural tension: local officials are accountable to voters, yet the resources they administer remain under the control of the central government. Where institutional checks are weak, the center can exploit this imbalance by tying discretionary transfers to electoral support, using them as instruments of clientelism—the *conditional* exchange of benefits for political loyalty. In such settings, local officials become intermediaries between voters and the center: their proximity to voters allows them to mobilize support, while their dependence on central funds limits their autonomy. As a result, decentralization can become a source of political dependence rather than local empowerment. Consistent with this idea, Figure 1 documents a positive cross-country relationship between local governments' fiscal dependence on the center and clientelism. This raises the question of when discretionary transfers turn decentralization from a mechanism of accountability into a tool of political control.

This paper examines how central governments in decentralized systems use discretionary transfers to gain electoral advantage. We develop a probabilistic voting model in which the central government allocates workfare across municipalities and chooses whether workfare is administered by local mayors or by central agencies. When programs are managed by mayors, participant selection is discretionary; when they are administered by central agencies, discretion is limited. This allows mayors to make access to workfare contingent on political support. The result is a two-layered clientelistic relationship: mayors exchange workfare access for votes at the local level, while the central government allocates mayor-managed workfare in exchange for electoral support brokered by mayors in national elections. We test the model's predictions in the context of Hungary's workfare reform, which expanded public employment, reduced social assistance, and shifted much of welfare provision to the local level. Using a difference-in-differences design, we show that workfare increased support for both the incumbent national party and local mayors. Consistent with the model, these effects disappear when programs are not administered locally. We further show that allocations of mayor-managed workfare responded to municipalities' electoral support for the government, highlighting how discretionary funding can sustain political dependence between the center and local officials.

In Section 2, we develop a probabilistic voting model of clientelism with intermediaries under incomplete information. The central government allocates workfare across municipalities, choosing both the total number of positions and the share administered by local mayors rather than state agencies. When mayors administer workfare, they can monitor recipients and

credibly threaten exclusion, allowing access to be conditioned on political support and thereby increasing the electoral return to workfare relative to centrally administered programs. Because mayoral vote-brokering effort is costly and not directly observable, the central government cannot contract on it directly. Instead, it conditions future mayor-administered workfare on observed national electoral outcomes: municipalities that fall short of a target level of support lose access to discretionary workfare before the next local election. This threat is effective because mayors value control over workfare as a tool for their own re-election. The model yields three testable predictions: the electoral effect of workfare depends on who administers it locally; support for the government in national elections is positively associated with subsequent mayor-administered workfare allocations; and mayors are more likely to cooperate when their own electoral race is tight.

We test these predictions in the context of the major labor market and welfare reforms in Hungary described in Section 3. After winning the 2010 election, the Fidesz government sharply reduced unemployment benefits and curtailed other social transfers while simultaneously expanding public work programs. Responsibility for these programs, including participant selection, was delegated to municipal mayors, who exercised substantial discretion over implementation. As public work increasingly replaced other forms of social assistance, the reform effectively turned social assistance into a workfare system. The program was further expanded by the Fidesz government between October 2013 and the April 2014 national election, raising the number of public workers by about 30 percent. Because most mayors were independents rather than members of the governing party, the Hungarian case also allows us to study political dependence without the confounding role of partisan alignment. This combination of mayoral discretion, rapid program expansion, and the absence of partisan confounding makes Hungary a particularly useful setting for testing how discretionary transfers shape political support.

Section 4 describes the data sources and empirical strategy. We construct a municipality-level panel by combining administrative records on public work, unemployment, income, demographics, and election results. We measure workfare participation as the share of public workers in the working-age population. To estimate the political effects of the program, we implement a difference-in-differences design that compares changes in electoral outcomes in the national and local elections across municipalities with higher and lower exposure to public work before and after the reform. Because the program was explicitly designed as a substitute for unemployment benefits, participation is systematically higher in municipalities with weaker local labor markets.

We begin our empirical analysis in Section 5 by showing that workfare significantly increased support for the incumbent Fidesz party in the 2014 national election. A one percentage point increase in the share of public workers in the working-age population increased Fidesz votes by 0.14 percentage points relative to the number of eligible voters. This effect reflects both higher vote shares and higher voter turnout. Importantly, municipalities with high and low workfare participation did not exhibit differential pre-trends in Fidesz support before 2014,

lending credibility to the parallel trends assumption.

Public work also increased support for incumbent mayors. A one percentage point increase in workfare share raised support for mayors among eligible voters by 0.2 percentage points. Beyond vote totals, higher workfare participation also reduced mayoral turnover, helping local officeholders consolidate their position. Together, these findings show that workfare strengthened incumbents at both the national and local level.

In Section 6, we provide evidence that the observed increase in political support associated with workfare is most consistent with a clientelistic mechanism. Because public work provides material benefits to recipients, it could increase political support even in the absence of clientelism. Our evidence, however, suggests that its political effects cannot be explained by non-contingent programmatic redistribution alone. Instead, the allocation patterns and electoral effects we document point to contingent political exchange. We present three pieces of evidence.

First, we show that the political effects of workfare depend on who controls access to jobs. The program operates in two forms identical in pay scale and eligibility rules but differing in discretion: some positions are managed by state-owned enterprises (SOEs) following bureaucratic procedures, while others are run by municipalities where mayors decide who participates. Exploiting this within-program variation, we find that only mayor-managed workfare increases support for incumbents at both the national and local level; SOE-administered programs have no measurable electoral effect.

Second, we show that public work funding before mayoral elections responds systematically to the government's support in preceding national elections. Municipalities where Fidesz performed better in the 2014 national election subsequently received more workfare funding. Dynamic estimates show no differential pre-trends before the election and indicate that the divergence emerged only after the national election and faded after the local elections, consistent with a reward-punishment mechanism timed to the local electoral cycle. The pattern is concentrated entirely in mayor-managed programs, while allocations to state-owned enterprises (SOEs) remain stable. A back-of-the-envelope calculation implies that one fewer Fidesz vote is associated with the loss of roughly 1.5 mayor-managed workfare positions at the sample mean, highlighting the electoral value of discretionary control over the program.

Third, we examine heterogeneity in the political effects of public work. Consistent with our model, the electoral returns to workfare are stronger in municipalities where mayoral elections are more competitive. This pattern supports the idea that clientelistic exchange is more effective when local incumbents have stronger incentives to mobilize votes and retain control over discretionary workfare.

Related literature This paper contributes to the literatures on decentralization, clientelism, and workfare programs. Together, these speak to how discretionary local control over centrally financed workfare programs can sustain vertical clientelism across tiers of government and between officials and voters. Decentralization can improve targeting because local officials possess superior information about household needs (Alderman, 2002; Galasso and Ravallion,

2005; Alatas et al., 2012), and it may strengthen accountability by increasing the visibility of officeholders and bringing policy decisions closer to voters (Fisman and Gatti, 2002). At the same time, when local governments depend on discretionary resources controlled by higher tiers of government, decentralization can also create scope for political manipulation. Existing work shows that central governments may use intergovernmental resources strategically to influence local officials (Khemani, 2010; Solé-Ollé and Sorribas-Navarro, 2008; Arulampalam et al., 2009; Bracco et al., 2015; Vasvári, 2022), and that local politicians may in turn help mobilize voters in national elections (Corvalan et al., 2018; Bohlken, 2016; Shenoy and Zimmermann, 2022). More broadly, incentives across tiers may be aligned through career concerns and party organization (Riker, 1964; Martinez-Bravo, 2014; Shenoy and Zimmermann, 2022). In Hungary, recent evidence also shows that changes in local political alignment affected the allocation of discretionary grants to municipalities, with aligned municipalities receiving more support (Vasvári and Longauer, 2024). We contribute to this literature by showing how a centrally financed but locally administered workfare program can shift local accountability upward, turning decentralization into a mechanism of political control. When access to resources depends on local electoral performance, local elected officials become accountable not only to voters but also to the center. This goes beyond simple partisan alignment: local electoral outcomes shape subsequent allocations of discretionary resources.

Second, this paper contributes to the literature on clientelism. Theoretical models emphasize that clientelism requires discretionary and conditional benefits, since reversibility allows incumbents to credibly threaten punishment and sustain contingent exchange (Stokes, 2005; Bardhan and Mookherjee, 2012; Robinson and Verdier, 2013).[1] Consistent with this view, clientelistic linkages weaken when voters become less vulnerable or when transfers provide financial independence and are insulated from political manipulation (Bobonis et al., 2022; Frey, 2019; Blattman et al., 2018).[2] Because politicians often cannot sustain contingent exchange directly, clientelistic systems rely on intermediaries who monitor voters, mobilize support, and help enforce contingent exchange (Larreguy, 2012; Larreguy et al., 2016).[3] Recent work further shows that political organizations reward intermediaries who successfully deliver votes (Gingerich, 2020; Brierley and Nathan, 2022; Colonnelli et al., 2020). We contribute to this literature by showing that a discretionary workfare program can create political dependence at two levels: mayors depend on the center for future funding, and voters depend on mayors for access to jobs. Because future funding responds to electoral performance, the program allows the central government to reward supportive mayors and discipline those who fail to deliver votes. These political effects are concentrated in mayor-managed programs, underscoring that local discretion over implementation is central to the mechanism.

[1] More broadly, the electoral value of targeted, reversible benefits may shift resources away from broad public goods and toward transfers that are easier to condition on political loyalty (e.g., Wantchekon, 2003; Keefer and Khemani, 2005; Khemani, 2015).

[2] In other contexts, cash transfer programs can increase support for incumbents, see e.g. Manacorda et al. (2011); Pop-Eleches and Pop-Eleches (2012); Labonne (2013).

[3] Parties can rely on private brokers or on elected local officials; much of the literature emphasizes the former (Finan and Schechter, 2012; Larreguy, 2012; Vicente, 2014; Duarte et al., 2019).

Finally, this paper contributes to the literature on workfare and public employment programs. Workfare is widely used as a social protection tool, especially in settings where limited administrative capacity makes it difficult to target transfers using reliable income information (Besley and Coate, 1992; Banerjee et al., 2024). A large literature studies its economic effects, including impacts on employment, earnings, labor market spillovers, and poverty reduction (Azam, 2012; Imbert and Papp, 2015; Murgai et al., 2016; Bertrand et al., 2021; Cook and Shah, 2022; Franklin et al., 2024; Muralidharan et al., 2023). More recent work emphasizes the political salience of social protection programs and the scope for politicians to manipulate their expansion, timing, and access for electoral gain (Camacho et al., 2026). These concerns are especially relevant for workfare, where access to public jobs is locally mediated and potentially discretionary. Existing studies show that decentralized implementation can create scope for patronage and clientelism in public employment programs (Shenoy and Zimmermann, 2022; Maiorano et al., 2018; Misra, 2022). We contribute to this literature by showing that the political effects of workfare depend not only on the existence of the program, but also on who controls its local implementation. In our setting, workfare generates electoral returns only when mayors control access, highlighting how a public employment program can simultaneously serve as social protection and as an instrument of political influence.

Roadmap The remainder of the paper is organized as follows. Section 2 develops the theoretical model. Section 3 describes the institutional background. Section 4 introduces the data and empirical strategy. Section 5 presents the main effects of workfare on national and local election outcomes. Section 6 examines the underlying mechanisms. Section 7 concludes.

2 Conceptual framework

This section develops a simple conceptual framework to illustrate how locally administered, discretionary public employment can sustain electoral support in a decentralized political system. The model yields a set of testable implications that guide the empirical analysis. Formal assumptions and proofs are provided in Appendix B.

We build on a standard probabilistic voting model. The political environment consists of a central incumbent, a set of local mayors, and voters, with incumbents at the national and local levels facing re-election on different electoral cycles. The central incumbent maximizes expected national electoral performance, and the only policy instrument is workfare with a fixed budget. It chooses how many workfare positions to allocate to each municipality and through which administrative channel these positions are delivered. Workfare can be administered either through local mayors, who retain substantial discretion over implementation, or through state-owned enterprises (SOEs), which operate under centralized administrative rules with limited discretion. Although the policy instrument is identical across channels in terms of pay and eligibility, its political effects differ because implementation does not.

Workfare increases the utility of eligible voters regardless of how it is delivered, generating

a baseline electoral return through reciprocity: recipients are more likely to support the incumbent simply because they benefit from the program. When workfare is administered by local mayors, however, discretion over implementation allows access to jobs to be conditioned on political behavior. Mayors can observe recipients, monitor compliance, and credibly threaten exclusion, thereby inducing additional electoral support beyond reciprocity. When workfare is administered through SOEs, implementation follows standardized rules, leaving little scope for monitoring individual voters or enforcing political conditionality. As a result, SOE-administered workfare generates electoral support only through reciprocity, while mayor-administered workfare can additionally sustain political discipline.

From the perspective of the central government, the electoral value of mayor-administered workfare depends on mayors' willingness to broker votes and on their monitoring capacity. By exerting monitoring effort, mayors can amplify the vote yield of workfare for the national incumbent. Such effort is costly and imperfectly observable, and it is driven by the mayor's own electoral incentives: retaining control over workfare strengthens the mayor's capacity to mobilize support in the subsequent local election. Because mayoral effort cannot be directly observed, the central government must infer cooperation from realized national electoral outcomes. The effectiveness of this channel is further constrained by mayors' limited monitoring capacity. As the number of mayor-administered workfare positions increases, the effectiveness of monitoring and disciplining recipients declines, so routing all positions through the mayor is not necessarily optimal.

The interaction between the central government and mayors unfolds over a national election followed by a local election. Before the national election, the central government allocates workfare across municipalities, chooses how much is administered by mayors and how much by state-owned enterprises (SOEs), and sets a municipality-specific electoral target used to evaluate local performance. After observing the national election outcome, the central government infers whether the mayor engaged in vote brokering on its behalf. If a municipality falls short of the target, the mayor is punished by reduced mayor-administered workfare before the local election. The local election then takes place, with the mayor using any remaining mayor-administered workfare to maximize re-election prospects. In this way, the allocation of future workfare functions as an implicit incentive scheme: although the central government cannot contract directly on mayoral effort, it can reward or punish mayors on the basis of observed electoral performance.

Predictions The model yields clear qualitative implications for how discretionary workfare affects electoral outcomes. First, the electoral impact of workfare depends on who administers the program locally. Workfare administered by mayors has a stronger effect on national incumbent support than workfare administered by SOEs, because only mayoral implementation combines local discretion with the ability to condition access on electoral support. Under SOE implementation, workfare can still generate electoral support through reciprocity, but political conditionality and vote brokering are limited.

Second, higher government support in the national election leads to higher subsequent

allocations of mayor-administered workfare in the municipality. When electoral performance in a municipality meets the central government's target, mayors retain control over workfare ahead of the next local election. When performance falls short, mayor-administered workfare is reduced. Central-government discretion over workfare funding thus sustains a system of rewards and punishments that underpins the clientelistic exchange.

Third, mayors' incentives to cooperate with the central government depend on local electoral conditions. Mayors are more likely to engage in vote brokering for the national incumbent when their own local elections are closely contested, as retaining control over discretionary workfare is more valuable when small shifts in votes can determine the outcome.

3 Context

3.1 Political landscape

Political parties in Hungary are organized at the national level. Parliamentary elections combine a majoritarian tier, in which voters select individual candidates, and a proportional tier, in which they vote for party lists. The majoritarian component encourages strategic voting, particularly among supporters of smaller parties, whereas list votes more directly capture partisan preferences. We therefore focus on party-list votes, which provide a cleaner measure of political support and are less affected by coordination dynamics.

Since 1990, national elections have been held every four years in the spring. Panel A of Table 1 summarizes the results, showing that left-wing parties prevailed in 2002 and 2006, while the right-wing Fidesz party won parliamentary majorities in 2010, 2014, 2018, and 2022. Despite securing only 43 to 54 percent of the national vote in these elections, Fidesz consistently won two-thirds of the seats in Parliament, enabling unilateral constitutional reform.[4] Voter turnout ranged from 60 to 70 percent, reaching a low of 61 percent in 2014.

Hungary also has direct elections at the municipal level. Voters elect both mayors and municipal council members, but mayors head the local administration and hold executive authority. They are therefore the most visible and consequential local political actors, and we focus on mayoral elections in the empirical analysis. Local elections were held in the fall of the same years as parliamentary elections until 2014, and every five years starting in 2019. Panel B of Table 1 summarizes the corresponding mayoral election results. Although Fidesz has dominated national politics over the past decade, fewer than 20 percent of mayors are affiliated with the party. Instead, independent candidates are overwhelmingly common: nearly 80 percent of mayors are elected as independents, with their share even higher in smaller municipalities. Turnout in local elections is substantially lower than in parliamentary elections,

[4]Following its 2010 victory, the party adopted a new constitution and redesigned the electoral system without opposition support. These changes reduced proportionality by expanding the role of single-member districts and introducing a winner-compensation mechanism. The reforms also involved the redrawing of electoral boundaries and increased political influence over public media, judicial appointments, and state resources. For discussions of democratic backsliding in Hungary, see Scheppele (2015); Freedom House (2018); Bozóki and Hegedűs (2018); Bogaards (2018). Szeidl and Szucs (2021) examine the media sector in detail.

typically ranging between 44 and 53 percent.

While the financing of public services in Hungary is largely centralized, implementation often involves local actors. Until 2010, municipalities played a central role in delivering public services, financed through normative grants allocated by the central government according to statutory rules. Municipalities had limited authority to raise revenue through local taxes, and central transfers were often insufficient, requiring them to supplement budgets with own-source income.[5]

The 2011 local government reform further curtailed municipal fiscal autonomy by centralizing several responsibilities and tightening control over local budgets (Dobos and Papp, 2017). Municipalities became increasingly dependent on central transfers, with less discretion over spending priorities and weaker capacity to shape local policy independently. As a result, discretionary central resources became more politically valuable, and recent evidence suggests that their allocation followed clear patterns of political favoritism in Hungary (Vasvári, 2022). Although mayors retained formal executive authority, their ability to shape local policy was substantially reduced, increasing the political value of discretionary centrally financed programs implemented at the local level.

3.2 The public work program

Hungary's public work program was introduced in the late 1990s to assist jobless individuals who had exhausted their unemployment benefits.[6] Initially, participants were paid the minimum wage, and participation depended on program availability. Individuals unable to enter public work could instead access means-tested social transfers (Molnár et al., 2019). Public works in Hungary mostly involve municipal services and maintenance rather than large-scale infrastructure projects (Hassine, 2017).

Until the 2008 financial crisis, public work remained a marginal component of Hungary's active labor market policies (ALMPs). In response to the crisis, the incumbent left-wing government expanded the program to address rising unemployment, and its share in ALMP spending increased to 29 percent by 2010 (Figure A.2).

Labor code reform and expansion of public work After its 2010 electoral victory, the Fidesz government introduced a new labor code and implemented sweeping welfare reforms. Unlike most high-income countries, which rely on means-tested or universal transfers, Hungary adopted a workfare approach more commonly seen in developing economies (Banerjee et al., 2024). This shift does not appear to have been driven primarily by administrative constraints, but rather by a strategy aimed at promoting labor force participation. The maximum duration of unemployment insurance was reduced to three months, and social transfers for inactive individuals were sharply curtailed. These changes reflected the government's broader ideological

[5] As one illustration, per-student spending on primary education is strongly correlated with municipal income, despite primary education being formally financed by the central government (Varga, 2000).

[6] Bördős (2015) provides a detailed overview of the program's history.

commitment to a "work-based society," with Prime Minister Orbán declaring that "the era of the Western welfare state is over" (Index.hu, 2011).[7]

In this context, the public work program was reorganized and expanded. With traditional transfers curtailed, it effectively became a workfare system: individuals had to work in order to receive state support (Molnár et al., 2019). The program imposed strict behavioral conditions and paid less than 75 percent of the minimum wage (Bördős, 2015).[8] Crucially, access to the program was subject to substantial local discretion. Jobseekers could be excluded for failing to comply with local decrees, such as rules requiring the maintenance of their homes or gardens, or for refusing offered jobs regardless of skill match. Non-compliance could result not only in the loss of benefits but also in removal from the unemployment registry, barring future participation. In practice, these rules gave local authorities considerable control over who retained access to publicly supported employment.

The OECD average share of direct job creation in ALMP spending was about 5 percent in 2014. In Hungary, by contrast, the figure reached nearly 60 percent, almost entirely accounted for by public work (Figure A.2). Despite its size, however, the program proved ineffective as a pathway to regular employment: evaluations find negligible effects on participants' job-finding prospects in the private sector (Cseres-Gergely and Molnár, 2014). This pattern is consistent with meta-analyses showing that direct job creation programs, under which public work falls, are among the least effective ALMP instruments (Kluve, 2010; Card et al., 2010, 2018).

Structure of the program Following the 2011 labor code reform, the Fidesz government consolidated Hungary's public workfare system into three main subprograms: the Long-Term, Start, and National programs (Bördős, 2015; Molnár et al., 2019). We classify them by who manages local implementation, a distinction central to their political use.

The Long-Term and Start programs are run by municipal mayors, who act as local employers. They apply for funding, select participants, and oversee daily operations. Funding requests are formally reviewed by higher-level employment offices and the Ministry of Interior. Once funds are allocated, however, mayors retain substantial discretion over who enters the program and who is allowed to remain in it. The Long-Term program is open to all municipalities, while the Start program targets disadvantaged microregions. Especially in smaller municipalities, where mayors often know residents personally, this discretion creates scope for using access to public work for political purposes.

By contrast, the National program is administered by state-owned enterprises (SOEs) such as utilities and forestry services. These organizations receive quotas directly from the Ministry, handle recruitment themselves, and follow formal bureaucratic procedures. Mayors have no role in selection, and SOE managers—unelected, less embedded in local communities, and constrained by legal rules—have much more limited scope to condition jobs on political behavior.

[7] https://index.hu/belfold/2011/07/23/orban/

[8] Pay below the minimum wage exposes participants and their households to poverty (Colombarolli and Gábos, 2024). Szabó (2022) discusses the characteristics of public work participants using administrative data.

We exploit this institutional distinction between mayor- and SOE-managed programs to assess how local control shapes the political use of workfare.

Evolution of program intensity Figure 2 shows the evolution of unemployment and public work participation as a share of the working-age population. In the early years following the reform, public work exhibited strong seasonality, with participation typically declining during the winter months. This pattern was interrupted ahead of the April 2014 parliamentary election, when a winter public work program was introduced and participation rose from 2.06 percent in October 2013 to 3.23 percent in April 2014. Immediately after the election, however, it fell sharply to 1.86 percent.[9]

Following 2014, the gradual improvement in the economic environment, combined with the declining relative value of public work wages, led to a substantial decrease in public work participation.[10]

3.3 Workfare and clientelism

The 2011 labor code reform expanded the scope for mayoral discretion in local public work programs. As the welfare state was scaled back—including stricter eligibility criteria for social transfers—jobless individuals in weak labor markets became increasingly dependent on public work. In this environment, mayors became both gatekeepers of employment and electoral candidates, with strong incentives to leverage discretionary access to jobs to build patron–client ties. The selective design of the program therefore created substantial scope for clientelistic exchange.[11] This interpretation is also consistent with broader national trends: Hungary's V-Dem Clientelism Index rises markedly after 2010 and continues to increase throughout the 2010s (Figure A.3).

Mayor–voter relationships Qualitative research corroborates the view that mayors used public work to cultivate dependence and mobilize electoral support. Drawing on interviews and survey evidence, Mares and Young (2018, 2019a,b) document systematic efforts by mayors to frame access to workfare as a discretionary privilege rather than an entitlement, and to link continued participation to political support. Respondents recounted being told to "join the party line" or to "mark X in the right spot" to retain jobs. Importantly, such practices were not confined to Fidesz mayors: many independents also acted as vote brokers within informal networks coordinated by the ruling party. Journalistic investigations describe similar

[9]Such pre-election increases in public spending are consistent with findings from the political business cycle literature (Akhmedov and Zhuravskaya, 2004; Brender and Drazen, 2005; Arulampalam et al., 2009; Labonne, 2016; Corvalan et al., 2018).

[10]The public works wage remained fixed relative to the minimum wage until 2015, but from 2016 onward it declined by 5 percentage points annually, reaching 59 percent of the minimum wage by 2018 (Molnár et al., 2019).

[11]Eligibility rules further entrenched this dependence: individuals excluded from public work had to demonstrate at least 30 days of employment over the previous year to qualify for the employment-substituting benefit (Cseres-Gergely and Molnár, 2014). In depressed areas, exclusion from public work could therefore also jeopardize access to other forms of support.

patterns of pressure and quid pro quo around public works, including threats of exclusion from the program and other local assistance (Átlátszó, 2014b; Abcug, 1999; OpenDemocracy, 2019; Átlátszó, 2014a).[12]

Central government–mayor relationships Public work also structured ties between local officials and national elites. Some mayors reported that funds were withheld or delayed until after local elections, suggesting that central authorities used workfare resources to discipline local executives (Origo, 2014). Investigative accounts echo this view, portraying mayors as politically dependent on MPs for resources and responsible for maintaining local loyalty in exchange for access to funding.[13]

4 Data and empirical strategy

4.1 Data

We construct a municipality-level panel that combines administrative records on public work, elections, labor market conditions, and local socioeconomic characteristics. The database covers all 3,176 municipalities in Hungary, with an average population of about 3,100 in 2014.

Public work data We use municipality-month-level data from the Ministry of Interior for 2011–2022. These data report the total number of public workers employed, along with a breakdown by program type: Start, Long-Term, and National programs. The records capture headcounts rather than full-time equivalents.[14]

Election data We obtain municipality-level results for both parliamentary and municipal elections from the National Election Office, aggregated from polling-station results. The data include the number of eligible voters, turnout, and votes cast for each party and candidate.

Although electoral districts were redrawn in 2012, this does not affect our analysis for two reasons. First, our unit of analysis is the municipality, whose boundaries remained unchanged. Second, for parliamentary elections we focus on party-list votes, which provide a measure of partisan support that is not mechanically altered by changes in single-member district boundaries. In national elections, we track support for Fidesz, which ran jointly with the

[12] These reports describe a range of alleged practices. Some accounts emphasize explicit threats that access to public work (or other local assistance) would be withdrawn if recipients failed to support the incumbent mayor or the ruling party. Other accounts describe attempts to verify compliance despite ballot secrecy (e.g., asking participants to show or photograph their ballots or to demonstrate how they voted), and instances in which local intermediaries checked whether program participants turned out to vote. Further reports describe quid pro quo arrangements in which public workers were instructed whom to support and were allegedly paid despite not performing work, as well as allegations of pressure and intimidation directed at minority or dual-citizen voters linked to continued access to the program. See Átlátszó (2014b); Abcug (1999); OpenDemocracy (2019); Átlátszó (2014a).

[13] An investigative journalist described mayors as "political vassals" of MPs responsible for keeping local loyalty in order; see https://youtu.be/1hNRah82D8Q?t=679. See also Gyulai (2017).

[14] Cseres-Gergely and Molnár (2014) provide estimates of full-time equivalents for 2011–2013, but no consistent series is available for later years.

Hungarian Democratic Forum in 2002 and, from 2006 onward, with the Christian Democratic People's Party.

For municipal elections, we focus on incumbent mayors. We identify incumbents by matching candidates across elections by name within municipalities and classify a mayor as incumbent if they won the previous election. Incumbent vote totals are missing when incumbent mayors do not seek re-election.

Other data sources We include several additional municipality-level controls. From the 2011 census, we obtain data on educational attainment and the share of the Roma population. The T-STAR database provides annual information on income, demographics, and employment by 1-digit ISCO code. We collect municipality-month-level data on registered unemployment from the National Employment Service. Data on EU Cohesion and Structural Fund subsidies come from official government sources compiled and cleaned by the Corruption Research Center Budapest (CRCB, 2021). Finally, we collect municipality-level campaign spending data for the 2014 national election from Transparency International.

Survey data To complement the municipality-level analysis, we use the October 2014 wave of the nationally representative TÁRKI Monitor Survey. The survey records respondents' employment status and political preferences, allowing us to compare support for Fidesz between public workers and other respondents. These microdata provide complementary individual-level evidence on the relationship between public work participation and support for the incumbent.

4.2 Measuring workfare exposure

We measure workfare exposure monthly at the municipality level as the share of workfare participants in the working-age population (15–64):

$$WF_{it} = \frac{N_{it}^{WF}}{N_{it}^{WAP}},$$

where N_{it}^{WF} denotes the number of workfare participants in municipality i at time t, and N_{it}^{WAP} is the working-age population in the same municipality and period.

Figure A.4 shows the geographic distribution of municipality-level workfare exposure in April 2014, when national elections were held. Shading corresponds to deciles of $WF_{i,2014m4}$. In the lowest decile, exposure ranges from 0 to 1.02 percent of the working-age population. The median municipality has an exposure rate of about 5 percent, while in the top decile more than 15 percent of working-age residents participate in public work.

Participation rates vary strongly with local labor market conditions. Because the program was designed as an alternative to unemployment benefits and other transfers, exposure is higher where labor markets are weaker. To document this, we regress April 2014 workfare exposure on municipality characteristics one at a time: education, unemployment, income, population size, the share of Roma residents, the employment rate, and Fidesz's vote share and turnout

in the 2010 national election. We weight observations by the number of eligible voters and cluster standard errors at the microregion level (175 units). Table 2 reports these correlations. Education, income, employment, and population size are negatively associated with workfare exposure, while unemployment is positively associated. We also examine whether exposure is correlated with prior political outcomes. Regressing 2014 exposure on Fidesz's 2010 vote share reveals only a weak relationship.

When we instead analyze the *increase* in workfare between October 2013 and April 2014, in the run-up to the 2014 election, the correlations with socioeconomic characteristics are much weaker (Table A.1), and the relationship with past Fidesz support is economically small and statistically insignificant. These patterns provide little evidence that the pre-election expansion of workfare was strategically targeted.

In our main analysis, we restrict the sample to smaller municipalities. This choice is motivated by two considerations. First, public work is concentrated in smaller settlements: Figure A.5 shows that while the working-age population is relatively evenly distributed across settlement types, only 11% of participants live in major cities, compared with 30% in towns and 59% in villages.[15] Second, clientelistic exchange is more plausible where politicians and voters interact repeatedly and personally. These conditions are more likely to hold in smaller municipalities, where mayors can more easily monitor behavior, sustain implicit quid pro quo arrangements, and rely on denser social ties.[16] This restriction increases the plausibility of a monitoring-based mechanism. However, to show that our findings are not driven by this restriction, we also estimate the effects in the full sample in Appendix A; the results are similar.

4.3 Empirical strategy

We estimate the political effects of Hungary's workfare program using a difference-in-differences design that exploits cross-sectional variation in program intensity. For national elections, our main outcome is support for Fidesz, the party that introduced the 2011 labor code reform and governed Hungary in the post-reform period. Specifically, we compare changes in Fidesz support before and after the reform across municipalities with different levels of workfare exposure. For national elections, exposure is measured as the share of workfare participants in the working-age population in April 2014, coinciding with the parliamentary election. We estimate the following regression model:

$$Fidesz_{it} = \alpha_i + \delta_t + \beta WF_{i,2014m4} \times Post_t + \Gamma X_{it} + \varepsilon_{it}, \tag{1}$$

where $Fidesz_{it}$ denotes the proportion of eligible voters who supported Fidesz in municipality i in election year t. The variable $WF_{i,2014m4}$ is the share of workfare participants in the working-age population in municipality i in April 2014, and $Post_t$ equals one for election years after the 2011 labor code reform. The terms α_i and δ_t denote municipality and election-year fixed effects, respectively.

[15] Major cities are defined as cities with county rights.

[16] See, for example, Finan and Schechter (2012) and Duarte et al. (2019).

The control variables are municipality characteristics measured in 2013, each interacted with $Post_t$ to allow post-reform trends to differ with these characteristics. These covariates include educational attainment shares, log population, log after-tax income per capita, the employment share in the working-age population, and the unemployment rate in the working-age population. The coefficient of interest, β, measures whether Fidesz support increased more after the reform in municipalities with greater workfare exposure.

We use an analogous specification to estimate the effect of workfare on support for incumbent mayors:

$$IncumbentMayor_{it} = \alpha_i + \delta_t + \beta WF_{i,2014m10} \times Post_t + \Gamma X_{it} + \varepsilon_{it}, \tag{2}$$

where $IncumbentMayor_{it}$ denotes the votes received by the incumbent mayor as a share of eligible voters in municipality i in election year t. The variable $WF_{i,2014m10}$ is the share of workfare participants in October 2014, when local elections were held. When incumbents do not seek re-election, the incumbent-vote outcome is undefined by construction. We therefore analyze incumbents' decisions to run again separately below.

Our main analysis focuses on elections between 2002 and 2014. We report later elections separately for two reasons. First, after 2014 the electoral calendar changed: parliamentary elections continued every four years, while municipal elections shifted to a five-year cycle. Second, workfare intensity declined after 2014 as labor market conditions improved and its relative wage fell, reducing its political salience. Nevertheless, results for later elections—including the 2018 and 2022 parliamentary elections, the 2019 municipal election, and European Parliament elections—are qualitatively similar. In both national and local election analyses, regressions are weighted by the number of eligible voters and standard errors are clustered at the microregion level (175 units).

For both types of elections, our preferred outcome is votes as a share of eligible voters. Unlike vote share, this measure is less sensitive to the number of candidates or parties contesting the election. For example, in local elections with a single candidate, vote share is mechanically equal to 100 percent and is therefore uninformative. Vote shares can also change because of turnout variation, especially when turnout affects candidates asymmetrically across elections. For these reasons, we focus on support relative to eligible voters, while also reporting vote-share and turnout results separately.

There are two main differences between the national-election specification in Equation (1) and the local-election specification in Equation (2). First, while Fidesz appears in every national election, incumbent vote totals are only defined when the incumbent recontests. Second, incumbents may change within a municipality over time, so the municipality fixed effect captures average support for incumbents in that municipality rather than support for a single individual. This motivates specifications that additionally control for lagged incumbent support, so that identification relies on within-candidate changes in electoral performance rather than on within-municipality changes that may partly reflect turnover in the identity of the incumbent. The results remain similar.

The main identifying assumption in both specifications is parallel trends: absent the

workfare reform, political support for Fidesz at the national level and for incumbent mayors at the local level would have evolved similarly across municipalities with different levels of exposure. Although this assumption cannot be tested directly, we assess its plausibility by examining pre-reform trends in political support in high- and low-workfare municipalities in the 2002, 2006, and 2010 elections.

5 The effect of workfare on national and local elections

5.1 National elections

Table 3 presents our main estimates of the effect of workfare on political support for Fidesz in elections between 2002 and 2014. In Column 1, we estimate a difference-in-differences regression controlling only for municipality and election-year fixed effects. The results show that a one percentage point increase in the share of workfare participants relative to the working-age population increases Fidesz's support among eligible voters by about 0.13 percentage points.

In Column 2, we add a rich set of controls for pre-election municipality characteristics, including educational shares, log per capita income, unemployment rate, log population, employment-to-population ratio, and municipality type. These controls are interacted with the post-reform dummy ($Post_t$) to allow for differential trends. The coefficient rises to 0.156 and remains statistically significant: a ten percentage point increase in workfare participation increases Fidesz votes relative to the number of eligible voters by 1.56 percentage points. The stability of the estimates after conditioning on observables is reassuring and suggests that differences in measured municipal characteristics are unlikely to explain the result.

The identifying assumption of our difference-in-differences design is that, absent the workfare program, political support in municipalities with higher versus lower workfare intensity would have followed parallel trends. Although this assumption cannot be tested directly, we assess its plausibility by estimating dynamic effects and examining whether municipalities with higher and lower workfare exposure exhibited differential trends in Fidesz support before the reform. To do so, we estimate an event-study specification that allows the relationship between 2014 workfare exposure and Fidesz support to vary by election year:

$$Fidesz_{it} = \alpha_i + \delta_t + \sum_{j \neq 2010} \beta_j WF_{i,2014m4} \times \mathbb{1}(t = j) + \Gamma X_{it} + \varepsilon_{it}, \tag{3}$$

where $\mathbb{1}(j = t)$ is a dummy for election year t, with 2010 as the omitted baseline. Interacting $WF_{i,2014m4}$ with pre-reform election dummies captures whether municipalities that later received more workfare were already on different electoral trajectories before the reform.

Figure 3 plots the estimated β_j coefficients from this specification. The pre-reform estimates are small and statistically indistinguishable from zero, suggesting no systematic differences in electoral trajectories between municipalities with high and low subsequent workfare exposure. After the 2011 reform, however, the pattern changes: by 2014, the coefficient rises to 0.16, consistent with a sizable positive effect of workfare on support for Fidesz in the national election.

The positive effect of workfare on Fidesz support can operate through two margins: by increasing Fidesz's vote share among those who turn out, or by mobilizing additional voters. In Columns 3 and 4 of Table 3, we re-estimate Equation (1) separately for Fidesz vote share and turnout. A one percentage point increase in workfare participation raises Fidesz's vote share by 0.177 percentage points and increases turnout by 0.112 percentage points, both statistically significant. Figure A.7a and Figure A.7b plot the corresponding dynamic coefficients for Fidesz vote share and turnout, respectively. In both cases, the pre-reform estimates are small and statistically indistinguishable from zero, while the post-reform coefficients rise sharply, supporting the identifying assumptions of the design. These results suggest that workfare affected both vote choice and electoral participation. In addition to shifting support toward Fidesz among those who voted, the program appears to have increased turnout, a pattern consistent with mobilization of politically responsive voters (Nichter, 2008).

Individual survey evidence A potential concern with our municipality-level analysis is ecological inference (King, 1997): aggregate patterns need not reflect individual-level behavior. To address this concern, we use the October 2014 wave of the nationally representative Tárki Monitor survey, which includes information on both employment status and political preferences for roughly 1,000 respondents. Although the sample is modest, it provides a useful individual-level complement to the municipality-level evidence.

We estimate a linear probability model comparing public workers to the unemployed. Column 1 of Table A.2 shows that public workers were 23 percentage points more likely to support Fidesz, significant at the 10 percent level. Adding individual-level controls slightly reduces the coefficient, but it remains statistically significant. Columns 3 and 4 examine voting intentions and show that public workers were also 23 percentage points more likely to report a willingness to vote than the unemployed, with similar estimates after adding controls.

These findings provide complementary individual-level evidence consistent with the municipality-level results: public work participation is associated both with higher support for Fidesz and with greater electoral participation.

5.2 Local elections

We next examine how workfare influenced support for incumbent mayors. Table 4 reports the results. Column 1 estimates a difference-in-differences specification with only municipality and year fixed effects. The coefficient is 0.21 and highly significant. In Column 2, adding demographic and economic controls increases the estimate to 0.38, and it remains precisely estimated.

To assess the parallel-trends assumption, we estimate a dynamic specification analogous to Equation (3) using incumbent-mayor support as the outcome. Figure 4 shows that the coefficients prior to 2014 are small and statistically insignificant, indicating no differential trends between high- and low-workfare municipalities before the reform. In 2014, by contrast, the estimated effect rises sharply to 0.34.

In Column 3, we additionally control for the lagged electoral result of the incumbent mayor. Because incumbents do not always recontest elections, the municipality fixed effect captures average support for different mayors over time rather than support for a single individual. We therefore report a specification with lagged incumbent support and no municipality fixed effects as a robustness check. The point estimate rises to 0.46 and remains highly significant.

Finally, Columns 4 and 5 decompose the effect into vote share and turnout. A one percentage point increase in workfare participation raises the incumbent's vote share by 0.58 percentage points and also significantly increases turnout. Dynamic estimates for these two outcomes (Figure A.10a and Figure A.10b) show no evidence of pre-trends. The relative magnitudes suggest that most of the local electoral effect operates through higher support for incumbents among those who vote, with turnout effects playing a smaller role.

Incumbency advantage Incumbents often enjoy an electoral advantage (Lee, 2008), and control over workfare programs may further increase their chances of re-election. This is consistent with a broader literature showing that access to public resources can generate substantial electoral benefits (e.g., Brollo et al., 2013; Magalhaes, 2015).

We examine this by estimating the effect of workfare intensity on the probability that the incumbent mayor remains in office. As shown in Table A.3, a one percentage point increase in public work participation raises the probability of incumbent re-election by 0.92 percentage points. This effect may reflect both a higher probability of winning conditional on running and a greater likelihood that incumbents choose to run again.

To distinguish between these margins, we first restrict the sample to incumbents who actually recontest. The effect remains similar at 0.81 percentage points and is highly significant. Column 3 shows that workfare has no significant effect on the probability that incumbents recontest. Together, these results indicate that the main result in Table 4 is not driven by selective re-entry of incumbents into the race. Column 4 then examines whether workfare discourages challenger entry by estimating its effect on the number of candidates using Pseudo Poisson Maximum Likelihood; the coefficient is again small and statistically insignificant.

Overall, access to workfare strengthens the electoral position of incumbents by increasing both their vote totals and their probability of remaining in office. These results suggest that discretionary control over a large public employment program is a valuable political asset in local elections.

5.3 Robustness checks

Poverty and labor-market shocks Unobserved poverty and labor-market shocks could jointly affect workfare participation and electoral outcomes, potentially biasing our estimates. Because worsening local economic conditions may also influence political support, we test whether such shocks account for our results.

First, we control for local labor-market conditions by adding microregion-by-post fixed effects and the change in employment between 2013 and 2014. Column 1 of Panel A in

Table A.7 shows that the coefficient remains positive and statistically significant, at 0.155, closely matching the baseline estimate. Second, we directly control for social transfers by adding the share of the population receiving regular social assistance and housing maintenance support. The estimate decreases only slightly, to 0.151 (Column 2). Finally, including both sets of controls yields a similar coefficient, 0.148, which remains statistically significant (Column 3). Panel B repeats the same exercise for support for incumbent mayors and finds similarly stable estimates.

Unobserved campaigning efforts Politicians seeking re-election may rely on tools beyond workfare, and correlation between such efforts and local workfare exposure could bias our estimates. We address this concern using two proxies. First, we control for campaign spending in the April 2014 national election. Although spending is formally regulated, parties often exceed the statutory limits; Transparency International compiled municipality-level spending data, which we normalize by the number of eligible voters. The estimate remains robust to including this measure (Column 4 of Table A.7). Second, we control for European Union Cohesion and Structural Fund transfers, which have been shown to be susceptible to political favoritism in Hungary (Muraközy and Telegdy, 2016). Adding per-capita EU transfers received by the municipality over 2010–2014 leaves the results unchanged (Column 5).

Strategic allocation of workfare A potential threat to identification is the strategic, non-random allocation of workfare. The government sharply expanded the program in the months leading up to the 2014 national election: participation in April 2014 was more than 50 percent higher than a year earlier, despite improving labor market conditions. If this pre-election expansion disproportionately rewarded pro-Fidesz municipalities (Maurer, 2018), our estimates may be biased upward, since these areas may have supported the ruling party even in the absence of the program. Conversely, if the expansion targeted opposition-leaning municipalities in an attempt to win them over, the estimates could be biased downward. Although the pre-election expansion of workfare is uncorrelated with political preferences measured in 2010 (Table A.1), we further examine whether such strategic allocation can explain our results.

To do so, we distinguish between the stock of workfare already in place before the late pre-election expansion and the additional increase in participation during the months immediately preceding the election. Specifically, we decompose April 2014 workfare exposure into its October 2013 level and the change between October 2013 and April 2014, and then re-estimate our baseline specification using these two components.

The results in Table A.10 suggest that the electoral return to workfare is not driven solely by the unusually timed expansion just before the election. Municipalities with higher workfare exposure already in October 2013 experienced larger subsequent gains in Fidesz support (Column 1). At the same time, the additional increase in workfare between October 2013 and April 2014 is not statistically significant when entered on its own (Column 2), although it becomes positive and significant once we control for pre-existing exposure (Column 3). This

pattern suggests that the relationship between workfare and electoral support reflects not only the late pre-election buildup, but also earlier local exposure to the program.

Taken together, these results make it less likely that our baseline estimates are explained entirely by a last-minute politically targeted expansion of workfare. Instead, they point to a more persistent political association between local workfare exposure and support for the governing party, with the pre-election expansion likely reinforcing rather than fully generating this relationship.

Mayor's party affiliation We also examine whether the main results are driven by partisan alignment between local mayors and the national government, a concern related to recent evidence on political alignment and welfare-program control (Shenoy and Zimmermann, 2022). If the electoral effect of workfare operated only through municipalities directly controlled by Fidesz-affiliated mayors, the estimates should be concentrated in Fidesz-led municipalities. Because the number of opposition mayors in small municipalities is too limited for separate estimation, we split the sample into municipalities led by Fidesz-affiliated mayors and those led by independent mayors. Columns 1 and 2 of Panel A in Table A.6 show that the electoral return to workfare for Fidesz is positive and statistically significant in both groups, with somewhat larger magnitudes in Fidesz-led municipalities. Panel B shows a similar pattern for local elections: workfare is associated with higher support for incumbent mayors in both subsamples, again with larger estimates in Fidesz-led municipalities. Thus, while partisan alignment may amplify the electoral returns to workfare, it does not fully account for the main effect.

Alternative samples and weighting Because public work is correlated with many municipal characteristics, we use propensity score matching to verify that our results are not driven by limited overlap in observables across municipalities with high and low workfare shares. We split the sample into two groups based on public work intensity in April 2014 and match high-workfare municipalities to comparable low-workfare municipalities. Table A.5 shows that the matched sample is well balanced on these covariates, although some differences remain in occupational structure: in particular, the share of employed workers in occupation code 9 is higher in high-workfare municipalities.

Column 3-5 of Panel A of Table A.6 shows that the estimated effect of workfare on Fidesz support is stable across alternative samples and weighting schemes. In the matched sample (Column 3), the coefficient remains positive, statistically significant, and close in magnitude to the baseline estimate. Extending the sample to include major cities (Column 4) yields nearly identical estimates. Estimating the regressions without weights (Column 5) also produces similar coefficients. Panel B repeats the same exercises using incumbent-mayor support as the outcome, and the resulting estimates are similarly close to the baseline.

Other elections To assess the scope and persistence of workfare's political effects, we extend the analysis beyond the 2014 national and local elections. We first turn to later elections and

estimate the following specification:

$$Y_{it} = \alpha_i + \delta_t + \beta WF_{it} + \Gamma X_{it} + \varepsilon_{it}, \tag{4}$$

where Y_{it} denotes the electoral outcome in municipality i at time t, WF_{it} is the intensity of public work participation, and X_{it} is the same vector of controls as in the main analysis. The sample covers the 2014–2022 period, and regressions are estimated separately for national and local elections.[17] Table A.9 shows that the estimated coefficients remain similar in sign and magnitude to the main results, suggesting that workfare's political effects were not confined to the 2014 contests but persisted in later elections as well.

We next examine the European Parliamentary (EP) elections by re-estimating Equation (1).[18] Table A.8 reports the effect of workfare on Fidesz support and turnout, while Figure A.11 presents the corresponding dynamic estimates. The coefficients are positive and significant, and the event-study plot is consistent with parallel pre-trends. Despite the different nature of EP contests, the estimated effects are similar in magnitude to those observed in national elections.

6 Distinguishing Clientelism from Other Distributive Logics

The positive effect of workfare on Fidesz support is consistent with clientelism, but it could also reflect other forms of distributive politics. Programmatic policies and pork-barrel spending can also generate electoral support and may therefore explain why workfare participants vote for the governing party.[19] These alternative logics imply different mechanisms linking distributive policy to political support. Programmatic politics and pork-barrel spending operate through retrospective reward: voters support the incumbent because they benefit from the policy. Clientelism, by contrast, hinges on conditionality and the threat of exclusion. The larger average effect of workfare in local than in national elections is suggestive of a clientelistic mechanism, since mayors have stronger incentives to mobilize participants when their own political survival is directly at stake. We therefore turn to more direct tests that distinguish clientelism from other distributive logics.

To distinguish clientelism from other distributive logics, we present three complementary

[17] In the main analysis, treatment intensity is fixed at April 2014 for national elections and October 2014 for local elections in order to capture pre-election exposure without contamination from post-treatment changes. For later elections, however, fixing treatment at its 2014 level would miss the substantial decline in workfare intensity that occurred in subsequent years. We therefore use contemporaneous WF_{it} to assess whether the political association between workfare and electoral outcomes persisted as the program evolved.

[18] European Parliamentary elections provide a useful test case because they are second-order contests, with lower turnout, weaker party mobilization, and fewer local stakes than national elections.

[19] Hicken (2011) distinguishes among three main types of distributive politics based on whether transfers are targeted and contingent. National public goods and programmatic policies are non-targeted, while targeted benefits can be either non-contingent, as in club goods or pork-barrel spending, or contingent, as in clientelism. Stokes et al. (2013, p. 7) provide a similar classification.

tests motivated by our model. First, we show that the political effect of workfare depends on who administers the program locally. Second, we show that access to workfare is contingent on electoral performance. Third, we show that workfare has a larger political effect in municipalities with tighter competition in local elections.

6.1 The role of mayors in workfare's electoral impact

A central implication of the clientelism interpretation is that the electoral effect of workfare should depend on who controls access to public jobs. If voters simply reward the governing party for providing employment, workfare should increase support regardless of whether the program is administered by incumbent mayors or by state-owned enterprises (SOEs). By contrast, if workfare operates through clientelistic exchange, the identity of the administrator should matter. Mayors are embedded in local political networks, face direct electoral incentives, and can use their discretion over workfare jobs to reward supporters, monitor participants, or threaten exclusion.

We therefore exploit variation in program administration to test whether electoral returns are stronger when workfare is mayor-managed. This comparison also helps interpret the larger average effect of workfare in local than in national elections: while that pattern is consistent with local political mediation, it is not decisive on its own because local and national elections differ in salience, turnout, and the visibility of policy benefits.

This administrative variation allows us to test a key implication of the conditionality mechanism: electoral returns should arise primarily when program administrators have both discretion over access and incentives to use that discretion politically. Mayor-managed programs provide substantially greater scope for discretionary, politically contingent access to public work than SOE-managed programs. If clientelism is operative, electoral returns should therefore be stronger for mayor-managed workfare than for SOE-managed workfare.

We test this implication by decomposing total workfare into two components—mayor-managed and SOE-managed—and re-estimating Equation (1) and Equation (2). Table 5 presents the results. Column 1 shows that mayor-managed workfare increases support for Fidesz among eligible voters: a one percentage point increase in mayor-managed workfare raises Fidesz support by about 0.2 percentage points. Column 2 shows that the estimated effect of SOE-managed workfare is small and statistically insignificant. When both components are included jointly in Column 3, the coefficient on mayor-managed workfare remains positive and significant, while the coefficient on SOE-managed workfare remains small.

Columns 4–6 examine the effects of the two subprograms on incumbent mayors' electoral support. The results show a similar pattern. Mayor-managed workfare has a positive and statistically significant effect on incumbent mayors' support, while SOE-managed workfare has no significant effect. When both components are included jointly, a one percentage point increase in mayor-managed workfare raises incumbent mayors' support by 0.44 percentage

points, while the coefficient on SOE-managed workfare remains statistically insignificant.[20]

The corresponding event-study estimates show no evidence of differential pre-trends. The estimates for mayor-managed workfare remain close to zero before treatment for both Fidesz support and incumbent mayors' electoral support in Figure 6a and Figure 6b, respectively, lending support to the parallel trends assumption.

These results also help address the concern that the estimated electoral effect of total workfare reflects omitted variable bias. If unobserved municipal characteristics were the main driver of the baseline relationship, mayor-managed and SOE-managed workfare should display more similar electoral associations, since both types of workfare operate in broadly similar local contexts. Instead, electoral gains appear only for mayor-managed workfare. This pattern makes it less likely that the baseline results are driven solely by unobserved local characteristics, and points instead to discretionary local control as an important mechanism.

Why does SOE-managed workfare fail to generate comparable returns? In principle, SOE employees could also condition participation on political support. In practice, however, this is less likely: SOE staff are less embedded in village-level political networks, have weaker electoral incentives, and are less directly accountable for local electoral outcomes. Mayors, by contrast, combine local information, discretion over access, and direct electoral incentives, giving them both the capacity and the motivation to use workfare jobs as a political resource.

Taken together, these findings suggest that the political returns to workfare depend critically on local control. Electoral gains materialize only when mayors administer the program, consistent with a clientelistic mechanism in which local brokers use public jobs as a political resource. This interpretation is consistent with Frey (2019), who show that unconditional cash transfers—programs politicians cannot manipulate—reduce the incumbency advantage of mayors.

6.2 Contingent workfare

To distinguish clientelism from other distributive logics, we focus on its defining feature: contingency. Under clientelism, workfare funding is politically conditional: the central government sustains support by making future allocations reversible, and mayors understand that continued access to workfare depends on delivering political support. In this setting, mayors have incentives to broker votes because their local quotas depend on continued cooperation with the governing party.

This logic implies that when Fidesz performs poorly in a locality despite substantial pre-election workfare funding, the central government may interpret this as a lack of mayoral cooperation. In response, it may reduce subsequent workfare allocations. Municipalities

[20]These patterns are not driven by the fact that SOE-managed workfare is present only in a subset of municipalities. Restricting the sample to municipalities with nonzero SOE-managed workfare yields the same pattern in Table A.11: mayor-managed workfare remains positively associated with Fidesz support, while SOE-managed workfare does not. Table A.15 and Table A.16 report bivariate regressions of SOE-managed and mayor-managed workfare exposure on municipality characteristics. The weaker correlation for SOE-managed workfare partly reflects the fact that SOE-managed workfare is zero in many municipalities.

with weak electoral support should therefore experience a subsequent contraction in workfare funding, generating a positive relationship between Fidesz's electoral results and future provision.

By contrast, under programmatic politics or pork-barrel spending, workfare allocations are not contingent on realized electoral support. Fidesz may still target specific groups or regions, but voters support the party because they value the jobs, income, and broader local benefits that public work provides.[21] Since the stated purpose of public work is to address unemployment, provision should remain stable as long as local labor market conditions are unchanged. In this case, electoral outcomes should not systematically predict subsequent workfare provision.

Empirical design To distinguish between these distributive logics, we use monthly data on workfare participation around the April 2014 national election and the October 2014 local election. Specifically, we estimate the following regression:

$$WF_{it} = \alpha_i + \delta_t + \gamma Fidesz_{i,2014m4} \times POST(t > 2014m4) + \Gamma X_{it} + \varepsilon_{it}, \tag{5}$$

where WF_{it} is the share of workfare participants in the working-age population in municipality i at time t, and $Fidesz_{i,2014m4}$ is Fidesz's vote share relative to eligible voters in the April 2014 national election. The indicator $POST(t > 2014m4)$ equals one for months after April 2014 and zero otherwise. Municipality fixed effects absorb time-invariant differences across municipalities, including the level of Fidesz support in April 2014, while month fixed effects absorb aggregate changes in workfare provision. The coefficient of interest, γ, therefore captures whether post-election changes in workfare provision differ systematically with Fidesz's electoral performance. A positive coefficient implies that municipalities with weaker Fidesz support experienced larger subsequent contractions in workfare provision, consistent with politically contingent allocation. An insignificant estimate would provide no evidence of such post-election adjustment.

Because the sharp expansion of workfare began in autumn 2013, our main analysis focuses on the period from July 2013 to October 2014. We also report results for a longer time horizon to assess how allocations evolve when there is no immediate electoral pressure on mayors. Regressions are weighted by the number of eligible voters, and standard errors are clustered at the microregion level (175 units).

Results Table 6 reports the relationship between Fidesz's electoral performance and subsequent workfare allocation. Column 1 includes municipality and month fixed effects. The coefficient is 0.07 and statistically significant, indicating that after the April 2014 election, a one percentage point higher Fidesz vote share relative to eligible voters is associated with a 0.07 percentage point higher workfare share relative to the working-age population. Equivalently, municipalities where Fidesz performed worse experienced larger subsequent reductions in

[21] Public work provides jobs and income for unemployed individuals and may also affect other residents indirectly, for example by raising local wages, increasing demand for local businesses, or improving local amenities through public works projects (Franklin et al., 2024; Muralidharan et al., 2023; Szabó, 2020).

workfare provision. Column 2 adds our baseline controls, and the estimate remains virtually unchanged. This pattern is consistent with politically contingent allocation: post-election workfare provision declined more in municipalities where Fidesz performed worse.

A potential concern is that the post-election relationship reflects differential local labor-market shocks rather than politically contingent allocation. To address this concern, Column 3 introduces microregion-by-month fixed effects, comparing municipalities within the same local labor market in the same month.[22] The coefficient remains large and highly significant, suggesting that differential local labor-market shocks are unlikely to account for the observed relationship. This interpretation is reinforced by prior evidence that elections tend to improve economic sentiment among supporters of the winning party, which should, if anything, increase employment and reduce demand for public work in pro-Fidesz municipalities (Gillitzer and Prasad, 2018; Mian et al., 2023).

A related concern is that the estimated post-election relationship reflects a pre-election expansion of workfare in municipalities with weaker Fidesz support, followed by a subsequent normalization, rather than a punishment mechanism. To examine this possibility, we estimate the dynamic relationship between Fidesz support in the 2014 national election and monthly workfare participation around the election using the following event-study specification:

$$WF_{it} = \alpha_i + \delta_t + \sum_k \gamma_k Fidesz_{i,2014m4} \times I(t = k) + \Gamma X_{it} + \varepsilon_{it}, \tag{6}$$

where WF_{it} denotes the share of workfare participants in municipality i at time t, α_i and δ_t are municipality and time fixed effects, and $I(t = k)$ is an indicator for month k. Figure 5 shows that workfare evolved similarly across municipalities with high and low Fidesz support until the April 2014 national election, providing no evidence of differential pre-trends. After the election, workfare became more strongly associated with Fidesz support: municipalities with greater Fidesz support experienced relatively higher workfare provision in the months leading up to the October 2014 local elections. This relationship is temporary and disappears after the local elections. The dynamic pattern is consistent with the interpretation that the central government used workfare allocations to reward or discipline mayors based on their revealed performance in the national election, with differential allocation concentrated in the period before the local contest.

The post-election decline in mayor-managed workfare in municipalities with weak Fidesz performance is consistent with a clientelist reward-punishment logic. Our model implies a sharper prediction. Mayoral brokering effort is not directly observed, but it should affect both electoral performance and subsequent punishment: greater effort raises Fidesz support and therefore reduces the likelihood that mayor-managed workfare is cut after the election. If this mechanism is operative, the post-election relationship between Fidesz performance and workfare provision should be stronger where mayors have greater incentives to broker votes. We use local political competition as a proxy for these incentives. In politically competitive municipalities, marginal votes are more valuable, so mayors have stronger incentives to mobilize

[22] The analysis uses 175 microregions, which approximate local labor markets.

workfare participants. The responsiveness of workfare provision to Fidesz performance should therefore be steeper in these municipalities.

To test this implication, we interact Fidesz performance with a proxy for local political competition:

$$WF_{it} = \alpha_i + \delta_t + \gamma_1 Fidesz_{i,2014m4} \times \mathbb{1}\{t > 2014m4\} + \gamma_2 Fidesz_{i,2014m4} \times HighCompetition_i \times \mathbb{1}\{t > 2014m4\} + \Gamma X_{it} + \varepsilon_{it}, \quad (7)$$

where $HighCompetition_i$ equals one if the number of mayoral candidates in the 2010 election was above the median and zero otherwise. All specifications include the corresponding lower-order interaction terms associated with the triple interaction. The coefficient γ_2 captures whether the post-election relationship between Fidesz performance and workfare provision is steeper in politically competitive municipalities than in less competitive municipalities.

Column 4 in Table 6 shows that the triple interaction term is positive and significant at the 10 percent level. This indicates that the post-election relationship between Fidesz performance and workfare provision is steeper in municipalities where mayors face tighter local competition. The pattern is consistent with an incentive channel operating through vote-brokering effort: when local elections are more competitive, marginal votes are more valuable, and mayors have stronger incentives to use workfare to mobilize support for the national incumbent.

This heterogeneity is difficult to explain with a simple contingent-retention mechanism, under which municipalities with stronger Fidesz results are more likely to retain mayor-managed workfare after the election regardless of local mayoral incentives. If that were the only force at work, the post-election Fidesz–workfare relationship should not be systematically stronger in municipalities with tighter mayoral competition. The stronger responsiveness in competitive municipalities therefore points to the role of local brokers' incentives.

To shed further light on the mechanism, we examine heterogeneity across workfare subprograms. Mayor-managed programs, in which incumbents directly control access to positions, are the component through which the central government can most plausibly reward or discipline local brokers. SOE-managed programs, by contrast, bypass the mayor and are therefore less suited for disciplining local intermediaries on the basis of electoral performance.

Consistent with this logic, Column 5 shows that mayor-managed workfare increases significantly with Fidesz support after the national election, whereas Column 6 shows no corresponding effect for SOE-managed programs. The estimate for mayor-managed workfare is nearly identical to the total effect, indicating that post-election adjustments were concentrated in the component of workfare controlled by mayors. This pattern is also consistent with our earlier finding that only mayor-managed workfare improves mayors' electoral outcomes. The evidence therefore suggests that punishment operated through reductions in the part of the program that was politically valuable to mayors.

A back-of-the-envelope calculation gives a concrete scale to the estimated punishment effect. We translate the coefficient into the implied number of mayor-managed workfare positions. Using the coefficient estimate in Column 3 for mayor-managed workfare, one fewer Fidesz vote

implies a reduction of about 1.5 mayor-managed workfare positions at the sample mean.[23]

Taken together, these findings support the principal-agent logic of our model. Post-election adjustments in workfare are concentrated in the mayor-managed component, are stronger where mayoral incentives to broker votes are greater, and translate into changes in the number of positions under mayoral control. This shows that discretionary transfers can serve as a performance-based disciplining tool for local intermediaries, speaking directly to a central logic of clientelist machines: politicians use electoral performance to evaluate, reward, or punish brokers (Graham et al., 2026). The evidence points to a decentralized clientelist equilibrium in which the central government rewards or penalizes mayors in order to sustain electoral cooperation.

Robustness We conduct several additional tests to assess the robustness of the punishment results. First, the estimates are similar when we measure electoral support using Fidesz vote share rather than votes relative to the number of eligible voters (Table A.12). Second, we examine whether the relationship is driven by persistent differences in political support across municipalities. To do so, we regress post-election workfare allocation on Fidesz results from earlier parliamentary elections. Past Fidesz vote shares do not predict workfare allocation after the 2014 election, suggesting that the results are not driven by spurious correlations with historical Fidesz support (Table A.14). Finally, we test whether the results reflect partisan alignment rather than electoral punishment. The post-election relationship between Fidesz performance and workfare provision is also present in municipalities with Fidesz mayors, and is, if anything, stronger there (Table A.13). This pattern is inconsistent with a simple partisan-alignment explanation, under which aligned mayors would be protected from punishment.

6.3 Heterogeneous Effects of Workfare

If workfare functions as a clientelistic tool rather than a programmatic policy, its political effects should vary systematically with local political and socioeconomic conditions. In particular, the effectiveness of clientelistic exchange depends on the incentives of local brokers — such as mayors — to monitor and mobilize voters. We explore this by examining heterogeneity along four dimensions that shape the incentives and capacity of local brokers to deliver votes: (i) electoral competition, (ii) mayoral popularity, (iii) mayoral party affiliation, and (iv) economic dependence.

Electoral competition The returns to vote brokering depend on the local political environment. Where elections are competitive, mayors have stronger incentives to mobilize workfare participants in support of Fidesz (Bardhan et al., 2024). We proxy competition

[23] One fewer Fidesz vote in a municipality with E_i eligible voters implies a reduction in mayor-managed workfare equal to $\hat{\beta}/(0.01E_i)$ percentage points of the working-age population, where $\hat{\beta}$ is the coefficient estimate in Column 3. Multiplying by the municipality's working-age population implies an expected reduction of $100\hat{\beta}\cdot(WAP_i/E_i)$ workfare positions per lost vote. Evaluated at the sample mean, this equals approximately 1.5.

using the number of candidates in the 2010 mayoral election and split municipalities into high- and low-competition groups. Panel A of Table 7 shows that the electoral return to workfare is significantly stronger in municipalities with higher competition. Panel B confirms a similar pattern for incumbent mayors — those facing tighter races benefit more from workfare expansion. These results are consistent with the idea that uncertain re-election prospects increase the incentives to engage in clientelist strategies.

Economic dependence Finally, we examine whether the political returns to workfare are stronger where voters depend more heavily on public employment. In line with our model, we hypothesize that mayors can more effectively use workfare for electoral gain in poorer municipalities, where public work represents a critical source of income and outside options are scarce. This is consistent with prior research suggesting that political loyalty is more cheaply bought in low-income, vulnerable settings (Bobonis et al., 2022). Splitting municipalities by local unemployment rates, we find that workfare significantly increases Fidesz support in both groups, but the effect is substantially larger in high-unemployment municipalities (column 2) than in low-unemployment ones (column 1). Using educational attainment as a proxy for local poverty yields similar results: workfare's effect is strong and significant in low-education municipalities (column 3), but smaller and only marginally significant in high-education ones (column 4). These findings are consistent with the logic of contingent exchange, where the political returns to workfare increase with voter dependence. However, they could also reflect non-clientelistic mechanisms, since poorer voters may place higher value on public work.

7 Conclusion

This paper examines how discretionary welfare programs can be leveraged as instruments of political clientelism. We develop a model in which the central government allocates resources across municipalities while delegating recipient selection to mayors. This institutional arrangement generates a two-layered clientelist equilibrium: the central government disciplines mayors based on electoral performance, and mayors, in turn, condition access to workfare on voter support. Using administrative and electoral data from Hungary, we show that exposure to public work significantly increased support for Fidesz and for incumbent mayors.

To separate clientelism from alternative distributive strategies, we provide several pieces of evidence. Two central findings stand out. First, municipalities with weak electoral support for Fidesz in 2014 experienced sharp reductions in workfare funding after the election. Second, only mayor-managed programs produced electoral returns, while programs administered by state-owned enterprises, lacking local discretion and monitoring, had no political impact. Together, these results suggest that the political returns to workfare hinge not only on who benefits, but also on who controls the distribution of benefits.

Our findings underscore the institutional risks of clientelism, particularly in hybrid regimes. In such systems, where elections exist but the playing field is uneven, clientelist tools allow

incumbents to maintain power without overt repression. Delegated clientelism transforms welfare programs into mechanisms of political control: rather than enabling voters to hold politicians accountable, it enables politicians to hold voters accountable. In this way, clientelism blurs the line between social protection and political coercion.

Although our empirical setting is Hungary, the mechanisms we identify are relevant to many decentralized democracies. In countries from India to Brazil, national governments often provide social benefits through subnational intermediaries who face re-election and operate under the shadow of central discretion. In these contexts, clientelism may emerge as a dominant strategy, especially when poverty is widespread and program reversibility makes threats credible.

These insights carry important policy implications. Safeguarding targeted welfare programs from political manipulation requires limiting discretion at both the central and local levels. Formula-based allocation rules can reduce the scope for central punishment or reward, while objective, verifiable eligibility criteria can prevent mayors from conditioning access on political loyalty. Tools such as centralized databases, algorithmic targeting, or third-party audits may further reduce opportunities for favoritism and strengthen the democratic accountability of welfare provision. These safeguards matter not only for electoral fairness, but also for social welfare: when quotas are withdrawn after weak electoral performance, sanctions aimed at local intermediaries can also deprive vulnerable households of one of their few formal sources of income. In this way, the costs of clientelism extend beyond political distortion and inefficiency, deepening the vulnerability of politically unaligned communities.

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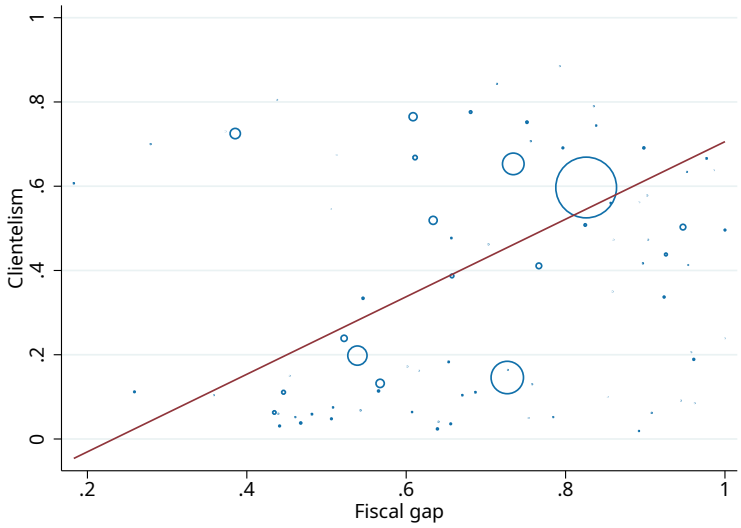
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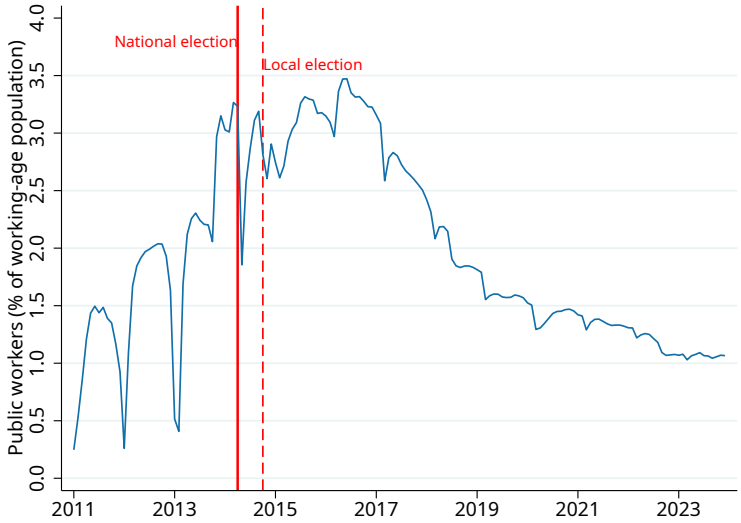
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Figure 1: Fiscal gap and clientelism



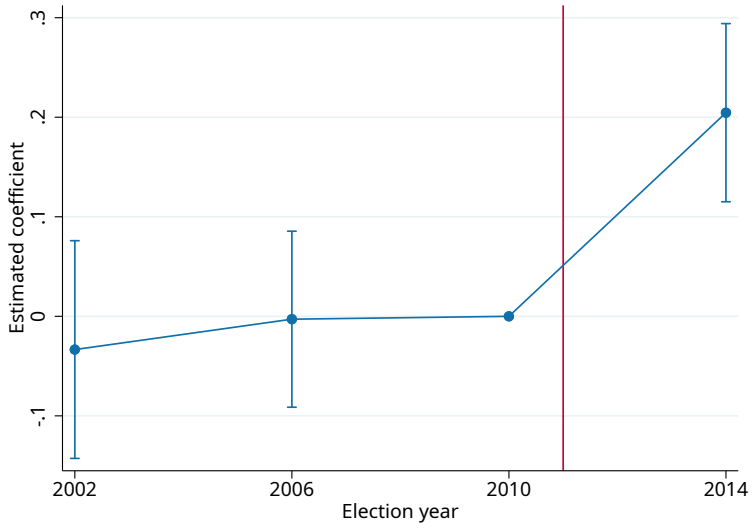
Note: The figure plots the fiscal gap against the V-Dem Clientelism Index in 2014, weighting countries by general government revenue. Following Gadenne and Singhal (2013), the fiscal gap is defined as the share of subnational revenues not covered by subnational tax revenues. The Clientelism Index is an expert-coded V-Dem measure of the extent to which politics is based on clientelistic relationships. Data sources: IMF Government Finance Statistics and V-Dem.

Figure 2: Aggregate share of public workers



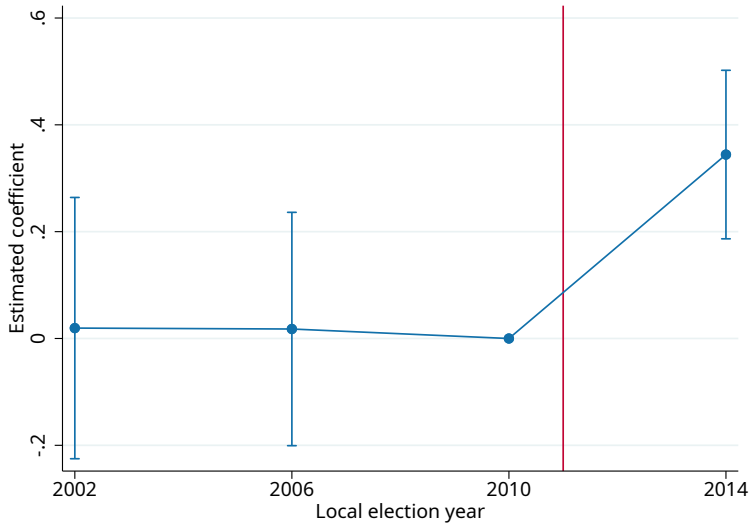
Note: This figure shows the evolution of the total number of individuals employed in public work programs as a share of the working-age population (ages 15–64). The solid vertical line marks the date of the national election (April 2014), and the dashed vertical line marks the date of the local election (October 2014).

Figure 3: The impact of workfare intensity on Fidesz support



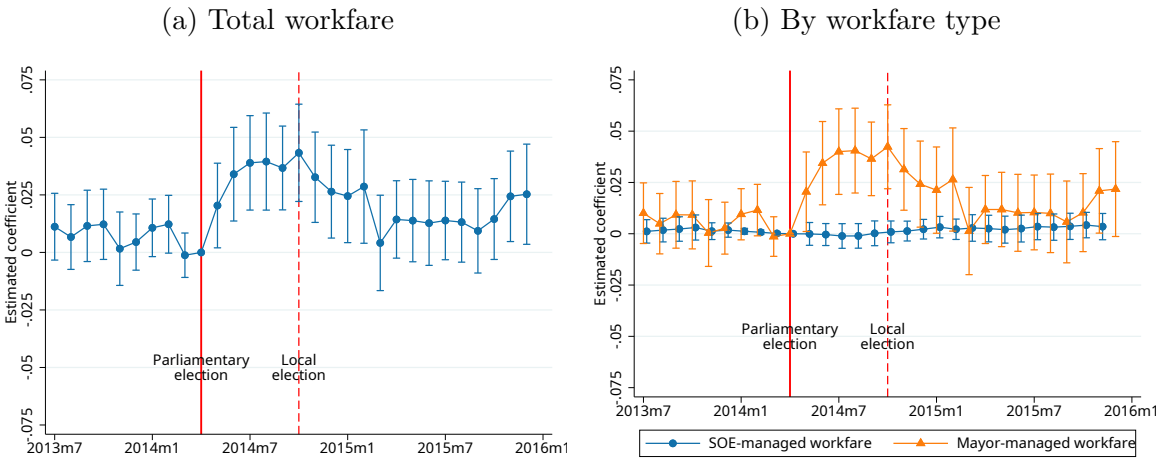
Note: This figure plots the estimated coefficients $\hat{\beta}_j$ from Equation (3), where the dependent variable is the number of Fidesz votes as a share of eligible voters. The specification includes pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares), each interacted with election-year fixed effects. The vertical line marks the timing of the 2011 welfare reform. Standard errors are clustered at the microregion level (175 units). Error bars represent 95% confidence intervals.

Figure 4: The impact of workfare intensity on incumbent mayor support



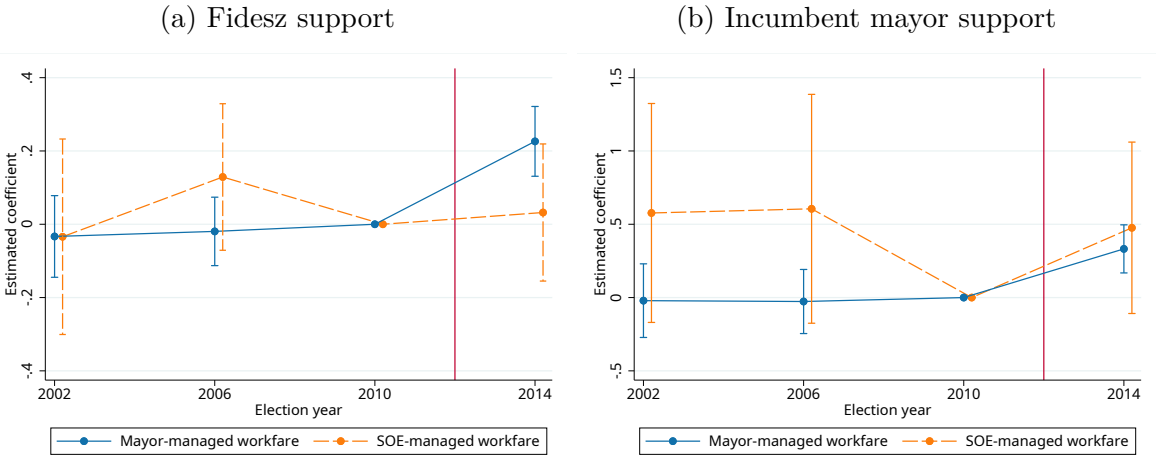
Note: This figure plots the estimated coefficients $\hat{\beta}_j$ from Equation (3), where the dependent variable is the number of incumbent-mayor votes as a share of eligible voters. The specification includes pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares), each interacted with election-year fixed effects. The vertical line marks the timing of the 2011 welfare reform. Standard errors are clustered at the microregion level (175 units). Error bars represent 95% confidence intervals.

Figure 5: The effect of Fidesz support on workfare allocation



Note: These figures plot the coefficients $\hat{\gamma}_j$ from Equation (5), estimating the effect of Fidesz vote share (measured relative to the number of eligible voters) on workfare participation over event time. Panel (a) shows results where the dependent variable is the number of workfare participants as a share of the working-age population. Panel (b) shows results from two separate regressions in which the dependent variables are mayor-managed workfare and state-owned enterprise-managed workfare, each expressed as a share of the working-age population. All specifications include pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, one-digit occupational shares, and microregion fixed effects), each interacted with month fixed effects. The solid vertical line marks the date of the national election (April 2014), and the dashed vertical line marks the date of the local election (October 2014). Standard errors are clustered at the microregion level (175 units). Error bars represent 95% confidence intervals.

Figure 6: The impact of mayor-managed and SOE-managed workfare on election outcomes



Note: These figures plot the estimated coefficients $\hat{\beta}_j$ from Equation (3). Panel (a) reports results from two separate regressions where the dependent variable is Fidesz votes as a share of eligible voters, and the key explanatory variables are mayor-managed and state-owned enterprise (SOE)–managed workfare as a share of the working-age population. Panel (b) reports analogous regressions using incumbent-mayor votes as the dependent variable. All specifications include pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares), each interacted with election-year fixed effects. The vertical line marks the timing of the 2011 welfare reform. Standard errors are clustered at the microregion level (175 units). Error bars represent 95% confidence intervals.

Table 1: Election results and turnout

Panel A: National elections						
	Fidesz & KDNP	Center left	Far right	Far left	Green	Turnout
2002	41.82	**47.62**	4.37	2.16	.	70.53
2006	42.03	**49.71**	2.2	.41	.	67.83
2010	**52.73**	19.3	16.67	.11	7.48	64.38
2014	**43.55**	26.21	20.69	.57	5.47	61.24
2018	**47.36**	17.95	19.8	.28	7.31	70.22
2022	**54.13**	34.44	5.88	.	.	69.59

Panel B: Mayoral elections							
	Fidesz & KDNP	Center left	Far right	Far left	Green	Independent	Turnout
2002	3.82	6.3	.06	.22	0	87.59	51.05557
2006	7.34	4.62	.19	.06	0	85.06	53.06083
2010	18.87	1.55	.13	.06	.03	78.12	46.54561
2014	19.76	1.07	.44	.03	0	77.44	44.34478
2019	18.81	.44	0	.03	.69	78.24	48.59381

Note: This table reports aggregate electoral outcomes. Panel (a) presents results for parliamentary elections from 2002 to 2022 for party lists, and Panel (b) presents results for mayoral elections from 2002 to 2019. Fidesz ran jointly with the Hungarian Democratic Forum (Magyar Demokrata Fórum) in 2002, and with the Christian Democratic People's Party (Keresztény Demokrata Néppárt) from 2006 to 2022. Center-left parties include the Hungarian Socialist Party (Magyar Szocialista Párt), the Alliance of Free Democrats (Szabad Demokraták Szövetsége), the Democratic Coalition (Demokratikus Koalíció), and Dialogue for Hungary (Párbeszéd Magyarországért). Far-right parties include the Movement for a Better Hungary (Jobbik) and the Hungarian Justice and Life Party (Magyar Igazság és Élet Pártja). The far-left party is the Workers' Party (Munkáspárt), and the green party is Politics Can Be Different (Lehet Más a Politika). Bold numbers denote the parties of the governing coalition.

Table 2: Correlates of public work share

	Coefficient	Standard error	N	R^2
Primary school share	25**	1.6	3176	.55
Vocational share	22**	4.1	3176	.1
High school share	-39**	2.1	3176	.49
College share	-22**	4.2	3176	.31
Unemployment rate	62**	3.1	3152	.52
Log income per capita	-11**	.86	3176	.55
Log population	-.83**	.082	3176	.31
Share of Roma minority	55**	3.7	3176	.43
Share of employed	2.6	2.2	3176	.0096
Fidesz support, 2010	.0042	.035	3174	.000048
Fidesz voteshare, 2010	.11**	.037	3174	.068
Turnout, 2010	-27**	2	3174	.19

Notes: This table reports correlates of workfare as a share of the working-age population. Each row shows a bivariate regression where the dependent variable is the workfare share in April 2014 ($WF_{i,2014m4}$) and the independent variable is listed in the first column. Regressions are weighted by the number of eligible voters. Standard errors are clustered at the microregion level (175 units). +, *, ** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 3: The effect of workfare on national election outcomes

	Fidesz votes as a share of eligible voters		Fidesz vote share	Turnout
	(1)	(2)	(3)	(4)
Workfare × Post	0.107*	0.217**	0.248**	0.0767*
	(0.0425)	(0.0452)	(0.0546)	(0.0347)
Municipality & election year FE	Yes	Yes	Yes	Yes
Controls		Yes	Yes	Yes
R^2	0.888	0.894	0.897	0.896
N	12488	12484	12484	12484

Notes: This table reports the effect of workfare intensity on political support for Fidesz and voter turnout in national elections between 2002 and 2014. The dependent variable in Columns 1–3 is the number of Fidesz votes as a share of eligible voters; Column 5 reports the Fidesz vote share among valid votes, and Column 6 shows effects on overall turnout. Controls include pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares), each interacted with a $Post_t$ dummy variable. Regressions are weighted by the number of eligible voters, and standard errors are clustered at the microregion level (175 units). +, *, ** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 4: The effect of workfare on local election outcomes

	Incumbent mayor votes as a share of eligible voters			Incumbent mayor vote share	Turnout
	(1)	(2)	(3)	(4)	(5)
Workfare × Post	0.213**	0.325**	0.520**	0.534**	0.0697
	(0.0482)	(0.0645)	(0.0732)	(0.176)	(0.0577)
Municipality & election year FE	Yes	Yes		Yes	Yes
Controls		Yes	Yes	Yes	Yes
Lagged support of the incumbent			Yes		
R^2	0.622	0.624	0.380	0.473	0.768
N	10262	10259	6188	10259	12422

Notes: This table reports the effect of workfare intensity on political support for incumbent mayors and voter turnout in local elections between 2002 and 2014. The dependent variable in Columns 1–4 is the number of incumbent mayor votes as a share of eligible voters; Column 5 reports the incumbent mayor vote share among valid votes, and Column 6 shows effects on overall turnout. Controls include pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares), each interacted with a $Post_t$ dummy variable. Regressions are weighted by the number of eligible voters, and standard errors are clustered at the microregion level (175 units). +, *, ** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 5: The effect of mayor-managed and SOE-managed workfare on election outcomes

	Full sample		Positive SOE exposure	
	(1) Fidesz support	(2) Incumbent-mayor support	(3) Fidesz support	(4) Incumbent-mayor support
Mayor-managed workfare × Post	0.244**	0.341**	0.268**	0.427**
	(0.0509)	(0.0692)	(0.0526)	(0.0838)
SOE-managed workfare × Post	0.00117	0.0670	-0.0102	-0.205
	(0.0866)	(0.238)	(0.0968)	(0.278)
Municipality & election-year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
p-value: equal effects	0.0234	0.282	0.0179	0.0354
R^2	0.894	0.624	0.896	0.611
N	12484	10259	9071	7534

Notes: This table reports the effect of mayor-managed and state-owned enterprise (SOE)–managed workfare on political outcomes. Columns 1–3 show the effect on Fidesz vote share relative to the number of eligible voters by estimating Equation (1), while Columns 4–6 report the effect on incumbent mayor votes relative to eligible voters by estimating Equation (2). Controls include pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares), each interacted with a $Post_t$ dummy variable. Regressions are weighted by the number of eligible voters, and standard errors are clustered at the microregion level (175 units). +, *, ** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 6: The effect of residual Fidesz support on workfare allocation

	Total workfare				Mayor-managed workfare	SOE-managed workfare
	(1)	(2)	(3)	(4)	(5)	(6)
Fidesz × Post	0.0187**	0.0228**	0.0265**	0.0285**	0.0301**	-0.00159
	(0.00638)	(0.00694)	(0.00767)	(0.00762)	(0.00727)	(0.00226)
Municipality & month FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls		Yes	Yes	Yes	Yes	Yes
Microregion-post			Yes	Yes	Yes	Yes
Occupation-post			Yes	Yes	Yes	Yes
Workfare (2014m4)-post				Yes	Yes	Yes
R^2	0.914	0.915	0.918	0.919	0.904	0.841
N	49936	49920	49888	49888	49888	49888

Notes: This table reports the effect of Fidesz support on workfare allocation by estimating Equation (5). Columns 1–4 present results for total workfare allocation, Column 5 focuses on mayor-managed workfare, and Column 6 reports results for workfare managed by state-owned enterprises (SOEs). Controls include pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares), each interacted with a $Post_t$ dummy variable, which is equal to one after April 2014 and zero otherwise. Regressions are weighted by the number of eligible voters, and standard errors are clustered at subregion level.

Table 7: Heterogeneous effect of workfare

Panel A: Heterogeneous Effects of Workfare on Fidesz Support						
	Mayoral competition		Political affiliation of incumbent mayor		Education	
	(1) Low	(2) High	(3) Fidesz	(4) Independent	(5) Low	(6) High
Workfare × Post	0.140*	0.313**	0.355**	0.176**	0.168**	0.213*
	(0.0583)	(0.0770)	(0.0722)	(0.0511)	(0.0550)	(0.107)
p-value: equal effects	0.050		0.029		0.709	
Municipality & year FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.877	0.901	0.896	0.890	0.809	0.929
N	6163	3008	1841	10515	4163	4157
Panel B: Heterogeneous Effects of Workfare on Incumbent Mayor Support						
	Mayoral competition		Political affiliation of incumbent mayor		Education	
	(1) Low	(2) High	(3) Fidesz	(4) Independent	(5) Low	(6) High
Workfare × Post	0.263*	0.508**	0.498**	0.202**	0.338**	0.424
	(0.116)	(0.138)	(0.136)	(0.0666)	(0.0811)	(0.268)
p-value: equal effects	0.193		0.046		0.753	
Municipality & year FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.591	0.591	0.659	0.608	0.557	0.589
N	5150	2367	1581	8572	3514	3306

Notes: This table reports the effect of workfare on Fidesz support by using subsamples. Column 1 and 2 split the sample by educational attainment, column 3 and 4 split the sample by unemploment rate in 2013, and column 5 and 6 split the sample by local electoral competition in 2010. Mayoral election competition is measured by the number of candidates. Regressions are weighted by the number of eligible voters and standard errors are clustered at the municipality level. +, *, ** indicate significance at the 0.1, 0.05 and 0.01 levels, respectively.

Decentralized but Dependent: Clientelism through Workfare

Online Appendix

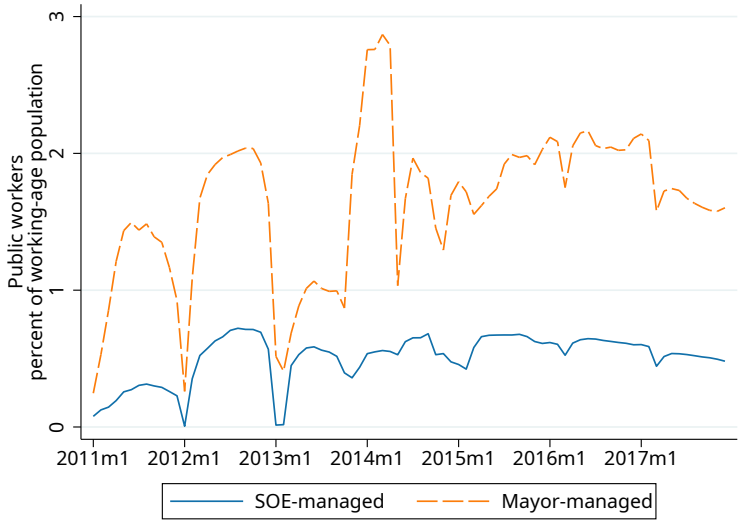
Attila Gáspár[*] Győző Gyöngyösi[†] Balázs Reizer[‡]

- Appendix A presents additional tables and figures
- Appendix B presents the model

[*]Gáspár: KRTK-KTI, gaspar.attila@krtk.hu.
[†]Gyöngyösi: Utrecht University; g.gyongyosi@uu.nl.
[‡]Reizer: KRTK-KTI, reizer.balazs@krtk.hu.

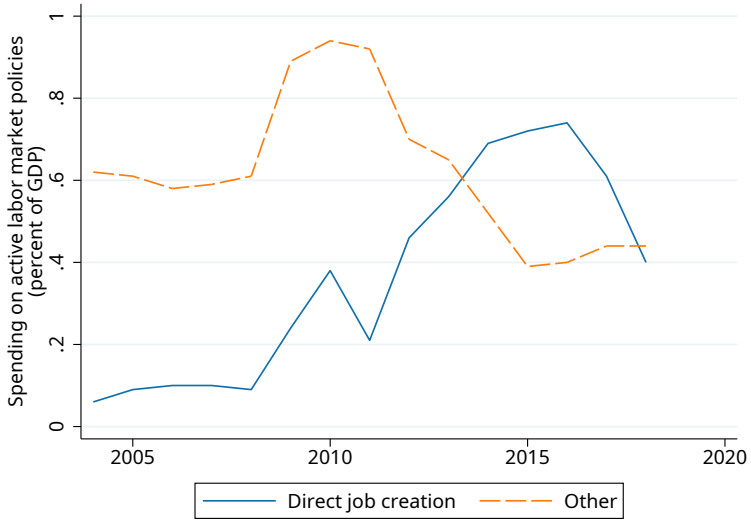
A Additional figures and tables

Figure A.1: Share of public workers relative working age population by subprograms



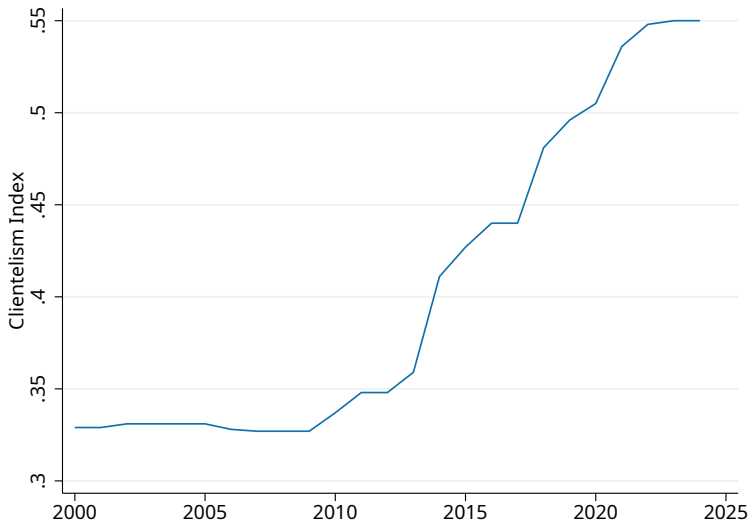
Note: This figure displays the participation rate in various public work subprograms, calculated as the number of participants divided by the working-age population.

Figure A.2: Spending on active labor market policies in Hungary



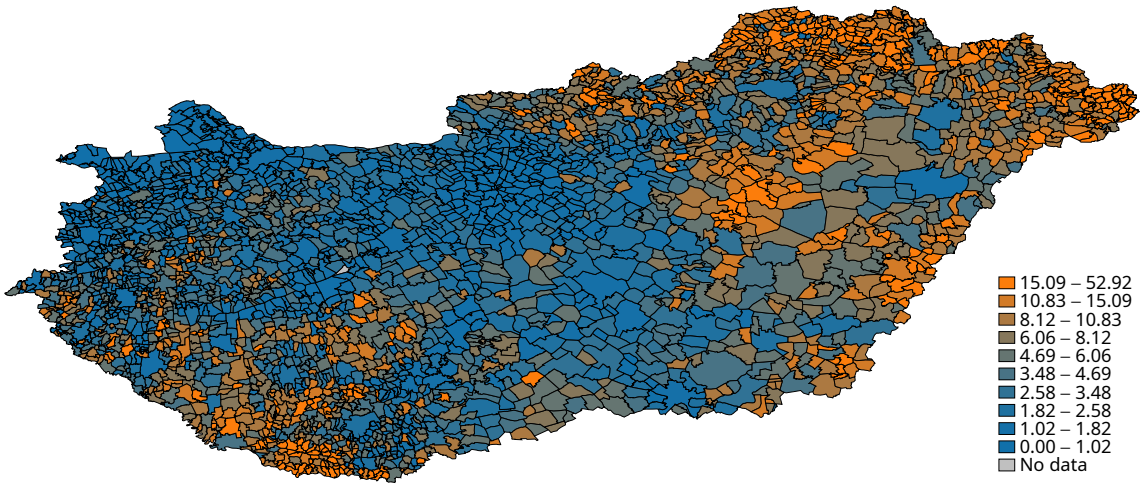
Note: This figure plots the spending on active labor market policies in Hungary as a share of GDP. The blue line represents spending on direct job creation and the orange line represents spendingon all other policies. Data source: OECD.

Figure A.3: Clientelism index in Hungary



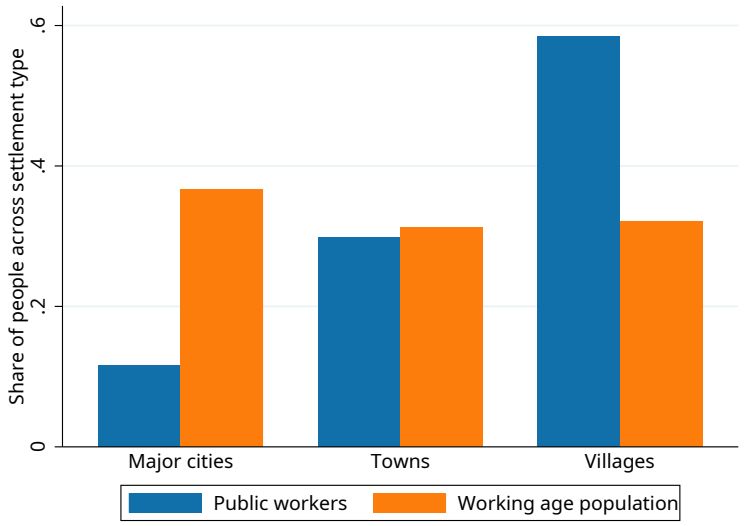
Note: The figure plots Hungary's V-Dem Clientelism Index from 2000 to 2024. The index is an expert-coded measure of the extent to which politics is based on clientelistic relationships, with higher values indicating greater clientelism. Source: V-Dem.

Figure A.4: Spatial distribution of the share of public workers in April 2014



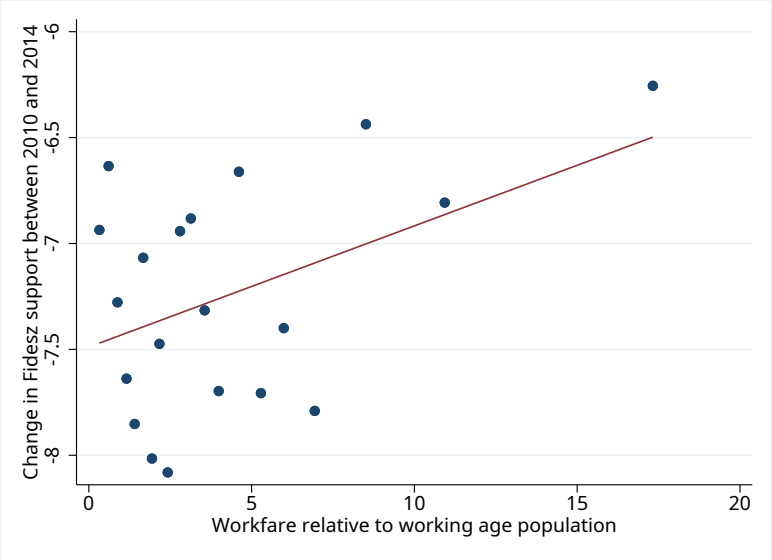
Note: This figure shows that spatial distribution of the share of public workers relative to working age population. The coloring corresponds to the deciles of public work share.

Figure A.5: The distirubition of public workers and working age population by municipality type



Note: This figure plots the distribution of public workers and working age population in April 2014 across municipality types. Municipalities are categorized into three groups: major cities (cities with county rights), towns and villages.

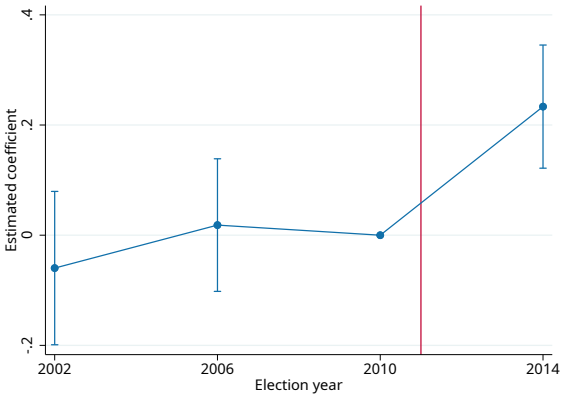
Figure A.6: Workfare and change in Fidesz support



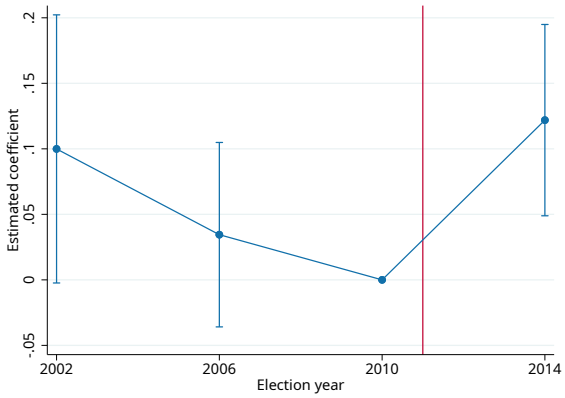
Note: The figure shows a binned scatterplot of the relationship between the change in Fidesz vote share between 2010 and 2014 and the share of public workers in the working-age population. Fidesz vote share is measured relative to the number of eligible voters.

Figure A.7: Dynamic impact of workfare on national elections

(a) Fidesz vote share

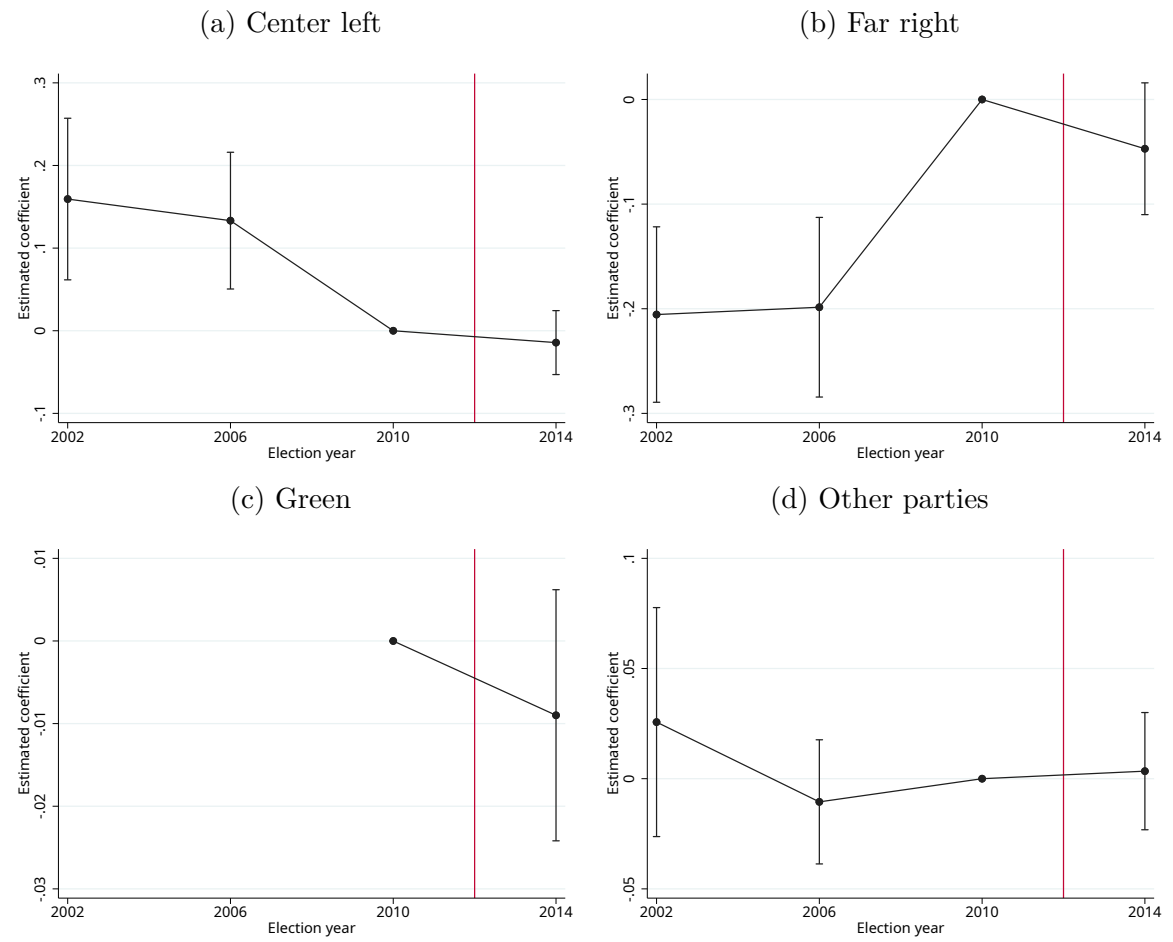


(b) Turnout



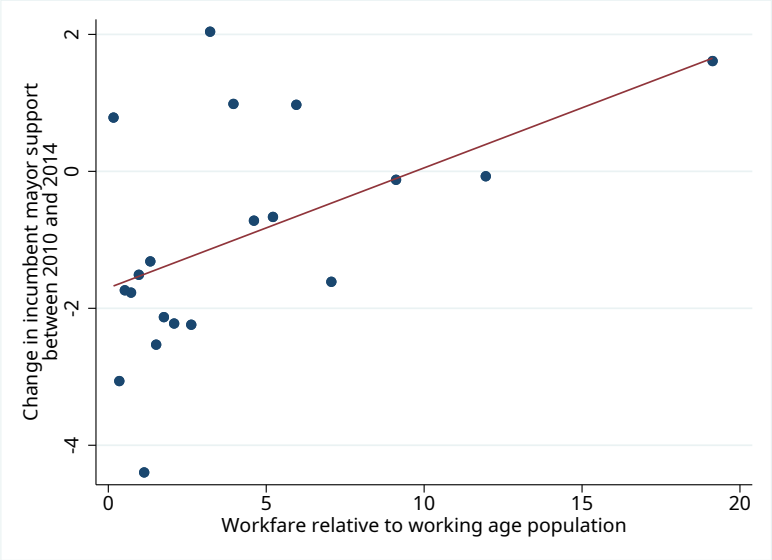
Note: These figures plots the $\hat{\beta}_j$ coefficients from estimating the effect of workfare on Fidesz vote share and turnout by estimating Equation (3). Controls are pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares) interacted with a election year indicator variables. Regressions are weighted by the number of eligible voters and standard errors are clustered at the microregion level. Error bars represent 95% confidence intervals.

Figure A.8: Dynamic impact of workfare on other parties



Note: These figures plots the $\hat{\beta}_j$ coefficients from estimating the effect of workfare on the political support of other parties by estimating Equation (3). The center left parties are Hungarian Socialist Party, Alliance of Free Democrats, Democratic Coalition, Dialogue for Hungary. The green party is Politics Can Be Different. The far right parties are Movement for a Better Hungary and Hungarian Justice and Life Party. Political support is measured by the share of votes relative to the eligible number of voters. Controls are pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares) interacted with a election year indicator variables. Regressions are weighted by the number of eligible voters and standard errors are clustered at the microregion level. Error bars represent 95% confidence intervals.

Figure A.9: Workfare and change in incumbent mayor support

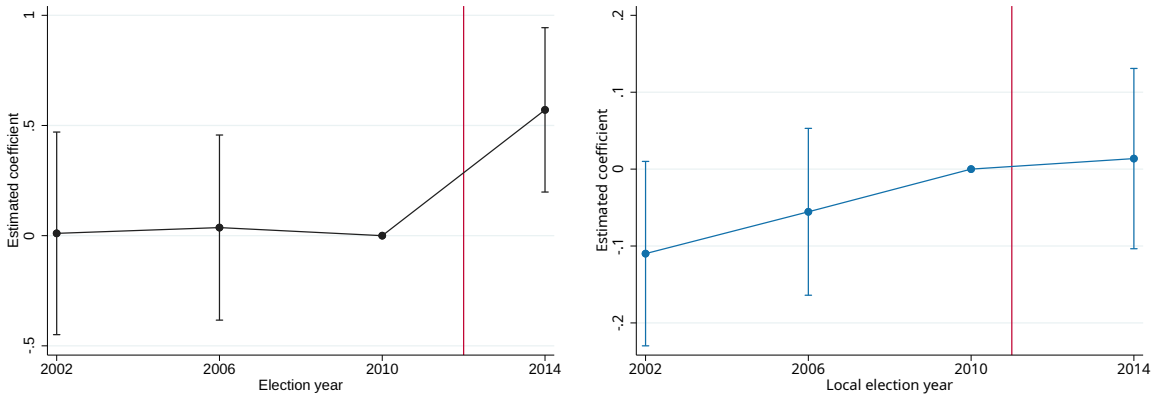


Note: The figure shows a binned scatterplot of the relationship between the change in incumbent mayor vote share between 2010 and 2014 and the share of public workers in the working-age population. Incumbent vote share is measured relative to the number of eligible voters.

Figure A.10: Dynamic impact of workfare on local elections

(a) Incumbent mayor vote share

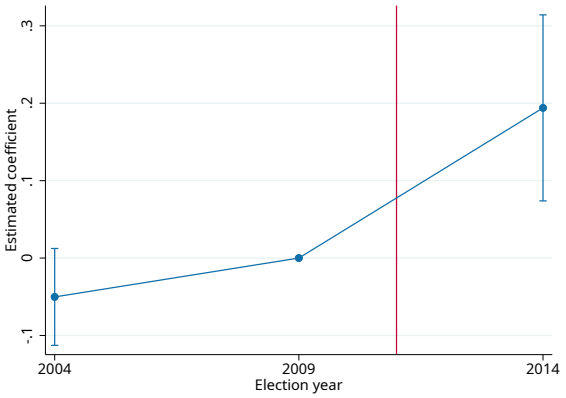
(b) Turnout



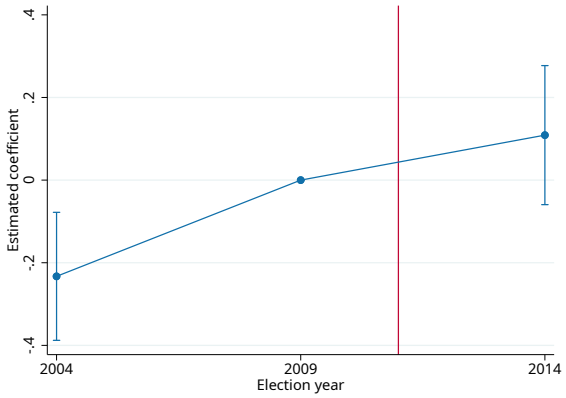
Note: These figures plots the $\hat{\beta}_j$ coefficients from estimating the effect of workfare on incumbent mayor vote share and turnout by estimating Equation (3). Controls are pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares) interacted with a election year indicator variables. Regressions are weighted by the number of eligible voters and standard errors are clustered at the microregion level. Error bars represent 95% confidence intervals.

Figure A.11: Dynamic impact of workfare on European Parliamentary election outcomes

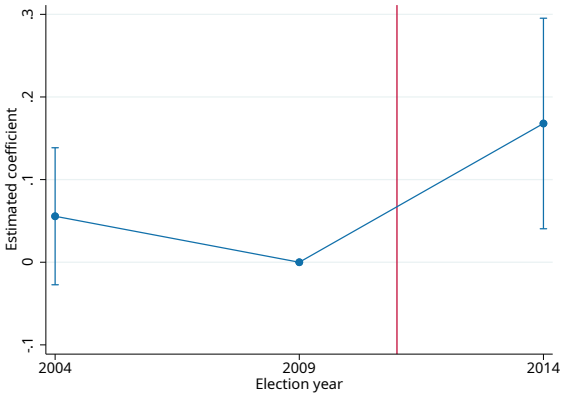
(a) Fidesz votes relative to eligible voters



(b) Fidesz vote share

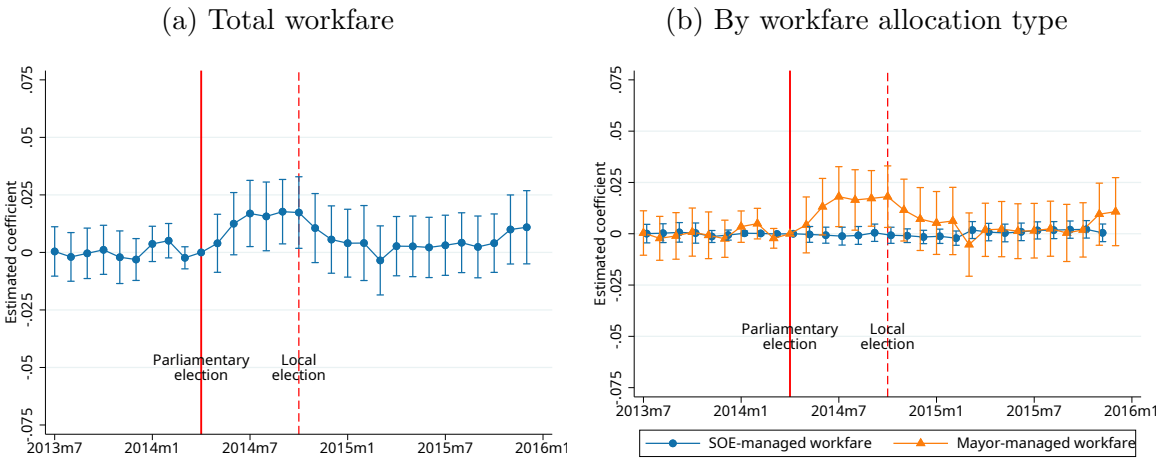


(c) Turnout



Note: These figures plots the $\hat{\beta}_j$ coefficients from estimating the effect of workfare on Fidesz vote share and turnout in European Parliamentary elections by estimating Equation (3). Controls are pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares) interacted with a election year indicator variables. Regressions are weighted by the number of eligible voters and standard errors are clustered at the microregion level. Error bars represent 95% confidence intervals.

Figure A.12: The effect of Fidesz voteshare on workfare allocation



Note: These figures plot the coefficients $\hat{\gamma}_j$ from Equation (5), estimating the effect of Fidesz vote share (measured relative to turnout) on workfare participation over event time. Panel (a) shows results where the dependent variable is the number of workfare participants as a share of the working-age population. Panel (b) shows results from two separate regressions in which the dependent variables are mayor-managed workfare and state-owned enterprise-managed workfare, each expressed as a share of the working-age population. All specifications include pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, one-digit occupational shares, and microregion fixed effects), each interacted with month fixed effects. The solid vertical line marks the date of the national election (April 2014), and the dashed vertical line marks the date of the local election (October 2014). Standard errors are clustered at the microregion level (175 units). Error bars represent 95% confidence intervals.

Table A.1: Correlates of change in public work share between 2013m10 and 2014m4

	Coefficient	Standard error	N	R^2
Primary school share	6.3**	.62	3176	.15
Vocational share	5.8**	2.1	3176	.032
High school share	-9.3**	1.2	3176	.13
College share	-5.9**	.68	3176	.098
Unemployment rate	18**	1.6	3152	.18
Log income per capita	-2.6**	.29	3176	.14
Log population	-.21**	.024	3176	.092
Share of Roma minority	16**	1.9	3176	.17
Share of employed	.49	.81	3176	.0015
Fidesz support, 2010	.00063	.013	3174	5.0e-06
Fidesz voteshare, 2010	.026+	.014	3174	.016
Turnout, 2010	-6.5**	1.3	3174	.05

Notes: This table reports the correlates of the change in public work share between October 2013 and April 2014. Each row corresponds to a separate bivariate regression in which the dependent variable is the change in public work share over this period and the explanatory variable is listed in the first column. All regressions are weighted by the number of eligible voters. Standard errors are clustered at the microregion level (175 units). +, *, and ** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table A.2: Survey evidence on the party preference and voting intention of public workers

	Pr(Fidesz support)			Pr(Intends to vote)		
	(1)	(2)	(3)	(4)	(5)	(6)
Workfare participant	0.144**	0.134**	0.113*	0.168**	0.169**	0.174**
	(0.0464)	(0.0466)	(0.0446)	(0.0515)	(0.0512)	(0.0505)
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls		Yes	Yes		Yes	Yes
County FE			Yes			Yes
R^2	0.00505	0.0111	0.0687	0.0210	0.0528	0.0735
Observations	9280	9280	9280	9280	9280	9280

Notes: The table presents the estimates of public worker status on Fidesz support and turnout using linear probability models. The omitted baseline category is the unemployed. The survey data was collected in October 2014.
The control variables are education, gender, age, household size, employment status. The regressions are weighted. Robust standard errors are in parentheses.
** = significant at 1-percent level; * = significant at 5-percent level; + = significant at 10-percent level.

Table A.3: Workfare and the electoral advantage of incumbent mayors

	Incumbent mayor wins		Incumbent mayor runs	Number of candidates
	(1) Unconditional	(2) Conditional on running	(3)	(4)
Workfare × Post	1.218**	0.900**	0.478	-0.00345
	(0.380)	(0.340)	(0.332)	(0.00409)
Municipality & election year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
R^2	0.231	0.288	0.255	.
N	12422	10259	12422	12420

Notes: This table reports the effect of workfare intensity on incumbent mayors' electoral advantage. Column 1 estimates the effect on an indicator equal to one if the incumbent mayor remains in office after the election. Column 2 restricts the sample to incumbents who recontest and uses the same dependent variable. Column 3 examines the effect of workfare on an indicator equal to one if the incumbent mayor runs for re-election. Column 4 examines the effect on the number of candidates in the mayoral election and is estimated using Pseudo Poisson Maximum Likelihood. Controls include pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares), each interacted with a $Post_t$ dummy variable. Standard errors are clustered at the microregion level (175 units). +, *, ** indicate significance at the 0.1, 0.05 and 0.01 levels, respectively.

Table A.4: The effect of workfare by incumbent mayor's political affiliation

Panel A: Fidesz Support	Political affiliation of incumbent mayor	
	(1) Fidesz	(2) Independent
Workfare × Post	0.339**	0.143**
	(0.0779)	(0.0537)
Municipality & year FE	Yes	Yes
Controls	Yes	Yes
R^2	0.898	0.892
N	1841	10507
Panel B: Incumbent Mayor Support	Political affiliation of incumbent mayor	
	(1) Fidesz	(2) Independent
Workfare × Post	0.749**	0.262**
	(0.173)	(0.0810)
Municipality & year FE	Yes	Yes
Controls	Yes	Yes
R^2	0.664	0.609
N	1581	8564

Notes: This table reports the effect of

Table A.5: Balancedness for the propensity score matched sample

	Treatment	Control	Treatment-Control Diff.	t-statistic	Normalized Diff.
Primary school share	0.48	0.47	0.01	0.99	0.07
Vocational school share	0.23	0.24	–0.00	-0.37	-0.02
High school share	0.21	0.21	–0.00	-1.02	-0.07
College share	0.07	0.08	–0.00	-0.53	-0.04
Unemployment rate	0.10	0.10	0.00	1.15	0.08
Log income per capita	7.12	7.15	–0.02	-1.39	-0.13
Log population	8.04	8.26	–0.21	-1.21	-0.13
Share of Roma population	0.05	0.04	0.01	1.59	0.12
Employment share	0.70	0.71	–0.00	-0.28	-0.02
Occupation code 1 share	0.04	0.05	–0.01**	-3.81	-0.35
Occupation code 2 share	0.08	0.08	–0.00	-0.07	-0.00
Occupation code 3 share	0.12	0.12	–0.01*	-2.14	-0.14
Occupation code 4 share	0.05	0.06	–0.00*	-2.17	-0.20
Occupation code 5 share	0.12	0.13	–0.01**	-3.94	-0.30
Occupation code 6 share	0.02	0.01	0.00*	2.41	0.13
Occupation code 7 share	0.12	0.12	–0.00	-0.84	-0.06
Occupation code 8 share	0.13	0.14	–0.01**	-3.08	-0.22
Occupation code 9 share	0.32	0.28	0.05**	6.61	0.44

Notes: This table reports the effect of

Table A.6: Robustness checks for the effect of workfare on Fidesz vote share

Panel A: Fidesz support	Propensity score matched sample	Full sample	Unweighted
	(1)	(2)	(3)
Workfare × Post	0.124*	0.187**	0.123**
	(0.0509)	(0.0474)	(0.0470)
Municipality & Year FE	Yes	Yes	Yes
Municipality controls	Yes	Yes	Yes
N	8197	12576	12484
Panel B: Incumbent mayor support	Propensity score matched sample	Full sample	Unweighted
	(1)	(2)	(3)
Workfare × Post	0.232**	0.308**	0.223**
	(0.0773)	(0.0712)	(0.0588)
Municipality & Year FE	Yes	Yes	Yes
Municipality controls	Yes	Yes	Yes
N	6837	10328	10259

Notes: This table reports the effect of

Table A.7: Robustness checks

Panel A: Fidesz support					
	Labor market shocks and poverty			Campaigning proxies	
	(1)	(2)	(3)	(4)	(5)
Workfare × Post	0.158**	0.184**	0.151**	0.218**	0.215**
	(0.0457)	(0.0466)	(0.0473)	(0.0453)	(0.0450)
Municipality & Year FE	Yes	Yes	Yes	Yes	Yes
Municipality controls	Yes	Yes	Yes	Yes	Yes
Labor market controls	Yes		Yes		
Social transfers		Yes	Yes		
EU subsidy				Yes	
Campaign spending					Yes
N	12475	12484	12475	12484	12484
Panel B: Incumbent mayor support					
	Labor market shocks and poverty			Campaigning proxies	
	(1)	(2)	(3)	(4)	
Workfare × Post	0.324**	0.318**	0.310**	0.328**	
	(0.0943)	(0.0683)	(0.0939)	(0.0643)	
Municipality & Year FE	Yes	Yes	Yes	Yes	
Municipality controls	Yes	Yes	Yes	Yes	
Labor market controls	Yes		Yes		
Social transfers		Yes	Yes		
EU subsidy				Yes	
N	10250	10259	10250	10259	

Notes: This table reports the effect of

Table A.8: The effect of workfare on European Parliamentary election outcomes

	Fidesz votes as a share of eligible voters		Fidesz vote share	Turnout
	(1)	(2)	(3)	(4)
Workfare × Post	0.237**	0.211**	0.221**	0.152*
	(0.0421)	(0.0623)	(0.0670)	(0.0673)
Municipality & election year FE	Yes	Yes	Yes	Yes
Controls		Yes	Yes	Yes
R^2	0.893	0.901	0.869	0.917
N	9377	9368	9368	9368

Notes: This table reports the effect of workfare intensity on political support for Fidesz and voter turnout in European Parliamentary elections between 2004 and 2014. The dependent variable in Columns 1–2 is the number of Fidesz votes as a share of eligible voters; Column 3 reports the Fidesz vote share among valid votes, and Column 4 shows effects on overall turnout. Controls include pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares), each interacted with a $Post_t$ dummy variable. Regressions are weighted by the number of eligible voters, and standard errors are clustered at the microregion level (175 units). +, *, ** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table A.9: Effect of workfare on later elections

	(1) National (Fidesz)	(2) Local (Mayor)	(3) EP (Fidesz)
Panel A: Workfare exposure fixed at its 2014 level			
2014 workfare exposure × Post	0.111*	0.263**	0.141*
	(0.0448)	(0.0602)	(0.0560)
Municipality & election year FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
R^2	0.864	0.582	0.888
N	18738	12796	12381
Panel B: Workfare measured contemporaneously, 2014–2022			
Contemporaneous workfare	0.144**	0.483**	0.246**
	(0.0342)	(0.155)	(0.0383)
Municipality & election year FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
R^2	0.943	0.779	0.955
N	9381	4336	6014

Notes: This table reports the effect of

Table A.10: Workfare exposure, pre-election expansion, and changes in Fidesz support

	(1)	(2)	(3)
Workfare stock, October 2013 × Post	0.195**		0.241**
	(0.0527)		(0.0542)
Pre-election expansion × Post		0.0628	0.167**
		(0.0436)	(0.0485)
Municipality & year FE	Yes	Yes	Yes
Municipality controls	Yes	Yes	Yes
R^2	0.893	0.893	0.894
N	12484	12484	12484

Notes: This table reports the relationship between workfare exposure and changes in Fidesz support when separating baseline exposure from the late pre-election expansion. The variable $WF_{i,2013m10}$ denotes the public work share in municipality i in October 2013, while $\Delta WF_{i,2013m10\text{–}2014m4}$ denotes the change in public work share between October 2013 and April 2014. The dependent variable is Fidesz vote share among eligible voters. All specifications include municipality and year fixed effects and baseline municipality controls interacted with $Post$. Regressions are weighted by the number of eligible voters. Standard errors are clustered at the microregion level (175 units). +, *, and ** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table A.11: The effects of mayor-managed and SOE-managed workfare on election outcomes in the subsample of municipalities with nonzero SOE-managed workfare

	Fidesz votes as a share of eligible voters			Incumbent mayor votes as a share of eligible voters		
	(1)	(2)	(3)	(4)	(5)	(6)
Mayor-managed workfare × Post	0.268**		0.268**	0.428**		0.427**
	(0.0453)		(0.0454)	(0.0928)		(0.0930)
SOE-managed workfare × Post		0.00623	-0.0102		-0.220	-0.205
		(0.0954)	(0.0937)		(0.302)	(0.300)
Municipality & election year FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.896	0.895	0.896	0.611	0.609	0.611
N	9071	9071	9071	7534	7534	7534

Notes: This table reports the effects of mayor-managed and state-owned enterprise (SOE)-managed workfare on political outcomes in the subsample of municipalities with nonzero SOE-managed workfare at the time of the 2014 election. Columns 1–3 show the effect on Fidesz vote share relative to the number of eligible voters by estimating Equation (1), while Columns 4–6 report the effect on incumbent mayor votes relative to eligible voters by estimating Equation (2). Controls include pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares), each interacted with a $Post_t$ dummy variable. Regressions are weighted by the number of eligible voters, and standard errors are clustered at the microregion level (175 units). +, *, ** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table A.12: The effect of Fidesz voteshare in Parliamentary elections on subsequent workfare allocation

	Total workfare				Mayor-managed workfare	SOE-managed workfare
	(1)	(2)	(3)	(4)	(5)	(6)
Fidesz × Post	0.0205**	0.0129**	0.0133*	0.0140*	0.0145**	-0.000508
	(0.00445)	(0.00473)	(0.00556)	(0.00554)	(0.00542)	(0.00159)
Municipality & month FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls		Yes	Yes	Yes	Yes	Yes
Microregion-post			Yes	Yes	Yes	Yes
Occupation-post			Yes	Yes	Yes	Yes
Workfare (2014m4)-post				Yes	Yes	Yes
R^2	0.914	0.915	0.918	0.918	0.904	0.841
N	49936	49920	49888	49888	49888	49888

Notes: This table reports the effect of Fidesz voteshare on workfare allocation by estimating Equation (5). Columns 1–4 present results for total workfare allocation, Column 5 focuses on mayor-managed workfare, and Column 6 reports results for workfare managed by state-owned enterprises (SOEs). Controls include pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares), each interacted with a $Post_t$ dummy variable, which is equal to one after April 2014 and zero otherwise. Regressions are weighted by the number of eligible voters, and standard errors are clustered at subregion level.

Table A.13: The effect of Fidesz support in Parliamentary elections on workfare allocation by the incumbent mayor's party affiliation

	Total workfare		Mayor-managed workfare		SOE-managed workfare	
	(1) Fidesz mayor	(2) Independent mayor	(3) Fidesz mayor	(4) Independent mayor	(5) Fidesz mayor	(6) Independent mayor
Fidesz × Post	0.0456*	0.0236**	0.0498**	0.0257**	-0.00418	-0.00203
	(0.0184)	(0.00889)	(0.0185)	(0.00869)	(0.00679)	(0.00210)
Municipality & month FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Microregion-post	Yes	Yes	Yes	Yes	Yes	Yes
Occupation-post	Yes	Yes	Yes	Yes	Yes	Yes
Workfare (2014m4)-post	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.935	0.914	0.923	0.900	0.870	0.836
N	7376	42112	7376	42112	7376	42112

Notes: This table reports

Table A.14: The effect of Fidesz support in former Parliamentary elections on workfare allocation

	Total workfare					
	(1)	(2)	(3)	(4)	(5)	(6)
Fidesz support in 2010 × Post	0.00753					
	(0.00522)					
Fidesz vote share in 2010 × Post		0.00463				
		(0.00435)				
Fidesz support in 2006 × Post			0.00553			
			(0.00436)			
Fidesz vote share in 2006 × Post				0.00205		
				(0.00352)		
Fidesz support in 2002 × Post					0.00336	
					(0.00463)	
Fidesz vote share in 2002 × Post						0.00153
						(0.00365)
Municipality & month FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Microregion-post	Yes	Yes	Yes	Yes	Yes	Yes
Occupation-post	Yes	Yes	Yes	Yes	Yes	Yes
Workfare (2014m4)-post	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.918	0.918	0.918	0.918	0.918	0.918
N	49888	49888	49776	49776	49616	49616

Notes: This table reports placebo estimates from Equation (5), relating workfare allocation after the April 2014 election to Fidesz support in earlier Parliamentary elections. Controls include pre-2014 municipality characteristics (educational attainment shares, unemployment rate, log income per capita, log population, share of Roma minority, employment rate, and one-digit occupational shares), each interacted with a $Post_t$ dummy variable, which is equal to one after April 2014 and zero otherwise. Regressions are weighted by the number of eligible voters, and standard errors are clustered at subregion level. +, *, ** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table A.15: Correlates of SOE-managed public work share

	Coefficient	Standard error	N	R^2
Primary school share	3.4**	.24	3176	.23
Vocational share	4.1**	.59	3176	.085
High school share	-5.3**	.47	3176	.22
College share	-3.3**	.44	3176	.16
Unemployment rate	6.9**	.77	3152	.14
Log income per capita	-1.5**	.1	3176	.25
Log population	-.13**	.0092	3176	.18
Share of Roma minority	5.8**	.87	3176	.11
Share of employed	.51	.39	3176	.0083
Fidesz support, 2010	.011*	.0052	3174	.0079
Fidesz voteshare, 2010	.023**	.0058	3174	.066
Turnout, 2010	-3.4**	.6	3174	.072

Notes: This table reports correlates of SOE-managed workfare as a share of the working-age population. Each row shows a bivariate regression where the dependent variable is the SOE-managed workfare share in April 2014 and the independent variable is listed in the first column. Regressions are weighted by the number of eligible voters. Standard errors are clustered at the microregion level (175 units). +, *, ** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table A.16: Correlates of mayor-managed public work share

	Coefficient	Standard error	N	R^2
Primary school share	22**	1.6	3176	.52
Vocational share	18**	3.6	3176	.083
High school share	-33**	1.9	3176	.45
College share	-19**	3.8	3176	.28
Unemployment rate	55**	2.6	3152	.5
Log income per capita	-9.4**	.82	3176	.51
Log population	-.7**	.075	3176	.28
Share of Roma minority	49**	3	3176	.44
Share of employed	2.1	1.8	3176	.0078
Fidesz support, 2010	-.0069	.031	3174	.00016
Fidesz voteshare, 2010	.091**	.031	3174	.054
Turnout, 2010	-23**	1.7	3174	.18

Notes: This table reports correlates of mayor-managed workfare as a share of the working-age population. Each row shows a bivariate regression where the dependent variable is the mayor-managed workfare share in April 2014 and the independent variable is listed in the first column. Regressions are weighted by the number of eligible voters. Standard errors are clustered at the microregion level (175 units). +, *, ** indicate significance at the 10, 5, and 1 percent levels, respectively.

B The model

B.1 Players and timing

There are N towns, $i \in \{1,..,n\}$, each with unit mass of voters. NG has a fixed total workfare budget W and allocates w_i to each town, with

$$\sum_i w_i = W, \qquad 0 \le w_i \le 1. \tag{1}$$

In town i, NG routes a share $s_i \in [0,1]$ through the mayor. Define the mayor-routed mass

$$m_i \equiv s_i w_i, \qquad \text{and SOE-routed mass } w_i - m_i. \tag{2}$$

NG also sets a town-specific target vote share τ_i for the national election. Mayors know their target vote shares.

Timing.

1. NG chooses (w_i, s_i) and targets τ_i.
2. Each mayor chooses a hidden effort level $e_i \in [0,1]$ to mobilize voters in the national election.
3. The national election takes place. Let V_i^N denote the national incumbent's vote share in town i. If $V_i^N < \tau_i$, NG strips workfare administered by the mayor before the local election: $m_i \to 0$. [24]
4. The local election takes place. If the mayor keeps workfare, she can also discipline mayor-routed recipients in the local election.

B.2 Voters: microfoundation and voting probabilities

A voter j in town i chooses between incumbent and opposition in each election by comparing utilities. Write the (incumbent minus opposition) utility difference as

$$\Delta U_{ij} = x_{ij} + \varepsilon_{ij}, \tag{3}$$

where x_{ij} is a systematic index and ε_{ij} is an idiosyncratic taste shock with continuous CDF F and density f. The voter votes for the incumbent iff $\Delta U_{ij} \ge 0$, i.e. $\varepsilon_{ij} \ge -x_{ij}$. Therefore,

$$\boxed{\Lambda(x) \equiv \Pr(\text{vote incumbent} \mid x) = 1 - F(-x)} \qquad \lambda(x) \equiv \Lambda'(x) = f(-x). \tag{4}$$

$\Lambda(\cdot)$ is the individual voting function; $\lambda(\cdot)$ is its slope.

B.3 National election

B.3.1 Indices

All voters in town i experience a town-level popularity shock η_i for the national incumbent, drawn from CDF G with density g. Higher η_i means higher baseline support for NG. Workfare affects the index through two channels:

[24] We assume that NG can commit to this decision. Essentially, we assume that each individual mayor is "disposable", so there is no continuation value for the government and no national electoral cost of indirectly punishing workfare recipients.

- **Reciprocity:** any workfare recipient (SOE or mayor) obtains a direct utility/reciprocity benefit from voting for NG, captured by $v > 0$.
- **Sanctions (only for mayor-routed recipients):** if the mayor exerts effort e_i, a mayor-routed recipient expects an additional cost from defecting, captured by $c_i(m_i)B$ where $B > 0$ is the value of workfare for the recipient and $c_i(m_i)$ is the effectiveness of discipline.

Degrading discipline technology. Discipline becomes less effective when the mayor controls many recipients (capacity constraints). We assume a simple linear form:

$$\boxed{c_i(m_i) = \max\{0,\ c_{i0}(1 - \alpha_i m_i)\ \},\qquad c_{i0} > 0,\ \alpha_i > 0.} \tag{5}$$

(Whenever convenient, we focus on the region where $c_i(m_i) > 0$ so the max operator does not bind.)

National indices. Thus the systematic index in the national election is:

$$\text{non-recipients:}\quad x_{ij} = \eta_i, \tag{6}$$
$$\text{SOE recipients:}\quad x_{ij} = \eta_i + v, \tag{7}$$
$$\text{mayor recipients:}\quad x_{ij} = \eta_i + v + e_i\, c_i(m_i)B. \tag{8}$$

B.3.2 Vote share

Aggregating groups, town i's national vote share at shock η_i is

$$\boxed{V_i^N(\eta_i, e_i; m_i) = (1 - w_i)\Lambda(\eta_i) + (w_i - m_i)\Lambda(\eta_i + v) + m_i\,\Lambda\big(\eta_i + v + e_i\, c_i(m_i)B\big).} \tag{9}$$

Proposition 1. *The electoral impact of workfare depends on who administers it.*

Proof. From Equation 9 it immediately follows that a marginal increase in SOE workfare increases the vote share of the government in proportion to $\Lambda(\eta_i + v)$, while an increase in mayoral workfare increases vote shares in proportion to $\Lambda\big(\eta_i + v + e_i\, c_i(m_i)B\big)$. As long as the mayor's capacity constraint does not bind, mayoral workfare increases the government's vote share more than SOE workfare. □

B.3.3 Targets and the probability of passing the threshold national vote share

As we noted earlier, mayoral effort is not observed by NG, so NG infers it indirectly from its own success at the polls. Define the *tipping popularity shock* $\eta_i^*(e_i)$ as the realization of the town-level popularity shock at which the town just passes a given threshold:

$$V_i^N(\eta_i^*(e_i), e_i; m_i) = \tau_i. \tag{10}$$

Because V_i^N is increasing in η_i, the town meets the target iff $\eta_i \geq \eta_i^*(e_i)$. Hence the pass probability is

$$\boxed{P_i^N(e_i; m_i) = \Pr(\eta_i \geq \eta_i^*(e_i)) = 1 - G(\eta_i^*(e_i)).} \tag{11}$$

B.4 Local election

We now characterize voter behavior in the local election, which is necessary to derive the mayor's optimal behavior later on,

B.4.1 Local indices and vote shares

Let ζ_i denote a town-level popularity shock for the mayor in the local election, drawn from CDF H with density h. If the mayor is stripped of workfare ($m_i \to 0$), her local vote share is simply

$$S_0(\zeta_i) = \Lambda(\zeta_i). \tag{12}$$

If the mayor keeps workfare, then a mass m_i of mayor-routed recipients also respond to reciprocity and (local) sanctions. For simplicity we assume the mayor can apply the same discipline effectiveness $c_i(m_i)$ in the local election.Thus,

$$S_1(\zeta_i; m_i) = (1 - m_i)\Lambda(\zeta_i) + m_i\,\Lambda\big(\zeta_i + v + c_i(m_i)B\big). \tag{13}$$

Define the 50–50 cutoff without mayoral workfare by ζ_i^0 solving $S_0(\zeta_i^0) = 1/2$. The mayor's win probability when stripped of workfare is

$$Q_{0i} = 1 - H(\zeta_i^0). \tag{14}$$

If mayoral workfare is kept, define $\zeta_i^1(m_i)$ solving $S_1(\zeta_i^1(m_i); m_i) = 1/2$, and the win probability is $Q_{1i}(m_i) = 1 - H(\zeta_i^1(m_i))$. The gain in win probability from keeping workfare is

$$\boxed{\Delta Q_i^L(m_i) \equiv Q_{1i}(m_i) - Q_{0i} = H(\zeta_i^0) - H(\zeta_i^1(m_i)).} \tag{15}$$

Lemma 1 (Local win-probability gain from keeping workfare)**.** *To first order,*

$$\boxed{\Delta Q_i^L(m_i) \;\approx\; h_i^*\, m_i \big(v + c_i(m_i)B\big), \qquad h_i^* \equiv h(\zeta_i^0).} \tag{16}$$

That is, the impact of workfare on the mayor's chance of re-election depends on the characteristics of her local race, the level of workfare, and the combined effect of reciprocity and sanctions on voter utility.

Proof. Keeping the workfare shifts the local voting index for the mass m_i of mayor-routed recipients by $(v + c_i(m_i)B)$. Near the 50–50 point ζ_i^0, a small upward shift in vote share translates into a win-probability gain proportional to the density $h(\zeta_i^0)$. A standard linearization yields $\Delta Q_i^L(m_i) \approx h(\zeta_i^0) \cdot m_i(v + c_i(m_i)B)$. □

B.5 Mayor's national effort choice

The mayor values holding office in the local election. Let $R_i > 0$ denote the value of reelection. Exerting national effort e_i is privately costly. Assume a convex cost function

$$C_i(e_i) = k_{0i}e_i + \frac{\kappa_i}{2}e_i^2, \qquad k_{0i} \geq 0,\ \kappa_i > 0. \tag{17}$$

Expected payoff. If the town passes the national target, the mayor keeps mayor-administered workfare, and her local win probability increases by $\Delta Q_i^L(m_i)$. If the town fails, she is stripped of mayoral workfare and receives Q_{0i}. Thus expected payoff is

$$U_i(e_i; m_i) = R_i\Big(Q_{0i} + P_i^N(e_i; m_i) \cdot \Delta Q_i^L(m_i)\Big) - C_i(e_i). \tag{18}$$

The mayor exerts non-zero effort (i.e., brokers votes for the government) in the national election iff $U_i(e_i; m_i) \geq U_i(0,0) = 0$. Since effort is her only choice variable, the optimal level of effort

can be determined by looking at the first order condition derived from her expected payoff in Equation 18.[25]

B.5.1 How effort affects the pass probability

Because e_i is continuous, we can differentiate $P_i^N(e_i; m_i)$ directly.

Lemma 2 (Marginal pass-probability gain from effort)**.** *For any* $e \in [0,1]$*,*

$$\boxed{\frac{d}{de}P_i^N(e; m_i) = g(\eta_i^*(e))\,\frac{m_i\, c_i(m_i) B\, \lambda\big(\eta_i^*(e) + v + e\, c_i(m_i) B\big)}{\Phi_i^N(e)}}\,, \tag{19}$$

where

$$\Phi_i^N(e) \equiv \frac{\partial V_i^N}{\partial \eta}\Big|_{(\eta_i^*(e),e)} = (1-w_i)\lambda(\eta_i^*(e)) + (w_i - m_i)\lambda(\eta_i^*(e)+v) + m_i\,\lambda\big(\eta_i^*(e)+v+e\,c_i(m_i)B\big). \tag{20}$$

Proof. From (11), $P_i^N(e; m_i) = 1 - G(\eta_i^*(e))$, so by the chain rule

$$\frac{d}{de}P_i^N(e; m_i) = -g(\eta_i^*(e))\,\eta_i^{*\prime}(e).$$

Differentiate the defining identity $V_i^N(\eta_i^*(e), e; m_i) = \tau_i$ with respect to e:

$$V_\eta(\eta_i^*(e), e; m_i)\,\eta_i^{*\prime}(e) + V_e(\eta_i^*(e), e; m_i) = 0,$$

hence $\eta_i^{*\prime}(e) = -V_e / V_\eta$. From (N1),

$$V_e(\eta, e; m_i) = m_i\, c_i(m_i) B\, \lambda(\eta + v + e\, c_i(m_i) B), \qquad V_\eta(\eta, e; m_i) = \Phi_i^N(e).$$

Substituting gives the result. □

$V_i^N(\eta_i^*(e_i), e_i; m_i) = \tau_i$.

B.5.2 Optimal effort and comparative statics

Differentiate Equation 18:

$$R_i\, \Delta Q_i^L(m_i) \cdot \frac{d}{de}P_i^N(e_i; m_i) = C_i'(e_i) = k_{0i} + \kappa_i e_i \tag{21}$$

for any interior optimum $e_i \in (0,1)$. This condition has a simple interpretation: the marginal benefit of effort (increase in keeping workfare times the electoral value of workfare) equals the marginal cost of effort.

Proposition 2 (Mayoral workfare after national election)**.** *Workfare level before the local election correlates positively with the vote share of the government.*

[25] In the model, we tacitly assume that agents take the government's probability of a national election victory as given and unaffected by their own decisions; similarly, voters think that their vote is not pivotal in the outcome of the mayoral race. This is convenient for tractability and also very straightforward to assume if there are a large number of voters and mayors. We also assume that agents discount the possibility of the government losing its national election contest; if voters and mayors assigned a probability less than 1 to this event, it would reduce the probability that the government can sanction uncooperative mayors after the national election, making them harder to incentivize in the first place.

Proof. First, on the extensive margin, in corner solutions where no cooperation occurs, the mayor receives no workfare, and the government receives votes only from SOE workfare. Second, on the intensive margin, when some positive level of cooperation occurs, higher unobserved effort e_i simultaneously increases both (i) the distribution of realized national vote shares V_i^N (see (9)) and (ii) the probability of retaining mayoral workfare (see Lemma 2). Therefore, V_i^N and m_i^{local} are positively correlated, with e_i as the common driver. □

Proposition 3 (Race tightness and effort)**.** *Fix* (w_i, m_i)*. Suppose the optimal effort* $e_i^\star$ *is interior. Then* $e_i^\star$ *is increasing in the "tightness" of the national and local races, measured by the densities* $g(\eta_i^*(e))$ *and* $h(\zeta_i^0)$*, and decreasing in effort costs* (k_{0i}, κ_i)*.*

Define the net marginal gain from increasing effort:

$$F(e;\theta) \equiv R\,\Delta Q^L(m)\,\frac{dP^N(e;m)}{de} - (k_0 + \kappa e),$$

where θ denotes parameters such as $h(\zeta^0)$ and $g(\eta^*(e))$. An interior optimum satisfies $F(e^*;\theta) = 0$. Now increase local tightness from h to $\tilde{h} > h$ (the same argument applies to g). Because h multiplies the marginal benefit term,

$$R\,\Delta Q^L(m)\,\frac{dP^N(e;m)}{de} \quad \text{is larger for every fixed } e$$

under $\tilde{h}$ than under h. Therefore, for every fixed e,

$$F(e;\tilde{h}) > F(e;h).$$

In particular, at the old optimum $e^*(h)$, we had $F(e^*(h);h) = 0$, so

$$F(e^*(h);\tilde{h}) > 0,$$

meaning that at effort $e^*(h)$ the marginal benefit now exceeds the marginal cost. To restore equality (i.e., to solve $F(e;\tilde{h}) = 0$), effort must rise until the increasing marginal cost catches up. If the FOC has a unique crossing (equivalently, $F(e;\theta)$ crosses zero only once), this implies

$$e^*(\tilde{h}) > e^*(h).$$

Thus tighter local races (higher $h(\zeta^0)$) increase equilibrium effort, and the same logic shows tighter national races (higher $g(\eta^*)$) increase effort, while higher k_0 or κ reduce effort because they raise marginal cost.

B.6 National government problem and allocation logic

NG maximizes expected national support (equivalently, expected national vote share) by choosing (w_i, s_i) subject to $w_1 + w_2 = W$. Given choices, each mayor selects $e_i^\star(m_i, w_i)$ from (21).

Two objects matter for national votes:

- **Reciprocity votes:** all workfare recipients (SOE or mayor) add v to their index, so w_i always increases expected vote share in town i holding everything else fixed.
- **Sanction votes:** only mayor-routed recipients receive the extra index shift $e_i^\star(m_i, w_i)c_i(m_i)B$. This component is decreasing in m_i through $c_i(m_i)$ and increasing through the scale m_i and through induced effort $e_i^\star$.

The national government's goal is to equalize the marginal impact of workfare on its votes across settlements 1 and 2 and routing options (mayor 1, mayor 2, SOE 1, SOE 2). This means that the distribution of workfare across settlements will depend on the relative tightness of national and mayoral races.

To keep the model tight, we considered two identical settlements with an equal number of workfare-eligible voters and identical valuations, so welfare concerns were not present. Consider now that both towns have a share π_i of poor (unemployed) voters who are eligible for workfare, and that v_i is heterogeneous and reflects differences in poor voters' outside options.

B.6.1 National government's allocation problem

The national government (NG) allocates a fixed national workfare budget across settlements and decides how much of each local allocation is routed through the mayor. Let

$$w_i \in [0, \pi_i], \qquad m_i \in [0, w_i], \qquad \sum_{i=1}^{N} w_i = W,$$

where w_i is total workfare in settlement i, m_i is the mayor-routed component, π_i is local eligible mass (number of all jobless workers), and W is the aggregate budget. Define NG's reduced-form expected vote contribution from settlement i as

$$\mathcal{V}_i(w_i, m_i) \equiv \mathbb{E}_{\eta_i}\left[V_i^N\left(\eta_i,\, e_i^\star(w_i, m_i),\, m_i,\, w_i\right)\right].$$

Where e_i^* is pinned down by Equation 9. NG solves

$$\begin{aligned} \max_{\{w_i, m_i\}_{i=1}^N} \quad & \sum_{i=1}^{N} \mathcal{V}_i(w_i, m_i) \\ \text{s.t.} \quad & \sum_{i=1}^{N} w_i = W, \\ & 0 \le m_i \le w_i \le \pi_i, \quad i = 1, \ldots, N. \end{aligned} \tag{22}$$

Assume $\mathcal{V}_i$ is continuously differentiable and the problem is concave. The Lagrangian is

$$\mathcal{L} = \sum_{i=1}^{N} \mathcal{V}_i(w_i, m_i) - \lambda\left(\sum_{i=1}^{N} w_i - W\right) + \sum_{i=1}^{N} \mu_i(\pi_i - w_i) + \sum_{i=1}^{N} \nu_i(w_i - m_i) + \sum_{i=1}^{N} \xi_i m_i,$$

with multipliers $\lambda \in \mathbb{R}$, $\mu_i, \nu_i, \xi_i \ge 0$.

For interior settlements ($0 < m_i < w_i < \pi_i$), first-order conditions are

$$\frac{\partial \mathcal{V}_i}{\partial w_i} = \lambda, \tag{23}$$

$$\frac{\partial \mathcal{V}_i}{\partial m_i} = 0. \tag{24}$$

Equation (23) is the cross-settlement equalization rule: NG equalizes marginal expected national votes per additional workfare slot. Equation (24) is the within-settlement routing rule: NG chooses mayor-routing up to the point where its marginal electoral return is zero (with corner solutions governed by KKT inequalities).

Tightness of political competition and v_i. The allocation rule above implies that equilibrium workfare is larger in settlements where an additional slot generates more *marginal*

expected votes for the incumbent. In the model, this marginal return is highest when both the national and the local contests are tight: on the national side, when the realized popularity shock is likely to be close to the tipping point $\eta_i^*(e)$ (high $g(\eta_i^*(e))$ in Lemma 2), small increases in effort and mayor-routing translate into large increases in the probability of meeting the target and thus keeping control over mayor-routed positions. On the local side, when the mayoral race is close (high $h(\zeta_i^0)$ in Lemma 1), retaining control over workfare yields a large increase in the mayor's reelection probability $\Delta Q_i^L(m_i)$, strengthening her incentive to cooperate (exert hidden national effort). Heterogeneity in reciprocity, ν_i, further shifts these returns: higher ν_i makes any workfare slot more electorally productive even under SOE routing (pure reciprocity), raising $\partial \mathcal{V}_i / \partial w_i$ and attracting more total allocation w_i; when ν_i is lower (weaker reciprocity because outside options are better or dependence is lower), the government relies relatively more on the mayoral channel and conditionality, so routing m_i / w_i becomes more sensitive to the tightness terms that govern the value of effort and discipline.

Notes on targets. The target τ_i affects incentives by determining the tipping point $\eta_i^*(e)$ and therefore the sensitivity of the pass probability to effort (Lemma 2). However, τ_i does not enter player utilities directly, only through the pass probability. Targets set too low or too high reduce this sensitivity and weaken mayoral incentives. The government therefore sets τ_i such that $\eta_i^*(\cdot)$ falls in a region of high density $g(\eta_i^*)$, maximizing the marginal incentive effect—though the exact optimum depends on distributional assumptions and is not pinned down in closed form. Since τ_i is a theoretical construct rather than an observable, this does not affect the model's empirical predictions.