Mobilization and Intra-Party Power Sharing: Theory and Evidence from Norway*

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Abstract

Despite their recognized importance, the inherent opacity of intra-party institutions limits scholarly understanding of how parties share power internally. We advance knowledge in this area by studying how parties allocate list positions to different factions. We develop a theory of intra-party bargaining in which list positions shape the mobilization efforts of party activists in different factions. Our results allow us to link observable patterns in list allocations to the importance of consensus in intra-party negotiations. We empirically evaluate these predictions using data from Norwegian municipal elections. We exploit a wave of municipal mergers to identify candidates' geography-based factional affiliations. In line with our theory's functionalist logic and consensus-based bargaining, smaller factions are over-compensated in 'safe' list positions. While we also find a slight over-representation in the contested ranks, the relationship between size and resources is much closer to proportionality, as predicted by our theory.

Keywords: Geographic Representation, Intra-party Politics, Municipal Mergers.

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1. Introduction

Modern democracies are organized around political parties: Parties mobilize voters, allocate power among internal groups, and develop policy proposals. To perform these functions, a party needs resources (e.g., governmental positions and policy authority) whose control depends on its electoral success. Electoral success, in turn, hinges on a wide array of activities performed by party members, such as canvassing, organizing, communicating and campaigning. Incentivizing these forms of mobilization effort by activists belonging to different internal groups—henceforth factions—is a critical concern for a party.

In practice, these incentives often take the form of contingent rewards, i.e., promises of allocations of resources that depend on the party's electoral performance (Leiserson, 1968; Mershon, 2001*a*,*b*). A central question is then: How do parties determine these allocations of resources? And, more generally, how do parties share power internally? The answers to these questions hold important implications for democratic governance, affecting representation, policy inclusivity, and political stability.

This paper investigates how parties allocate resources among factions. We study, both theoretically and empirically, how factions negotiate over candidate lists—a primary mechanism for intraparty resource allocation. Against a well documented problem of opacity of parties' internal processes (Gallagher, 1988; Hazan and Rahat, 2010), we document how smaller factions tend to be over-represented in terms of candidates, especially when it comes to safer list positions, in line with the idea of relatively consensus-based intraparty negotiations. As evidence of internal party fragmentation grows, viewing parties as cohesive entities becomes increasingly untenable. In this context, our findings become crucial for understanding the internal dynamics of political parties, including nomination procedures and resource distribution mechanisms.

Despite the acknowledged importance of factions and internal power-sharing mechanisms, empirical scholars face two formidable obstacles. First, internal power sharing arrangements are hard to observe directly. With the exception of the allocation of ministerial posts, it is usually hard to accurately pin down the distribution of rewards among different factions.

Second, factions themselves are hard to measure. While most parties are internally fragmented into more or less cohesive groups, the absence of formal recognition or structural delineation makes the empirical identification of factional affiliations extremely challenging.

In this paper, we overcome these issues by focusing on Norwegian municipal elections. First, we formalize a theory of intraparty negotiations based on the common premise that these rules shape mobilization efforts by activists. We then evaluate it empirically by leveraging a wave of municipal mergers that went into effect prior to the 2019 Norwegian elections. Specifically, we use candidates' pre-merger municipality residence to measure factional affiliation within the post-merger parties. While factions can be organized around ideological, generational, or socio-demographic lines, geography is often a key cleavage, as parties' subunits are typically organized along territorial lines (Valen, 1988).[1] We also exploit another feature of the Norwegian local electoral process to capture the relative value of different list positions—i.e., the value of factional rewards.

In our model of intra-party power sharing with endogenous mobilization effort, we study how two factions of differing sizes negotiate over a list. Party activists who belong to either faction exert costly mobilization efforts, which enhance the party's expected performance and thus determine the overall resources available to the party: a high performance will secure a certain number of contested seats, while a negative performance may only yield "safe" seats. Before exerting effort, factions negotiate over the division of resources—i.e., the composition of the party lists—, which determines the number of candidates each faction secures under each possible realization of the party's electoral performance.

The empirical literature on intra-party portfolio allocation suggests that factions tend to divide resources proportionally to their size (Mershon, 2001*a*,*b*; Ennser-Jedenastik, 2013; Ceron, 2014). This trend mirrors a prominent finding in inter-party coalition studies, known as Gamson's law (Gamson, 1961), which argues that cabinet positions tend to be allocated in proportion to each party's share of the legislative seats controlled by the coalition.

To understand the extent to which intra-party negotiations will produce these "Gamsonian," or proportional allocations, we build a model in which factions negotiate over their

[1] In Section 5.5 we provide evidence of the centrality of geography in our and similar contexts.

share of the list via Nash bargaining (Binmore, Rubinstein and Wolinsky, 1986). In this framework, the larger faction's relative weight is represented by a parameter that reflects its relative influence in the negotiation process. When this parameter equals a faction's size, the negotiations are termed *proportional*. When the smaller faction's bargaining weight exceeds its size, the negotiations are *consensus-based*.

Our theoretical analysis yields three key insights. First, the contested ranks—seats that a party obtains only when its performance is high—should be divided proportionally to factions' size *regardless* of the importance of consensus within the party. This allocation is the most efficient way to motivate activists to exert mobilization effort. Despite their similarity to our Gamsonian benchmark, these predictions' underlying rationale is, to the best of our knowledge, novel.

Second, the allocation of the safe ranks–seats that a party obtains even when its performance is low—depends on the value of factions' relative bargaining power. Specifically, the larger faction should receive a less-than-proportional share of safe seats only if negotiations are consensus-based, i..e, only when a faction's bargaining power is less than proportional to its size. Conversely, if the larger faction's weight is proportional to (or even greater than) its size, our theory predicts that it will be over-compensated relative to the smaller faction.

We then test our predictions using data from the 2019 Norwegian municipal elections. To measure the size of faction associated to pre-merger municipality i, we use i's share of the total party votes across all municipalities involved in the merger in the last national election before its implementation (i.e., 2017). We show that smaller factions tend to get more than their Gamsonian share of party list positions. In line with the idea of consensus-based negotiations, we find that smaller factions are significantly over-represented in the safe ranks. While we also find a slight over-representation in the contested ranks, the relationship between size and resources is much closer to proportionality, in line with the predictions of our theory.

Finally, motivated by existing literature on how aspects of the party system influence intra-party dynamics (Invernizzi and Prato, 2024), we examine how these results change with the stakes of the election, namely, the degree to which party resources are sensitive to electoral performance. Our theory predicts that under consensus-based negotiations, the over-compensation of smaller factions should intensify as the stakes rise.

To empirically evaluate this claim, we use a party's size—i.e., its likelihood of securing the mayoral and other executive positions—as a proxy for higher stakes. In line with our theoretical predictions, the over-compensation of small factions is more pronounced in larger parties. This finding offers novel evidence on how the characteristics of a party's electoral environment influence intra-party dynamics. As the party's chances of securing key executive roles increase, internal negotiations tend to be more favorable to smaller factions, highlighting the strategic importance of consensus and power-sharing in competitive electoral contexts.

Taken together, these findings contribute to our understanding of intra-party negotiations and candidate selection processes. They also challenge the notion that strong incentives necessarily conflict with broad, consensus-based decision-making within parties. In intra-party politics, our research suggests that there is no inherent trade-off between promoting equality among factions and achieving efficient decision-making processes. This insight underscores the potential for parties to effectively balance internal inclusiveness with effective governance strategies, especially in contexts where competitive incentives drive internal dynamics.

The paper proceeds as follows. Section 2 summarizes our contribution to the existing literature. Section 3 introduces our theoretical model and Section 4 describes our main theoretical predictions. Section 5 describes the Norwegian institutional and political setting, and the merger reform. In Section 6 we describe our empirical strategy. Section 7 presents our findings. Section 8 concludes.

2. Related Literature

Our theory is based on the premise that parties are not monolithic entities, but are internally divided into competing factions. The formal literature has increasingly acknowledged the importance of factions to understand political parties' nomination processes (Caillaud and Tirole, 2002; Hirano, Snyder Jr and Ting, 2009; Crutzen, Castanheira and Sahuguet, 2010), and intra-party power sharing and competition (Persico, Pueblita and Silverman, 2011; Invernizzi, 2022; Invernizzi and Prato, 2024). We share with this literature the focus on within-party actors, political factions. In doing so, our model provides a novel account for observed empirical variation in intra-party power sharing.

Despite their importance, it is hard to empirically operationalize party factions. Scholars face severe data limitations: on the one hand, factions are often fluid entities, on the other hand, parties have little incentive to formally recognize factional affiliation—part of a general tendency to maintain their internal processes opaque in order to project unity. Existing studies have focused on national-level non-electoral outcomes such as seat shares in party councils (Leiserson, 1968; Mershon, 2001*a*,*b*) and, more recently, on intra-party ideological cleavages (Ceron, 2019; Emanuele, Marino and Diodati, 2023; Kölln and Polk, 2024). We use a complementary approach, by studying geography-based factions. Among the few other studies on municipal party branches, Ennser-Jedenastik (2013) finds that allocations of local cabinet positions are biased *against* smaller factions. Our findings complement these results and suggests that smaller parties might trade-off executive positions (which are contingent on their allies' electoral performance) against relatively certain legislative seats.

Our results expand the literature on intra-party power sharing—which typically focuses on the allocation of ministerial portfolios (Leiserson, 1968; Mershon, 2001*a*,*b*; Kam et al., 2010; Ono, 2012; Ennser-Jedenastik, 2013; Ceron, 2014; Bäck, Debus and Müller, 2016)—to the allocation of candidates' list positions. Unlike ministerial portfolios, candidate list positions cannot be renegotiated ex-post. Our results show that Gamson's law does not predict pre-electoral agreements over party lists as well as it does portfolio allocations.

Our paper also adds a new perspective to the study of candidate selection (Hangartner, Ruiz and Tukiainen, 2019; Kselman, 2020; Crutzen, Flamand and Sahuguet, 2020; Carroll and Nalepa, 2020; Buisseret and Prato, 2021; Buisseret et al., 2021; Cox et al., 2021), which typically focuses on individual candidates rather than geographic factions. Our analysis uncovers strong inter-dependencies between the electoral fortunes of individual candidates sharing similar group affiliations. More generally, our paper contributes to the literature on intra-party organization (Caillaud and Tirole, 2002; Crutzen, Castanheira and Sahuguet, 2010) by showing how local party branches can play a major role in political selection.

A fundamental element of our theory is the *territorial* identification of party factions in the internal power sharing process. Accordingly, Valen (1988) highlights the importance of geography in candidate selection in Norway. Two related studies in the field of political geography show the causal effects of within municipality local geographic representation of municipal councillors on the location of public services, but in a non-merger context. Folke et al. (2023) conclude that local politicians tend to live in advantaged neighborhoods that they shield from local public bads. Harjunen, Saarimaa and Tukiainen (2023) show that local politicians live on average in more affluent neighborhoods, voters exhibit strong geographic preferences in their voting, and candidates residential location has a causal effect on school closures. Our work demonstrates the importance of intra-party processes in determining geographic representation.

Finally, previous studies have directly examined the extent to which smaller pre-merger municipalities tend to be overrepresented in post-merger configurations. In the context of the Danish 2007 reform, Jakobsen and Kjaer (2016) find that the periphery is overrepresented in post-merger local councils. Bakke and Folkestad (2021) report similar results for the Norwegian wave of mergers that we also study. Candidates from the largest former municipality are underrepresented on the overall party lists. Our focus is on allocating advantaged positions within the lists, a feature that is solely at the hands of the parties (unlike who gets elected), and a much more accurate measure of power sharing than who gets to be a candidate.

3. Model

We study the optimal internal organization of a party composed of a unit-mass continuum of members who belong to one of two factions, $\mathcal{A}$ and $\mathcal{B}$. Each member $m \in \mathcal{A} \cup \mathcal{B}$ exerts mobilization effort $e_m \geq 0$, which captures an array of campaigning activities aimed at increasing the party vote. Effort e is associated with a quadratic cost $C(e) = e^2/2$.

Mobilization effort improves party performance, which we denote by $\pi \in \{0, 1\}$: $\pi = 1$ corresponds to high electoral performance (e.g., winning contestable seats or exceeding commonly set benchmarks in vote share). Under a low electoral performance ($\pi = 0$), instead, the party is only able to retain seats considered safe, or falls below its vote share benchmark.

We assume that total effort probabilistically increases the performance of the party. Formally:

$$\Pr(\pi = 1) = \theta \left(\int_{m\in\mathcal{A}} e_m dm + \int_{m\in\mathcal{B}} e_m dm \right) \tag{1}$$

where θ captures the responsiveness of electoral performance to mobilization effort (relative to, for example, ideological considerations). We denote by $\eta \in [1/2, 1]$ the relative size of faction $\mathcal{A}$, which is without loss of generality the larger faction.

We normalize the value of the total resources obtained by the party under low performance to one and assume that under high performance the party gets an additional value S, so we can write total party resources as:

$$1 + \pi S. \tag{2}$$

The parameter S captures the *stake* of the election, i.e., the sensitivity of party resources to the electoral outcome.[2] Examples include (i) the number of contestable seats that the party only obtains conditional on a high electoral performance, (ii) staff positions that each elected official can control, or (iii) the amount of discretionary spending that parties can direct, and (iv) increased access to executive positions (e.g., the mayor).

Before members exert effort, factions bargain over a division of party resources. This division determines, for instance, how party lists are filled. To formally capture the outcome of these rules, we denote by $x_i^0 \in [0,1]$ the share of faction i's resources under low electoral performance and by $x_i^S \in [0,1]$ the share of faction i's additional resources under a high electoral performance.

We assume that all the party resources are divided between the two factions. Hence, the resources allocated to factions $\mathcal{A}$ and $\mathcal{B}$ are given by:

$$\text{Faction } \mathcal{A}: \quad x_{\mathcal{A}}^0 + x_{\mathcal{A}}^S \pi S, \quad \text{and} \quad \text{Faction } \mathcal{B}: \quad (1 - x_{\mathcal{A}}^0) + (1 - x_{\mathcal{A}}^S)\pi S.$$

Our key assumption is that party members value resources allocated to their own faction more than those allocated to the other faction. To capture this idea in its simplest form (but

[2]The parameter S could also be interpreted as the level of ideological disagreement among different parties.

with no loss of generality), we assume that they *only* value resources allocated to their own faction. Formally, the payoff of member m belonging to faction $i \in \{\mathcal{A}, \mathcal{B}\}$ who exerts effort e under division $\mathbf{x} = (x^0_{\mathcal{A}}, x^S_{\mathcal{A}})$ and party performance π is given by:

$$u_m(e, \mathbf{x}, \pi) = x^0_i + x^S_i \pi S - C(e). \tag{3}$$

We assume that the division rule $\mathbf{x} = (x^0_{\mathcal{A}}, x^S_{\mathcal{A}})$ is negotiated by a representative member of each faction via (generalized) Nash Bargaining. While we do not make specific assumptions about the protocol that governs these negotiations, the literature has shown that the Nash Bargaining solution coincides with the outcome of a large class of models of negotiation (Rubinstein, 1982; Binmore, Rubinstein and Wolinsky, 1986) and is thus the most natural way to model bargaining processes with opaque details.

Let $V_i(\mathbf{x})$ denote the average expected payoff of faction i's members from a subgame beginning after the choice of a division rule $\mathbf{x}$:

$$V_i(\mathbf{x}) = \int_{m \in i} \big[\mathbb{E}_\pi\{u_m(e_m(\mathbf{x}), \mathbf{x}, \pi)\} - C(e_m(\mathbf{x}))\big]\, dm \tag{4}$$

where $e_m(\mathbf{x}) = \arg\max_e \mathbb{E}\{u_m(e, \mathbf{x}, \pi)\}$. Under Nash Bargaining, $\mathbf{x}$ solves

$$\max_{\mathbf{x}} V_{\mathcal{A}}(\mathbf{x})^{\alpha} V_{\mathcal{B}}(\mathbf{x})^{(1-\alpha)}. \tag{5}$$

The *bargaining weight* α captures, in a stylized way, the negotiating power of faction $\mathcal{A}$. When $\eta = \alpha$, factions' bargaining power is proportional to their size, and we refer to this as *proportional negotiations*. We refer to the case of $\alpha > \eta$ as *internal majoritarianism*, since the larger faction's influence is higher than its size. Conversely, we refer to the case of $\alpha < \eta$ as *consensus-based negotiations*, since the smaller faction's influence in this case is higher than its size would predict.

Timing unfolds as follows. First, factions' negotiate over a division of resources $\mathbf{x}$. Then each party member decides how much effort to exert. Subsequently, the party electoral performance is realized and resources are allocated according to the agreed upon $\mathbf{x}$. We assume that there are no ex-post transfers, or in other words that factions cannot renege on the rules initially chosen. This assumption reflects dynamic considerations by same-party factions interacting over time. That is, threats of future punishment are sufficiently powerful to induce factions to honor their commitments.

We study Subgame Perfect Nash Equilibria. To ensure that the probability of $\pi = 1$ is interior, we impose that θ is small enough:

Assumption 1.

$$\theta < S^{-\frac{1}{2}}. \tag{6}$$

The Gamsonian Benchmark. In the analysis that follows, we will compare the equilibrium values of $(x^0_{\mathcal{A}}, x^S_{\mathcal{A}})$ to a Gamsonian allocation in which factions' share of resources equals their relative size:

Definition 1. *The Gamsonian allocation is* $(x^0_{\mathcal{A}}, x^S_{\mathcal{A}}) = (\eta, \eta)$.

4. Theoretical results

Equilibrium effort. We begin by deriving members' optimal effort choices, fixing the reward scheme $\mathbf{x}$. Since members from the same faction face the same maximization problem, with a slight abuse of notation we denote by e_i the optimal effort of a member of faction i:

$$e_i = \arg\max_e \mathbb{E}\{x^0_i + x^S_i \pi S - C(e)\}, \tag{7}$$

which, after substituting the probability of a high electoral performance (1), yields:

$$e_{\mathcal{A}} = \theta x^S_{\mathcal{A}} S, \tag{8}$$

$$e_{\mathcal{B}} = \theta (1 - x^S_{\mathcal{A}}) S. \tag{9}$$

Notice that efforts are independent of x^0_i, the share of "safe resources," which each faction gets regardless of the party's electoral performance. On the other hand, a member's effort increases in the share of the stakes going to her faction. Therefore, $x^S_{\mathcal{A}}$ determines the relative strength of the incentive to exert effort for members of faction $\mathcal{A}$ vis-a-vis $\mathcal{B}$: an increases in $x^S_\mathcal{A}$ strengthens the relationship between effort and resources for faction $\mathcal{A}$'s members and weakens the relationship between effort and resources for faction $\mathcal{B}$'s members. When $x^S_\mathcal{A} = 1/2$, all members have the same incentive to exert effort.

In light of the expressions above, we can also derive the party's expected performance as a function of the division rule $\mathbf{x}$:

$$\Pi(\mathbf{x}) \equiv \theta^2 S[\eta x^S_\mathcal{A} + (1-\eta)(1-x^S_\mathcal{A})], \tag{10}$$

where the share of the stakes going to $\mathcal{A}$ affects performance by a factor η, the size of faction $\mathcal{A}$.

Optimal division of stakes. What division rule should we expect factions to adopt? We begin by deriving the scheme that maximizes the joint payoff of the factions, $W(\mathbf{x})$. Substituting equilibrium efforts (8) and (9) into $V_i(\mathbf{x})$ we obtain

$$V_\mathcal{A}(\mathbf{x}) = x^0_\mathcal{A} + \Pi(\mathbf{x})x^S_\mathcal{A}S - \frac{[\theta x^S_\mathcal{A} S]^2}{2} \tag{11}$$

$$V_\mathcal{B}(\mathbf{x}) = 1 - x^0_\mathcal{A} + \Pi(\mathbf{x})(1-x^S_\mathcal{A})S - \frac{[\theta(1-x^S_\mathcal{A})S]^2}{2}. \tag{12}$$

The factions' joint payoff equals

$$W(\mathbf{x}) = 1 + \Pi(\mathbf{x})S - \frac{[\theta x^S_\mathcal{A} S]^2}{2} - \frac{[\theta(1-x^S_\mathcal{A})S]^2}{2}. \tag{13}$$

Our first result shows that in any efficient resource allocation (i.e., one which maximizes the factions' joint payoff), the allocation of incentives is Gamsonian: i.e., the share of factions' additional resources under $\pi = 1$ equals their size.

Lemma 1. *Any division rule maximizing $W(\mathbf{x}) = V_\mathcal{A}(\mathbf{x}) + V_\mathcal{B}(\mathbf{x})$ satisfies $x^S_\mathcal{A} = \eta$.*

To gain some intuition for this result, recall that $x^S_\mathcal{A}$ shapes the share of the total incentive to exert effort allocated towards members of $\mathcal{A}$. From the perspective of the party, the marginal value of a faction's effort is proportional to its size, since we have $\Pr(\pi = 1) = \theta(\eta e_\mathcal{A} + (1-\eta)e_\mathcal{B})$. Moreover, Equations (8) and (9) reveal that equilibrium efforts are proportional to a faction's allocation of incentive ($x^S_\mathcal{A}$ for $\mathcal{A}$ and $1 - x^S_\mathcal{A}$ for $\mathcal{B}$). As a consequence, the marginal effect of increasing $x^S_{\mathcal{A}}$ on expected party performance is proportional to $2\eta - 1$, as one can clearly see from (10). Finally, because in equilibrium the marginal cost of effort for each faction is proportional to the incentives allocated to them, distributing incentives to faction $\mathcal{A}$ in proportion to its size ensures that the marginal value of effort is equalized between factions.

In light of the above result, the party's equilibrium expected performance equals

$$\Pi^* = \theta^2 S[\eta^2 + (1-\eta)^2]. \tag{14}$$

A direct implication of Equation (14) is that any division rule that factions might agree upon must feature $x^S_{\mathcal{A}} = \eta$.

Proposition 1. *Any division rule $\hat{\mathbf{x}}$ with $\hat{x}^S_{\mathcal{A}} \neq \eta$ cannot be part of an equilibrium.*

In the proof we show that, starting from $\hat{x}^S_{\mathcal{A}} \neq \eta$, one can always find another allocation that strictly improves the expected payoff of one faction without decreasing that of the other faction. Hence, $\hat{\mathbf{x}}$ cannot maximize $V_{\mathcal{A}}(\mathbf{x})^{\alpha} V_{\mathcal{B}}(\mathbf{x})^{(1-\alpha)}$, regardless of the value of α.

This yields our first empirical implication: if factions, when negotiating over division rules, take into account incentives to exert effort, allocations of resources that are contingent on electoral outcomes (e.g., swing seats or executive positions) should be Gamsonian. This is consistent with the well-documented patterns observed in inter-party resource distribution (Warwick and Druckman, 2001; Indridason, 2015).

Optimal allocation of safe rewards. How do factions negotiate over safe rewards (i.e., $x^0_{\mathcal{A}}$)? Our analysis reveals that in this case bargaining power α is crucial. Specifically, the following result establishes that any over-representation of smaller factions is inconsistent with proportional negotiations or internal majoritarianism, where the influence of the larger faction exceeds its proportional size.

Lemma 2. *In equilibrium, we must have*

$$x^0_{\mathcal{A}} = X^0_{\mathcal{A}}(\alpha) \equiv \alpha + S\Pi^*(\alpha - \eta) + \theta^2 S^2 \frac{(1-\alpha)\eta^2 - \alpha(1-\eta)^2}{2}.$$

Intuitively, as a faction's bargaining power increases, so does its ability to appropriate safe resources. Notice that the function $X^0_{\mathcal{A}}(\alpha)$ consists of three parts. The term α represents the faction's baseline share of safe resources that is purely based on its bargaining power. The second term captures the fact that conditional on high performance, faction $\mathcal{A}$ receives a share of additional resources that is proportional to her size (and thus, when $\alpha = \eta$, that term equals zero, indicating that the faction's additional share of resources is proportional to its size).

The third term captures the fact that, owing to the fact that in equilibrium the larger faction exerts higher effort and thus suffers a higher cost of effort, she needs to earn a "premium" to make up for that fact. That premium depends on both $\mathcal{A}$'s size as well as its bargaining power. However, it is easy to see that when $\alpha = \eta$, that premium is indeed positive. As a consequence, whenever $\alpha \geq \eta$, larger factions should be over-compensated in terms of "safe" resources. In the Appendix, we prove a slightly more general result.

Proposition 2. *There exists $\alpha^* < \eta$ such that $x^0_{\mathcal{A}}(\alpha) < \eta$ iff $\alpha < \alpha^*$.*

In words: when the larger faction obtains a less-than proportional share of safe resources, its bargaining power must be strictly lower than its size—i.e., negotiations must be consensus-based. This is the second main implication of our theory.

The effect of higher stakes. We conclude our analaysis by studying how the stakes of the election affect the equilibrium division rule.

Proposition 3. *There exists $\alpha^\dagger < \eta$ such that $x^0_{\mathcal{A}}(\alpha)$ decreases in S if and only if $\alpha < \alpha^\dagger$.*

To understand this result, recall that (i) depending on the value of α, the larger faction might be over- or under-represented relative to its size in the allocation of safe resources, and (ii) in equilibrium, the larger faction's share of the stakes is proportional to its size (by Proposition 1). So, depending on α, increasing S magnifies the divergence between the allocation of contingent rewards and the allocation of safe rewards. Whenever the larger faction is underrepresented in terms of safe resources, increasing the stakes will further decrease its share of safe resources.

We can illustrate the Nash Bargaining solution for the two polar cases of strong consensus-based negotiations ($\alpha < \alpha^*$) and proportional negotiations ($\alpha = \eta$) under our main interpretation of party resources as legislative seats: x_i^0 captures the share of safe seats going to faction i (i.e., those that the party is likely to hold under most scenarios), while x_i^S captures the share of contested seats going to faction i (i.e., those that the party can only win when it performs well in the polls).

Figure 1 plots a faction's equilibrium resources under low performance ($x_{\mathcal{B}}^0$ and $x_{\mathcal{A}}^0$, left), and the additional resources obtained under high party performance ($x_{\mathcal{B}}^S$ and $x_{\mathcal{A}}^S$, right) against a faction's size ($1-\eta$ and η, respectively) for the case of consensual negotiations. The Gamsonian allocation ($x_{\mathcal{B}}^0 = 1-\eta$ and $x_{\mathcal{A}}^0 = \eta$) is the 45-degree line (in dashed red). The left panel of Figure 1 shows that the bigger faction $\mathcal{A}$ gets less than its relative size η in safe ranks, since the value of $x_{\mathcal{A}}^0$ is below the dashed line. Conversely, in the right panel the dashed line overlaps with $x_{\mathcal{A}}^S$, in line with Proposition 1.

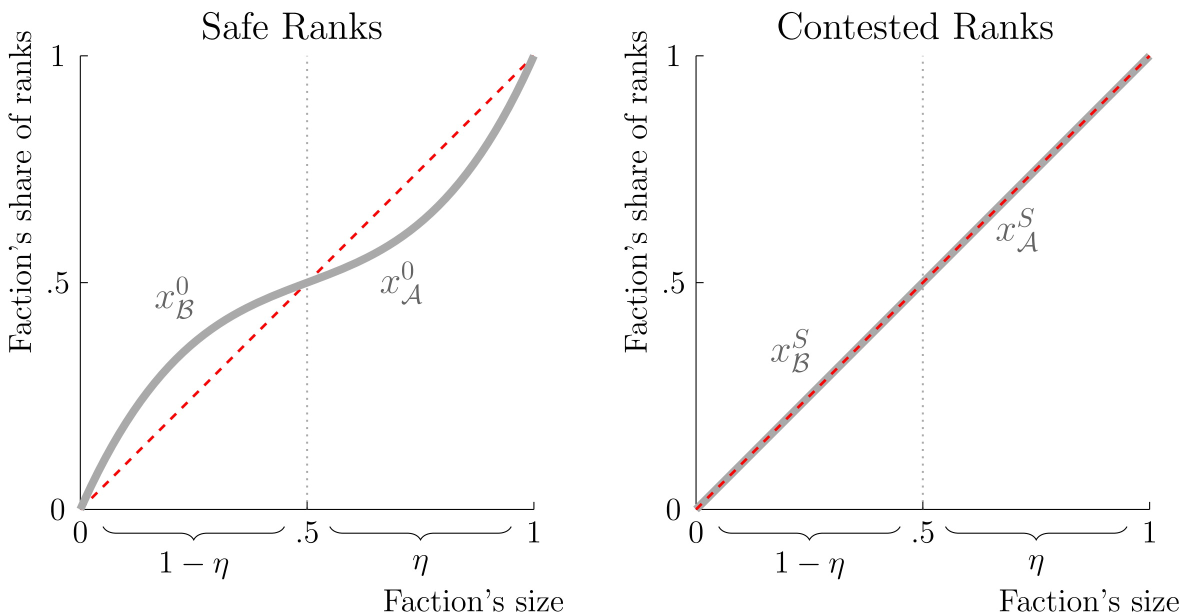

Figure 1 – Strong consensus-based negotiation ($\alpha \leq \alpha^* < \eta$). Division rule for safe ($x_{\mathcal{B}}^0 = 1 - x_{\mathcal{A}}^0$ and $x_{\mathcal{A}}^0$, left) and contested ($x_{\mathcal{B}}^S = 1 - x_{\mathcal{A}}^S$ and $x_{\mathcal{A}}^S$, right) ranks. The red dashed line corresponds to the Gamsonian allocation ($x_{\mathcal{B}} = 1-\eta$ and $x_{\mathcal{A}} = \eta$).

Figure 2 plots a faction's equilibrium resources under low performance ($x_{\mathcal{B}}^0$ and $x_{\mathcal{A}}^0$, left), and the additional resources obtained under high party performance ($x_{\mathcal{B}}^S$ and $x_{\mathcal{A}}^S$, right) against a faction's size ($1-\eta$ and η, respectively) for the case of proportional negotiations. Again,

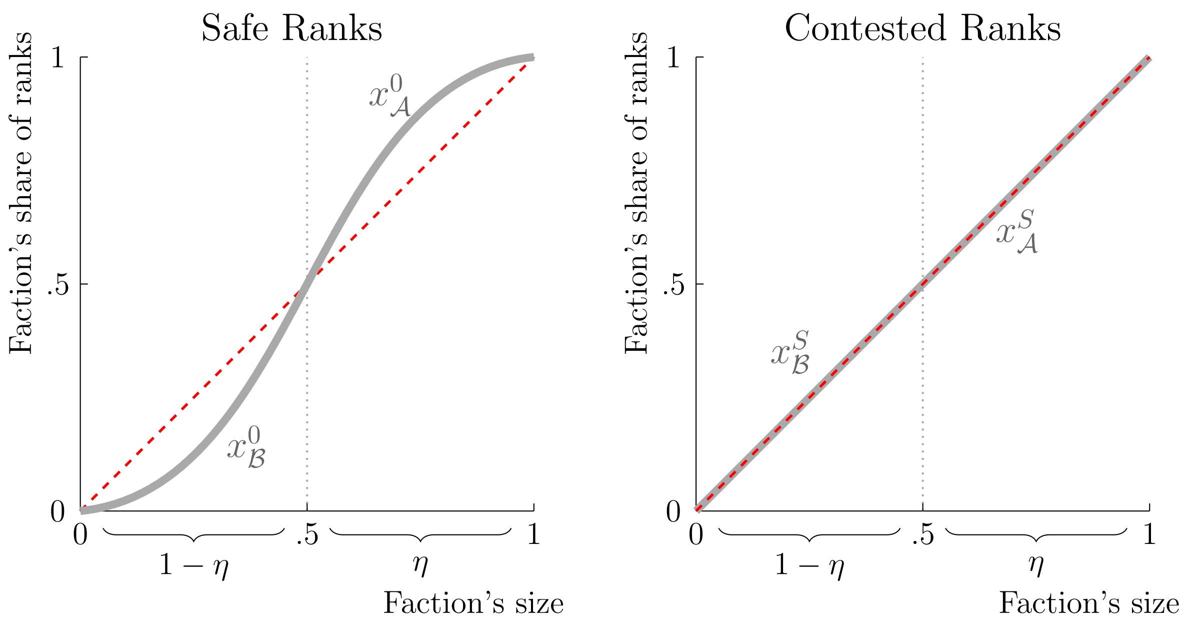

Figure 2 – Proportional negotiation ($\alpha = \eta$). Division rule for safe ($x^0_{\mathcal{B}} = 1 - x^0_{\mathcal{A}}$ and $x^0_{\mathcal{A}}$, left) and contested ($x^S_{\mathcal{B}} = 1 - x^S_{\mathcal{A}}$ and $x^S_{\mathcal{A}}$, right) ranks. The red dashed line corresponds to the Gamsonian allocation ($x_{\mathcal{B}} = 1 - \eta$ and $x_{\mathcal{A}} = \eta$).

the Gamsonian allocation is the 45-degree line (in dashed red). The left panel of Figure 2 shows that the bigger faction $\mathcal{A}$ gets more than its relative size η in safe ranks, since the value of $x^0_{\mathcal{A}}$ is above the dashed line. Conversely, in the right panel the dashed line overlaps with $x^S_{\mathcal{A}}$, in line with Proposition 1. The case of internal majoritarianism is qualitatively similar to proportional-based negotiations, but the over-representation of larger factions in the allocation of safe resources is even stronger.

5. Institutional Setting

Before turning to our empirical strategy, we describe key aspects of our setting.

5.1 *Norwegian municipalities*

Norwegian municipalities are tasked with important spending decisions that account for approximately 18 percent of GDP. Spending is concentrated in areas characterized by a pronounced geographic dimension: municipal governments manage the operation of schools, day care centers, and elderly care facilities, and they manage local public goods including road maintenance (see Appendix Figure B.1).

Municipalities face national regulations concerning coverage and standards of service delivery, but have considerable discretion concerning the composition of expenditures. The revenue side is considerably more restricted.[3]

5.2 *Municipal Merger Reform*

Municipalities vary dramatically in size, from small islands with only a few hundred inhabitants, to the capital, Oslo, with more than 700,000 inhabitants (as of 2023). In 2013, Norway had 428 municipalities with a median population size of 4,620 (average: 11,802).

Expert evaluations have consistently warned over the years that many municipalities are too small to handle their significant responsibilities (Vabo et al., 2014). Increasing rural-urban migration and associated demographic shifts have accentuated this problem in recent years.

In 2014, the right-wing national government initiated a municipal merger reform process, which was voted by parliament on June 9, 2015. Mergers were to be encouraged through various means, including government appeals, merger subsidies, and adjustments to the governmental grants scheme. The municipalities were advised to consult their citizens via consultative referenda or citizen surveys.[4]

Municipalities were encouraged to work together to submit merger applications, with two key deadlines in place. Applications submitted by February 2016 were set to take effect in January 2018. These new municipal councils were appointed through amalgamation of the old councils or through extraordinary elections. Conversely, applications filed by July 2016 would see the mergers implemented in January 2020. Our analysis focuses on this latter group, as these municipalities conducted their inaugural local elections under the new municipal configurations in the ordinary local elections on September 9, 2019.

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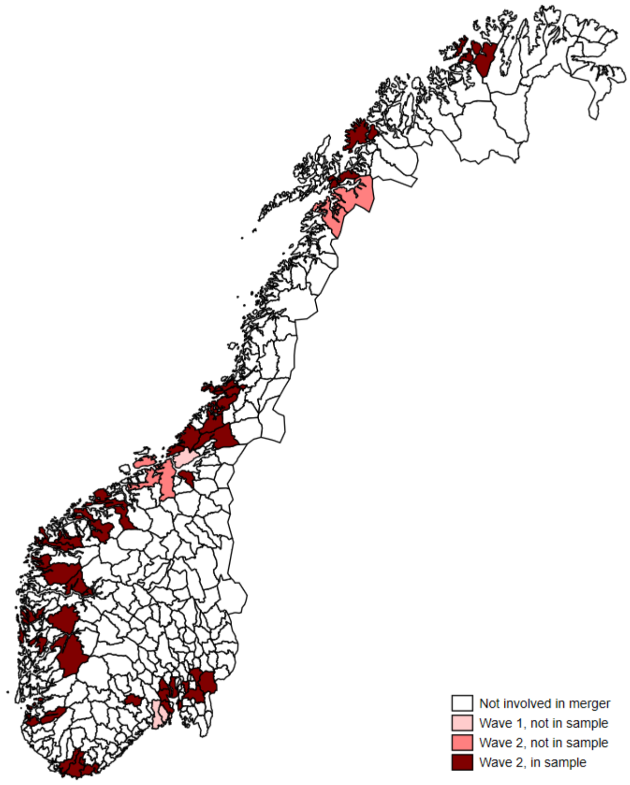
[3]Most of the municipalities' income derive from regulated income taxation (where all municipalities uniformly opt for the maximum allowable tax rate) and block grants provided by the central government. The municipalities do, however, have discretion to levy property taxation and set user fees for the services they offer.

[4]About half of the existing municipalities held local consultative referendums about possible municipal mergers. In general, local councils largely aligned with the outcomes of the consultative referendums. In 87% of the cases where the majority rejected amalgamation, the local council also opted against it. Conversely, in cases where there was a majority in favor, 86% of the local councils decided in favor of the amalgamation (Folkestad et al., 2021).

Figure 3 presents a map highlighting the municipalities that merged between 2017 and 2020, a period during which the total number of municipalities decreased from 428 to 356.[5] For detailed information on each merger case, see Appendix Table B.1.

Figure 3 – Map of Norwegian municipalities by merger status.



Note: This map displays the 2020 configuration of Norwegian municipalities following the municipal merger reform. The first wave of mergers occurred on January 1, 2017, or January 1, 2018, while the second wave, which is the primary focus of our empirical analysis, took effect on January 1, 2020. The map identifies five 'wave 2 mergers,' where old municipalities were split into two or more new entities. These mergers are not part of our estimation sample. For detailed information on each merger case, see Appendix Table B.1.

As the process primarily relied on voluntary mergers, the outcome of the reform process was less dramatic than the right-wing government had hoped for. While 33 mergers were voluntary, another ten were mandated by the Parliament on June 8, 2017, despite not having the support of all participating entities.

[5] Among the 43 mergers effective from January 1 2020, five involved the division of old municipalities among two or more new ones (in Figure 3, these are indicated as Wave 2, not in sample). Because these municipalities originated from splits rather than mergers, a faction would be identified as a post-split municipality rather than a pre-merger one. We exclude these observations as they would be qualitatively different from the factions we have in sample.

5.3 *Electoral System*

Norwegian local elections are held every fourth year on the second Monday of September. However, preparations begin up to a year in advance, involving a closed and non-standardized nomination process.[6] Each municipality forms a single electoral district.

The flexible-list election system provides political parties with important tools for orchestrating political selections. Specifically, it allows parties to give certain candidates a *head start* by increasing their personal vote-share with an additional 25% of the total number of votes received by the party. Such candidates are listed at the top of the ballot paper in boldface.

Local party organizations have the flexibility to determine the number of advantaged positions, ranging from zero to the maximum allowable, based on the size of the council.[7] The number of advantaged candidates on each list split by the maximum allowed is plotted in Appendix Figure B.2. For the vast majority of party lists, the restriction is not binding. In our empirical analysis, we focus on the 2019 local elections, where the median number of advantaged candidates is two. However, it is worth noting that there is considerable variation across municipalities and over time, as highlighted in Fiva, Izzo and Tukiainen (2024).

During the voting process, voters are required to choose a party list and, if they wish, indicate their preferences for individual candidates by marking checkboxes on the party lists. Voters have the option to give preference votes to as many candidates as they like. They can even cast votes for candidates on other lists, and in such cases, a fraction of their party vote is transferred to the other list.

Election outcomes are determined in two steps. First, seats are allocated *across* parties based on the modified Sainte-Laguë method. Second, the allocation of seats *within* parties is decided based on an index which depends on both voter and party choices.

The advantage that parties can assign is so substantial that it is exceedingly difficult for non-advantaged candidates to compete with those that have the advantage. In 2019, only 2%

[6]By law, political lists must be submitted to the municipal government no later than March 31 in an election year.

[7]In councils with fewer than 23 members, parties can give an advantage to a maximum of 4 candidates. For councils with 23 to 53 members, the maximum is 6, and for councils with more than 53 members, 10 is the limit.

of non-advantaged candidates received personal votes amounting to 25% of the total number of votes received by the party, which is the *minimum* to overtake a candidate with a head start. In fact, only 0.2% of non-advantaged candidates outperformed candidates with a head start (excluding open lists) (Fiva, Izzo and Tukiainen, 2024).

At the beginning of each election period, the local council elects an executive board and a mayor.[8] The mayor presides over the executive board and is typically the only full-time politician on the council. The other council members are mostly part-time politicians who receives modest remuneration.

5.4 *Political Parties*

Both local and national politics are dominated by seven major political parties, which can be categorized as left-leaning (*Socialist Left Party* (SV); *Labor Party* (Ap)), center (*Center Party* (Sp); *Christian Peoples' Party* (KrF); *Liberal Party* (V)) or right-leaning (*Conservative Party* (H); *Progress Party* (FrP)). In addition, there are smaller political parties, joint lists of political parties, and local lists that garner substantial support in certain municipalities.

Table 1 provides municipality-level descriptive statistics for the last local election before the reform (2015), the first local election after the reform (2019), and the national election held in between (2017). Panel A of the table covers the full sample, while Panel B focuses on the merger sample. Although there is some variation from one election to the next, parties generally obtain similar support in the local and national elections.

The Labor Party, the Center Party and the Conservatives have the largest party organizations. In 2015, they participated in 99%, 90% and 89% of the local elections.[9] The other main parties participated in about two-thirds of the municipalities. However, in the national elections, all seven parties participated in all municipalities.[10] We will leverage this feature in our empirical strategy, as explained below.

[8]Local council sizes vary, ranging from 11 to 77 members, with a median size of 23. Municipal population size sets a lower limit for council size, although this appears not to matter much since few municipalities are at this lower limit.

[9]The Center Party predominantly attracts support from rural areas, in contrast to the Labor Party and the Conservatives, which have a geographically varied support base that includes both urban and rural municipalities (Huijsmans and Rodden, 2024).

[10]The municipalities are organized within 19 counties, which also served as electoral districts during the 2017 national election.

Table 1 – Municipality-level descriptive statistics on election results.

Panel A: Full sample

	2015		2017		2019	
	Running (%)	Vote share (%)	Running (%)	Vote share (%)	Running (%)	Vote share (%)
Socialist Left Party (SV)	63.6 %	3.5 %	100.0 %	4.6 %	67.7 %	4.7 %
Labor Party (Ap)	98.6 %	32.1 %	100.0 %	26.3 %	97.8 %	27.9 %
Center Party (Sp)	90.0 %	18.6 %	100.0 %	21.1 %	96.3 %	26.4 %
Liberal Party (V)	74.1 %	5.1 %	100.0 %	2.6 %	62.4 %	2.8 %
Christian Democratic Party (KrF)	68.2 %	5.8 %	100.0 %	4.8 %	62.9 %	4.4 %
Conservative Party (H)	88.8 %	16.7 %	100.0 %	19.7 %	87.4 %	14.4 %
Progress Party (FrP)	71.0 %	7.3 %	100.0 %	15.7 %	69.9 %	6.5 %
Other parties	55.4 %	3.5 %	100.0 %	7.3 %	59.6 %	5.3 %
Local lists	30.8 %	5.4 %			34.8 %	7.0 %
Joint lists	9.1 %	2.0 %			4.8 %	0.6 %
Number of observations	428	428	425	425	356	356

Panel B: Merger sample

	2015		2017		2019	
	Running (%)	Vote share (%)	Running (%)	Vote share (%)	Running (%)	Vote share (%)
Socialist Left Party (SV)	67.0 %	3.4 %	100.0 %	4.5 %	94.7 %	5.3 %
Labor Party (Ap)	100.0 %	29.1 %	100.0 %	23.7 %	100.0 %	25.7 %
Center Party (Sp)	89.7 %	16.2 %	100.0 %	17.1 %	100.0 %	19.9 %
Liberal Party (V)	83.5 %	6.4 %	100.0 %	3.2 %	92.1 %	4.2 %
Christian Democratic Party (KrF)	85.6 %	7.5 %	100.0 %	5.7 %	97.4 %	5.1 %
Conservative Party (H)	94.8 %	20.5 %	100.0 %	23.6 %	100.0 %	18.5 %
Progress Party (FrP)	78.4 %	8.7 %	100.0 %	16.8 %	100.0 %	9.1 %
Other parties	55.7 %	3.2 %	100.0 %	7.5 %	92.1 %	10.2 %
Local lists	26.8 %	3.8 %			26.3 %	2.0 %
Joint lists	3.1 %	1.0 %			0.0 %	0.0 %
Number of observations	98	98	98	98	38	38

Notes: This table reports descriptive statistics for all municipalities (Panel A) and the merger sample (Panel B) in recent local (2015, 2019) and parliamentary (2017) elections. For each election held in the 2015–2019 period, we report the percentage of municipalities where the party is running and the average vote share obtained for each party (unconditional on running). There are sometimes multiple "other parties", "local lists" and "joint lists" running in a municipality. In such cases we aggregate the electoral support within each category. The data stem from the Local Government Dataset (Fiva, Halse and Natvik, 2023).

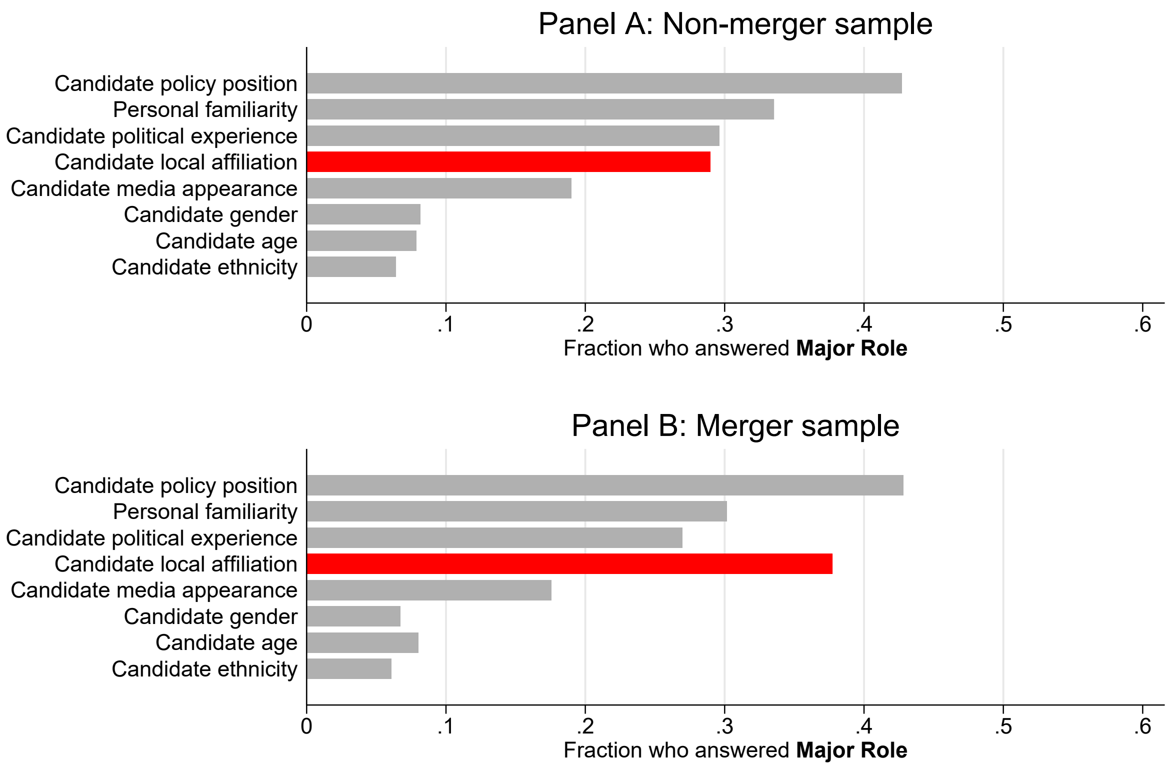
5.5 *Geographical Factions*

We use candidates' pre-merger municipality residence to identify factions within the post-merger parties. We argue that geography serves as a relevant criterion for identifying factions. Most importantly, as discussed above, the municipal councils are responsible for providing many public services for which the location of the service is important to the citizens, such as schools. This spatial importance is recognized by the electorate, as evidenced by the Norwegian Local Election Survey 2019, which shows that voters take geography into account when casting personal votes.[11] In Figure 4, we can see that the candidates' local affiliation is

[11] The survey was conducted in the fall of 2019, aimed at describing turnout and political attitudes in the Norwegian population. The survey was sampled in three parts: A cross-sectional random sample of 5,998 eligible voters; a sample of 4,002 eligible voters stratified based on municipality size; and a stratified sample of 9,000 immigrants and second-generation immigrants. We use the cross-sectional (response rate 29.8%) and municipality-stratified (response rate 51%) samples (`https://www.ssb.no/valg/`

perceived to be the fourth most important characteristics in the non-merging municipalities and the second most important in the merging ones.

Figure 4 – Survey evidence on decision to cast a personal vote.



Note: The figure plots the fraction of survey respondents answering the reason in the legend played a major role in their decision to cast a personal vote. The other response categories are 'some role', 'no role' and 'don't know'. The exact wording of the 'local affiliation' category in the survey is: "the candidate's affiliation to a specific part of the municipality." Results are displayed for respondents living in a municipality in our merger sample (N=462) and in a non-merging municipality (N=1091). The data is from the 2019 Norwegian Local Election Survey (N=4240), and the sample is restricted to respondents reporting to have cast a personal vote in the 2019 election.

This survey evidence is also consistent with the literature. To begin with, we consider existing evidence from national elections. A large literature shows that representation in a legislative body matters for the geographic distribution of centralized spending (e.g., Ansolabehere, Gerber and Snyder 2002, Knight 2008, Dragu and Rodden 2011, Brollo and Nannicini 2012, and Fiva and Halse 2016). Moreover, André, Depauw and Martin (2015) present survey evidence indicating that many legislators in list-based PR systems prioritize

`artikler-og-publikasjoner/lokalvalgundersokelsene-2019`) (Statistisk sentralbyrå and Institutt for samfunnsforskning, 2022).

the interests of their hometowns over those of their larger districts in parliamentary elections. In the specific case of Norway, Fiva, Halse and Smith (2021) document that about three-quarters of legislators mention their home municipality in debates during a parliamentary session, while they allocate significantly less attention to other municipalities within the same electoral district.[12] Moreover, Heidar and Karlsen (2018) provide qualitative evidence that Norwegian legislators view local constituency representation as part of their job duties.

Turning to local elections and municipal mergers, the existing evidence highlights the importance of geography, particularly in showing that pre-merger municipalities can be considered relevant factions within the post-merger parties. First, Harjunen, Saarimaa and Tukiainen (2021) show that municipal mergers cause relocation of public services to the centers of the largest merger partner. This implies that the largest partner in the merger gains a dominant position, with public services being shifted to its center, potentially at the expense of smaller municipalities that are also part of the merger. Moreover, they show how and whether the relocation takes place correlates with the geographic political representation even when controlling for population size. That is, if certain areas have stronger political representation, they are more likely to retain or gain public services, while areas with weaker representation tend to lose out. Moreover, Harjunen, Saarimaa and Tukiainen (2023) show more broadly than just for mergers that municipal politicians' residential location has a causal effect on the location of local public services.

Second, Saarimaa and Tukiainen (2016) show that voters value getting local representation after the municipal mergers by documenting geographic strategic voting. Third, numerous studies have also shown that prior to merging, municipalities respond to the free-riding incentives that the merger creates by overspending, accumulating debt and liquidating assets. These incentives arise due to a common pool mechanism as after the merger debts and assets are shared, yet spending prior to merger can be targeted to stick geographically (Askim, Houlberg and Klausen, 2023; Hinnerich, 2009; Saarimaa and Tukiainen, 2015). This response

[12]The authors also document that parties engage in geographic balancing in candidate nominations within districts. They show that the number of unique hometowns represented by candidates on party lists is larger than what would result from random selection.

shows that local politicians have geographic preference for directing spending to their own pre-merger level municipalities.

6. Empirical Strategy

6.1 *Data*

To test our predictions of intra-party power sharing, we study parties' allocation of list positions in merging municipalities in the 2019 local election. Our focus is on the seven main parties, who dominate local and national politics and were all established at least 50 years ago. We have data on the universe of candidates running for office, including information on party, the municipality in which they stand for election, list rank and 'head start' status (Fiva, Sørensen and Vøllo, 2024). Each candidate is matched with the administrative registers of Statistics Norway to identify their place of residence. A candidate's factional affiliation is considered to belong to a faction if they were registered residing in that pre-merger municipality as of January 1, 2019.

Our starting sample consists of 8680 candidates running for office in 38 merging municipalities.[13] Each merger municipality consists of between two and five pre-merger municipalities, with a mean of 2.6. Out of the seven main parties, on average four stand for election in a given merger. The unit of observation is a municipality-list-faction ($N = 658$), i.e., a faction within the municipality branch of a party.

The size of a faction is measured in terms of its electoral support in the 2017 national election, relative to the other factions in the merger. The size of faction i in party p within the post-merger municipality m is given by:

$$Size_{ipm} = \frac{Vote_{ipm}}{\sum_{i \in m} Vote_{ipm}} \tag{15}$$

[13]We exclude from our sample one candidate without a match in the residency registry, and 83 candidates who move into the merger between January 2, 2019 and the election on September 9, 2019. We also exclude 834 candidates from mergers which include municipalities that were split between two or more mergers (Heim, Hitra, Orkland, Narvik and Hamarøy, see Figure 3), as party branches in split municipalities are qualitatively different from how we define factions. We further exclude 163 candidates from 8 open lists, since parties with open lists do not make a distinction between 'safe' and 'contested' positions.

where $Vote_{ipm}$ is the absolute number of votes of faction i. In addition to conveying information about the faction's voter potential, we argue that this measure reflects various aspects of its influence, such as party membership, organizational strength and campaigning capabilities. We use voting data from the 2017 national level election, as all seven parties participated in this election in all pre-merger municipalities.[14]

We classify list positions as 'safe', 'contested' and 'hopeless' based on their advantage status and rank percentile. List positions are deemed 'safe' if they receive the discretionary 25% boost in personal votes by the party. In our merger sample, 84% of these candidates are ultimately elected (Appendix Figure B.4). Safe candidates constitute 10.6% of the overall sample.

We divide the non-advantaged candidates into two groups according to their rank percentiles, excluding the advantaged candidates. Even though the initial ranking on the party list does not formally play any role (except as a tie-breaker), there is a strong tendency that higher ranked candidates are more likely to get elected (Appendix Figure B.4).

It is not obvious where we should set the cut-off between 'contested' and 'hopeless' positions. In our baseline analyses, we include candidates from the three highest deciles as contestable (25.1% of the sample, of which 22% are ultimately elected). We will demonstrate below that the cutoff point does not significantly impact our findings.

To analyze how allocations of list positions vary with the stakes of the election, we consider the party's probability of securing the mayoralty in the post-merger municipality. Often the only full-time politician in a municipality, the mayor plays a key role in the local council. The position is typically awarded to the largest party in the election.[15] We anticipate a party to be in competition for the mayoral position if it ranked among the top-two parties in the previous election. For our merger sample, we predict a party's likely top-two status by aggregating votes from the 2015 election in the pre-merger municipalities.[16]

[14]Results measuring faction size in terms of their popultion share is presented in Appendix Table B.3. Appendix Figure B.3 illustrates the relationship between factions' relative contribution to the party's votes and their population share. The two measures are closely related, with a correlation of 0.97.

[15]After the 2019 election, around 75% of mayors were from the largest party.

[16]In our sample, 83.5% of the predicted top-two parties were realized as a top-two party in the 2019 election.

6.2 ***Empirical Specification***

Our baseline empirical specification is a linear regression model of the form:

$$Y^l_{ipm} = \lambda^l_{pm} + \beta^l_1 Size_{ipm} + \epsilon^l_{ipm} \tag{16}$$

where Y^l_{ipm} denotes the share of list positions held by faction i from party p in the post-merger municipality m. This model is separately estimated for two categories of list positions l: 'safe', and 'contested'. $Size_{ipm}$ is the relative size of faction i, given by equation (15), and β^l_1 is the parameter of interest. We include local party fixed effects λ_{pm} ensuring that inference is drawn from a comparison of factions competing for positions on the same ballot. In some specifications, we also include a battery of faction-level covariates as controls in equation (16). ϵ^l_{ipm} is an error term. We cluster standard errors at the post-merger municipality level.

We control for the faction's number of incumbent councilors on the list, and whether the faction has an incumbent mayor running for election to address the possibilities that these experienced candidates could, for example, perform better at the intra-party bargaining process, or that they are seen as more useful candidates in campaigning and governing. We also control for the geographic distance between the partner municipalities to address the concern that factions could potentially share power more equally when the candidates from different factions know each other, and distance is proxy for the likelihood of these personal relationships. Moreover, we control for the population share that lives in an urban area at the pre-merger level. This is to address that parties may need to consider covering more geographic locations when the population is spread more widely.

To study how allocations of list positions vary with the stakes of the election, we expand our baseline model to include an interaction of our measure of stakes with faction size. We estimate a model where the election stakes are captured by the party's probability of obtaining the mayor:

$$Y^l_{ipm} = \lambda^l_{pm} + \gamma^l_1 Size_{ipm} + \gamma^l_2 Size_{ipm} \times TopTwoParty_{pm} + \xi^l_{ipm} \tag{17}$$

where $TopTwoParty_{pm}$ indicates whether party p is predicted to be among the two parties with the highest electoral support in post-merger municipality m.

7. Results

7.1 ***Allocation of List Positions***

We begin with a graphical analysis. In Figure 5, we non-parametrically plot the expected share of positions conditional on faction size, employing locally weighted scatterplot smoothing. Consider first Panel A, which displays the allocation of 'safe' list positions. We observe that smaller factions, specifically those that contribute with less than about 40% of the party's votes, tend to get more than their Gamsonian share (red dashed line).[17] Bigger factions, on the other hand, tend to get a smaller share of safe positions than their relative size dictates. These findings are in line with Proposition 2. In Panel B, which illustrates the allocation of 'contested' list positions, we again observe that smaller factions are over-represented relative to their size, but we are here closer to the Gamsonian allocation predicted by Proposition 1.[18] Overall, Figure 5 is remarkably similar to the consensual bargaining solution displayed in Figure 1.

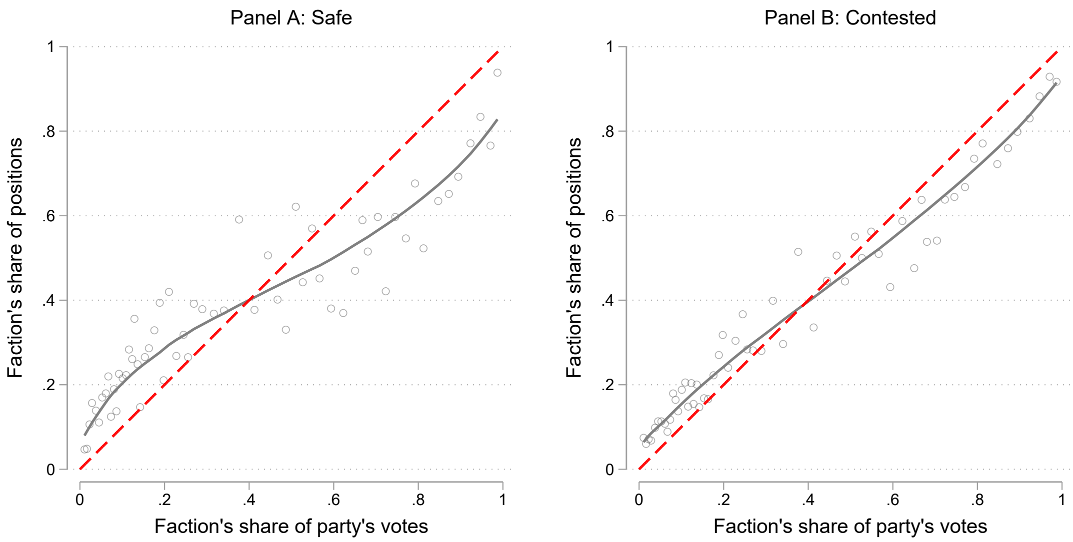
In Table 2 we present our main results in a regression framework. Columns (1) and (4) provides the results from simple linear regressions models capturing the bivariate relationship between a faction's share of list positions and a faction's share of party's votes. As we have already seen in Figure 5, there is a marked difference in the allocation of safe and contested candidate positions.

In columns (2) and (5) of Table 2 we add local party fixed effects, as specified by Equation (16). The results are basically unaltered when we leverage variation only within a given local party list (although standard errors increase by about 50%). We find that a 10 percentage point increase in a faction's size is associated with 5.6 percentage points increase in safe ranks

[17] 98.3% of the biggest factions have more than 40% of the votes and 95.2% have more than 50% of the votes.

[18] Panel A of Appendix Figure B.5 provides the corresponding plot for 'hopeless' list positions, where the estimated relationship adheres more closely to the Gamsonian benchmark. Panel B of Appendix Figure B.5 documents that the overrepresentation of smaller factions in safe and contested list positions carries over to realized election outcomes.

Figure 5 – Allocation of list positions according to faction size using locally weighted scatter plot smoothing.



Note: Panel A displays the faction's share of safe positions in the 2019 local elections as a function of the faction's share of the party's votes in the 2017 national elections, categorized into 60 equal-sized bins. Similarly, Panel B shows the share of contested positions. The black line is obtained using locally weighted scatter plot smoothing (lowess). The red line represents the Gamsonian allocation.

(with a 95% confidence interval spanning from .45 to .67), and 7.7 percentage points increase in contested ranks (with a 95% confidence interval spanning .71 to .84). In comparison, Warwick and Druckman (2006)report that among West European countries from 1945 to 2000, a 10 percentage point increase in seat shares is associated with an increased portfolio share of 7.9 percentage points (or 8.4 percentage points when taking portfolio salience into account). Finally, in columns (3) and (6), we add our set of control variables. Again, the baseline results are robust.

Figure 6 visually displays the coefficient estimates and corresponding 95% confidence intervals. Rather than pooling deciles 1–3 into one category, as in Table 2, we report the results for all ten deciles, in addition to the safe category. There are three key takeaways from this figure. First, for all types of list positions, we can reject a one-to-one relationship between faction size and shares of positions (because none of the 95% confidence intervals includes one). Second, the allocation of safe list positions is more biased towards smaller factions than contestable and hopeless positions. Third, all non-safe positions appear to be

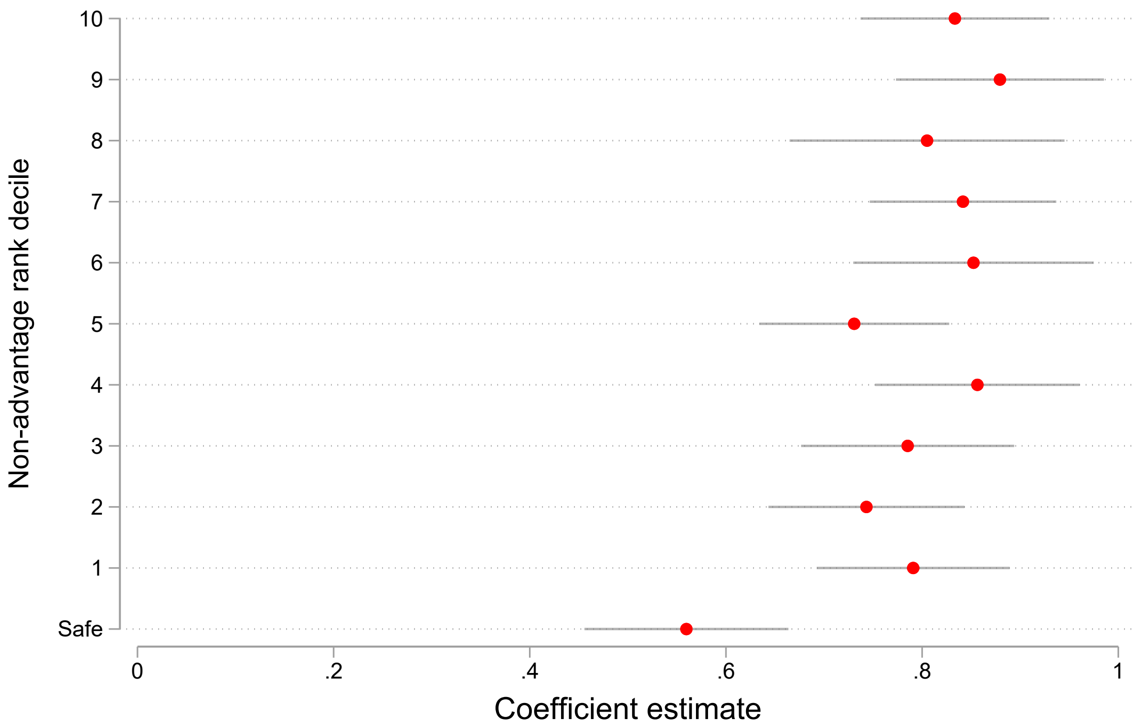
Table 2 – Main results

	Safe			Contested		
	(1)	(2)	(3)	(4)	(5)	(6)
Size	0.616	0.560	0.591	0.802	0.773	0.739
	(0.036)	(0.053)	(0.102)	(0.021)	(0.033)	(0.064)
Elected in prev. council			0.022			0.017
			(0.011)			(0.007)
Mayor in prev. council			-0.045			-0.025
			(0.050)			(0.035)
Distance to municipal center			0.001			0.000
			(0.001)			(0.001)
Urban share			-0.136			-0.016
			(0.079)			(0.052)
Local party FE	NO	YES	YES	NO	YES	YES
Mean of outcome variable	0.384	0.384	0.384	0.384	0.384	0.384
Observations	658	658	658	658	658	658
Clusters	38	38	38	38	38	38
R-squared	0.43	0.46	0.47	0.74	0.74	0.75

Notes: Columns (1) and (4) provides the results from simple linear regressions of faction's share of list positions on faction's share of party's votes. Columns 2 and 5 represent separate regressions based on Equation (16). 'Safe' list positions are those with the discretionary 25% advantage in personal votes and 'contested' are those in the top three rank percentiles after advantaged candidates have been excluded. Faction size is measured as a faction's relative contribution to the party's votes and given by Equation (15). In column 3 and 6, we control for a number of faction-level covariates. 'No. of elected in prev. council' is a count of a faction's number of elected politicians in the pre-merger council 2015-2019 who are running for election in 2019. 'Mayor in prev. council' is a dummy indicating whether a faction had the mayor in the pre-merger council 2015-2019 who is running for election in 2019. 'Distance to municipal center' is the driving distance from the town hall of each pre-merger municipality to the town hall of the largest pre-merger municipality in the merger. 'Urban share' measure the share of the population in the pre-merger that lives in an urban area as of 2019.

allocated similarly across faction sizes (with a coefficient of approximately 0.8). Therefore, the results in Table 2 are insensitive to the chosen cut-off point between contested and hopeless positions.[19]

Figure 6 – Coefficient of faction size on faction's share of different non-advantaged rank decile positions.



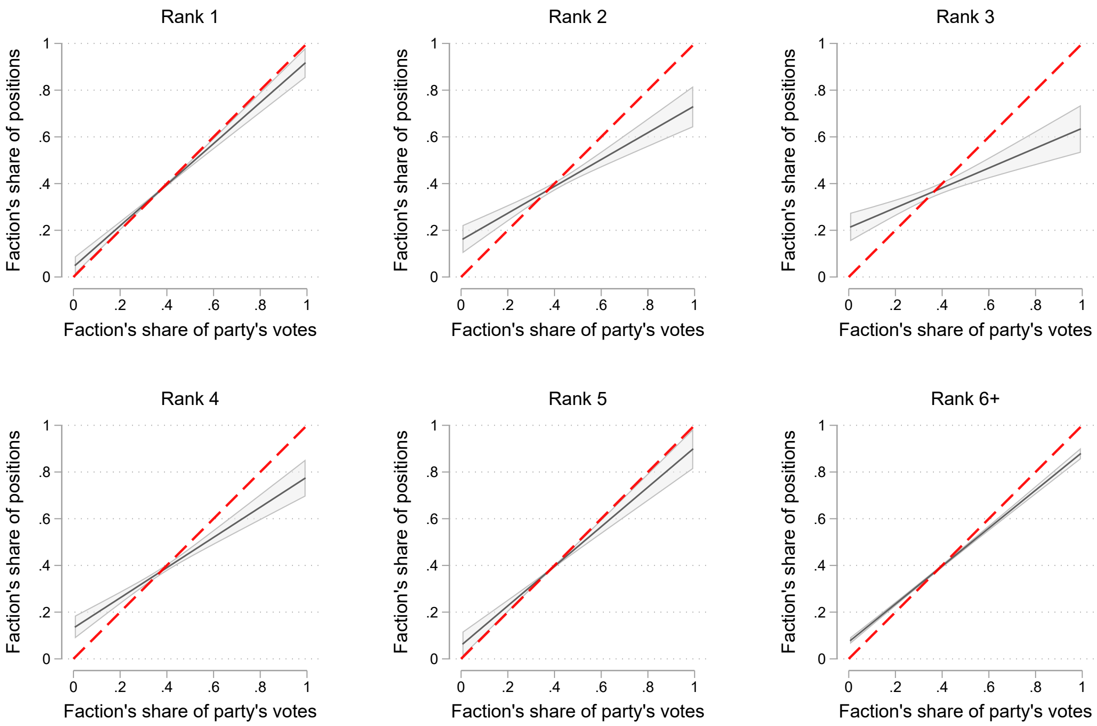
Note: The figure plots estimates of the coefficient of 'Size' from Equation 16 on faction's share of different non-advantage rank decile positions. The estimated coefficient of 'Size' on faction's share of safe positions (Table 2, column 2) is included at the bottom for reference.

7.2 *Extensions*

A possible explanation of the underpayment of larger factions in safe seats could be that they consistently secure the first spot on the list, and the remaining safe positions are allocated to the smaller factions. Figure 7 provides the results from simple linear regression models estimated separately for each rank. It is evident that the first spot is more frequently allocated to the big factions compared to the second, third and fourth spot. Yet, larger factions do not secure the first spot more frequently than their size would imply.

[19] In Appendix Figure B.6, we add the set of controls from column (3) and (6) of Table 2. Although the precision of the estimates reduces, the patterns are the same as in Figure 6.

Figure 7 – Allocation of different rank positions according to faction size.



Note: The figures plot factions' predicted share of different rank positions as a function of the faction's share of the party's votes in the 2017 national elections. The black line with a 95% confidence interval in gray is obtained through a linear regression. The red line represents the Gamsonian allocation.

Our empirical analysis considers only the merged municipalities, because defining the geographic factions is possible only for them. However, municipal mergers are not realized randomly, but rather are likely driven by various economic, geographic, demographic and political factors. This creates potential concerns for external validity. For example, if mergers realize dominantly between such municipalities whose politicians feel very positive about the politicians in the merger partner, we could see more equal power sharing than we would see if the mergers were randomly selected. As our results above in Table 2 are robust to various control variables and fixed effects attempting to capture such mechanisms, this concern is alleviated.

We could also be concerned that the parties in the large partners could have promised to give the parties in the small municipalities disproportionate amount of attractive list positions to get them to agree to the merger. To alleviate this concern, we show in Appendix Table

B.4 that the results are identical for mergers that were forced by the central government and for the voluntary ones.

To gain deeper insights into these concerns, we need to examine the determinants of the mergers. If the primary factors driving mergers are economic, geographic, and demographic, it's more likely that they are not linked to power-sharing decisions. However, if political factors are the main drivers, the concern becomes more significant. To investigate this, we compare the characteristics of merged municipalities to those that did not merge, as shown in Appendix Table B.2. Although this type of analysis has limitations (Gordon and Knight, 2009; Weese, 2015; Saarimaa and Tukiainen, 2014), we find that demographic, economic, and political variables are all correlated with merging. When including all variables in a regression model, we identify two key predictors of mergers: geographic proximity between municipalities and having a conservative party mayor. The latter likely results from mergers being a policy promoted by the national Conservative party. Based on this analysis, we believe it is unlikely that the nature of social connections between factions is strongly influencing merger decisions.

7.3 *Heterogeneous Effects: the Role of Stakes*

Next, we analyze how the allocation of list positions varies with the stakes of the election. Recall that our theory predicts that if the larger factions are under-represented in safe positions (which we find in section 7), higher stakes should magnify this under-representation.

In Table 3, we empirically evaluate this prediction measuring stakes as the party's expected top-two status. The idea is that the two largest parties are competing to be the primary governing party. Therefore, a high performance does not simply mean a larger number of seats, but also control of the mayoral and other executive positions.

The results align with Proposition 3: the over-representation of smaller factions is significantly more pronounced in the top two parties of each municipality. Specifically, in the safe positions, the relationship between faction size and position share is nearly halved among these top two parties. Although the magnitude of the interaction effect is smaller both in absolute and relative terms, a similar trend is observed in the contested positions. This indicates that the dynamics of factional representation differ notably between leading parties and

Table 3 – Heterogeneous effects by election stakes.

	Safe			Contested		
	(1)	(2)	(3)	(4)	(5)	(6)
Size	0.658	0.607	0.630	0.821	0.794	0.762
	(0.052)	(0.076)	(0.101)	(0.028)	(0.043)	(0.064)
Top-two party	0.054			0.023		
	(0.031)			(0.016)		
Size × Top-two party	-0.134	-0.148	-0.395	-0.058	-0.064	-0.239
	(0.081)	(0.120)	(0.127)	(0.042)	(0.061)	(0.069)
Local party FE	NO	YES	YES	NO	YES	YES
Controls	NO	NO	YES	NO	NO	YES
Mean of outcome variable	0.384	0.384	0.384	0.384	0.384	0.384
Observations	658	658	658	658	658	658
Clusters	38	38	38	38	38	38
R-squared	0.44	0.46	0.49	0.74	0.75	0.76

Notes: The table displays results for stakes measured in terms of the post-merger party's top-two status. 'Top-two party' is a dummy indicating whether the party is expected to be among the two largest parties in the 2019 election to the merged municipality council. The prediction is based on votes in pre-mergers from the local election of 2015, aggregated to the post-merger level. Columns 2 and 5 represent separate regressions based on Equation (17). In column 3 and 6, we control for a faction's number of elected politicians and whether a faction had the mayor in the pre-merger council 2015-2019, the driving distance from the town hall of each pre-merger municipality to the town hall of the largest pre-merger municipality in the merger, and the share of the population in the pre-merger that lives in an urban area as of 2019.

others, emphasizing the strategic importance of consensus and power-sharing in competitive electoral environments.

8. Conclusion

In this paper, we study how parties share power internally using data from local elections in Norway in the wake of a wave of municipal mergers. The mergers allow us to develop a geography-based measure of candidates' factional affiliation and quantify how factions divide up a scarce resource—ranks on party lists. Starting from the premise that parties set up internal power-sharing rules to incentivize mobilization efforts by their members, we show that these institutions are also influenced by strong norms of fairness.

Our main result uncovers a tendency of smaller factions to be over-compensated in terms of their relative share of party list positions. In particular, we show that — relatively to a Gamsonian, or proportional, allocation — smaller factions get more positions on the list, while bigger factions get less. Furthermore, this departure from a Gamsonian allocation is starker in those positions on the list that are deemed safe than in those that are contested. This findings align with a model of intra-party bargaining where smaller factions have significant bargaining power due, for instance, to strong norms of consensus.

Our results also suggests that certain features of the electoral environment can affect intra-party power sharing. Our theory predicts that higher electoral stakes should intensify the over-compensation discussed above. We validate this prediction empirically by measuring the stakes with the likelihood of securing the mayoral position after the election.

We focus on Norway because it offers a unique opportunity to study political factions. However, we believe that our results extend to other settings where factions bargain over party resources and can be identified geographically. Most parties in Western Europe have established a hierarchical structure of party sub-units organised along territorial lines, thus creating an organisational multi-level structure which is analogous to the one we analyze. While we argue that our findings are relevant for these parties as well, more research is obviously needed to empirically assess how factions share power within parties in different contexts.

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Online Appendix A: Proofs of Main Theoretical Results

Optimal effort choices. Expressions 8 and 9 follow from

$$\mathbb{E}\{x^0_{\mathcal{A}} + x^S_{\mathcal{A}}\pi S - C(e)\} = x^0_{\mathcal{A}} + x^S_{\mathcal{A}} S\theta \int_{m\in\mathcal{A}\cup\mathcal{B}} e_m dm - C(e)$$
$$\mathbb{E}\{1 - x^0_{\mathcal{A}} + (1 - x^S_{\mathcal{A}})\pi S - C(e)\} = 1 - x^0_{\mathcal{A}} + (1 - x^S_{\mathcal{A}})\theta S \int_{m\in\mathcal{A}\cup\mathcal{B}} e_m dm - C(e)$$

Proof of Lemma 1. Since $\Pi(\mathbf{x}) = \theta^2 S[\eta x^S_{\mathcal{A}} + (1-\eta)(1 - x^S_{\mathcal{A}})]$, we can write

$$\begin{aligned}
\frac{\partial}{\partial x^S_{\mathcal{A}}} W(\mathbf{x}) &= \frac{\partial}{\partial x^S_{\mathcal{A}}} \Pi^*(\mathbf{x}) S - x^S_{\mathcal{A}}[\theta S]^2 + (1 - x^S_{\mathcal{A}})[\theta S]^2 \\
&= [\theta S]^2[2\eta - 1] - x^S_{\mathcal{A}}[\theta S]^2 + (1 - x^S_{\mathcal{A}})[\theta S]^2 \\
&= [\theta S]^2[2\eta - 2x^S_{\mathcal{A}}]
\end{aligned}$$

Since $W(\mathbf{x})$ is concave in $x^S_{\mathcal{A}}$, the FONC imply that its unique maximizer satisfies $x^S_{\mathcal{A}} = \eta$. □

Proof of Proposition 1. Suppose not: $\hat{\mathbf{x}} \in \arg\max_{\mathbf{x}} V_{\mathcal{A}}(\mathbf{x})^{\alpha} V_{\mathcal{B}}(\mathbf{x})^{(1-\alpha)}$, with $\hat{x}^S_{\mathcal{A}} \neq \eta$. Since $\Pi^*(\mathbf{x})$ only depends on $x^S_{\mathcal{A}}$, we can rewrite $V_{\mathcal{A}}$ and $V_{\mathcal{B}}$ as additively separable functions of $x^0_{\mathcal{A}}$ and $x^S_{\mathcal{A}}$:

$$\begin{aligned}
V_{\mathcal{A}}(\mathbf{x}) &= x^0_{\mathcal{A}} + \Pi^*(\mathbf{x}) x^S_{\mathcal{A}} S - \frac{[\theta x^S_{\mathcal{A}} S]^2}{2} = x^0_{\mathcal{A}} + \tilde{V}_i(x^S_{\mathcal{A}}) \\
V_{\mathcal{B}}(\mathbf{x}) &= 1 - x^0_{\mathcal{A}} + \Pi^*(\mathbf{x})(1 - x^S_{\mathcal{A}}) S - \frac{[\theta(1 - x^S_{\mathcal{A}}) S]^2}{2} = 1 - x^0_{\mathcal{A}} + \tilde{V}_j(x^S_{\mathcal{A}})
\end{aligned}$$

with

$$W(\mathbf{x}) = V_{\mathcal{A}}(\mathbf{x}) + V_{\mathcal{B}}(\mathbf{x}) = 1 + \tilde{V}_{\mathcal{A}}(x^S_{\mathcal{A}}) + \tilde{V}_{\mathcal{B}}(x^S_{\mathcal{A}}) \equiv 1 + \tilde{W}(x^S_{\mathcal{A}}).$$

Suppose wlog[20] that $\hat{x}^S_{\mathcal{A}} > \eta$. Define proposal $\dot{\mathbf{x}}$ such that $\dot{x}^S_{\mathcal{A}} = \eta$ and $V_i(\hat{\mathbf{x}}) = V_i(\dot{\mathbf{x}})$. We must have $\dot{x}^0_{\mathcal{A}} > \hat{x}^0_{\mathcal{A}}$. Moreover, since

$$\begin{aligned}
&V_{\mathcal{A}}(\hat{\mathbf{x}}) + V_{\mathcal{B}}(\hat{\mathbf{x}}) < V_{\mathcal{A}}(\dot{\mathbf{x}}) + V_{\mathcal{B}}(\dot{\mathbf{x}}) \\
\Leftrightarrow &V_{\mathcal{B}}(\hat{\mathbf{x}}) - V_{\mathcal{B}}(\dot{\mathbf{x}}) < V_{\mathcal{A}}(\dot{\mathbf{x}}) - V_{\mathcal{A}}(\hat{\mathbf{x}}) = 0,
\end{aligned}$$

[20] We are assuming an interior proposal, i.e., one with $(x^0_{\mathcal{A}}, x^S_{\mathcal{A}}) \in [0,1]^2$—a conjecture validated in the analysis below.

we must have

$$V_{\mathcal{A}}(\hat{\mathbf{x}})^{\alpha} V_{\mathcal{B}}(\hat{\mathbf{x}})^{(1-\alpha)} < V_{\mathcal{A}}(\dot{\mathbf{x}})^{\alpha} V_{\mathcal{B}}(\dot{\mathbf{x}})^{(1-\alpha)},$$

which contradicts $\hat{\mathbf{x}} \in \arg\max_{\mathbf{x}} V_{\mathcal{A}}(\mathbf{x})^{\alpha} V_{\mathcal{B}}(\mathbf{x})^{(1-\alpha)}$. □

Proof of Lemma 2. Substituting $x_{\mathcal{A}}^{S} = \eta$ in $V_{\mathcal{A}}(\mathbf{x})$ and $V_{\mathcal{B}}(\mathbf{x})$ yields

$$\begin{aligned} V_{\mathcal{A}}(\mathbf{x}) &= x_{\mathcal{A}}^0 + \tilde{V}_{\mathcal{A}}(\eta) = x_{\mathcal{A}}^0 + S\Pi^* \eta - \frac{[\theta \eta S]^2}{2} \\ V_{\mathcal{B}}(\mathbf{x}) &= 1 - x_{\mathcal{A}}^0 + \tilde{V}_{\mathcal{B}}(\eta) = 1 - x_{\mathcal{A}}^0 + S\Pi^*(1-\eta) - \frac{[\theta(1-\eta)S]^2}{2} \end{aligned}$$

We thus obtain that $x_{\mathcal{A}}^0$ solves

$$\begin{aligned} &\max_{x_{\mathcal{A}}^0} \left\{ [x_{\mathcal{A}}^0 + \tilde{V}_{\mathcal{A}}(\eta)]^{\alpha} [1 - x_{\mathcal{A}}^0 + \tilde{V}_{\mathcal{A}}(\eta)]^{(1-\alpha)} \right\} \\ = &\max_{x_{\mathcal{A}}^0} \left\{ \alpha \log \left(x_{\mathcal{A}}^0 + \tilde{V}_{\mathcal{A}}(\eta) \right) + (1-\alpha) \log \left(1 - x_{\mathcal{A}}^0 + \tilde{V}_{\mathcal{B}}(\eta) \right) \right\} \end{aligned}$$

Which yields the following FONC (which is decreasing in $x_{\mathcal{A}}^0$ thereby guaranteeing concavity)

$$\begin{aligned} &\alpha \left(1 - x_{\mathcal{A}}^0 + \tilde{V}_{\mathcal{B}}(\eta) \right) - (1-\alpha) \left(x_{\mathcal{A}}^0 + \tilde{V}_{\mathcal{A}}(\eta) \right) = 0 \\ \Leftrightarrow\ &\alpha + \alpha \tilde{V}_{\mathcal{B}}(\eta) - x_{\mathcal{A}}^0 - (1-\alpha) \tilde{V}_{\mathcal{A}}(\eta) = 0 \\ \Leftrightarrow\ &x_{\mathcal{A}}^0 = \alpha + \alpha \tilde{V}_{\mathcal{B}}(\eta) - (1-\alpha) \tilde{V}_{\mathcal{A}}(\eta) \\ \Leftrightarrow\ &x_{\mathcal{A}}^0 = \alpha + S\Pi^*(\alpha - \eta) + (\theta S)^2 \frac{(1-\alpha)\eta^2 - \alpha(1-\eta)^2}{2}. \end{aligned}$$

This completes the proof. □

Proof of Proposition 2. First, observe that $x_{\mathcal{A}}^0(\alpha) - \eta$ is strictly increasing in α:

$$\frac{\partial x_{\mathcal{A}}^0(\alpha)}{\partial \alpha} = 1 + S\Pi^* - \theta^2 S^2 \frac{-\eta^2 - (1-\eta)^2}{2} = 1 + \theta^2 S^2 \frac{\eta^2 + (1-\eta)^2}{2} > 0,$$

using $\Pi^* = \theta^2 S[\eta^2 + (1-\eta)^2]$.

Second, observe that

$$x_{\mathcal{A}}^0(\eta) - \eta = \theta^2 S^2 \frac{(1-\eta)\eta^2 - \eta(1-\eta)^2}{2} \propto 2\eta - 1 > 0$$

Third, notice that

$$x^0_{\mathcal{A}}(0) - \eta = -\eta[1 + S\Pi^*] + \theta^2 S^2 \frac{\eta^2}{2} \propto -1 - \theta^2 S^2 \left[\eta^2 - \frac{\eta}{2} + (1-\eta)^2\right] < 0.$$

This implies that there exists a unique root of $x^0_{\mathcal{A}}(\alpha) - \eta$, denoted by α^*, and that $0 < \alpha^* < \eta$. □

Proof of Proposition 3. Using $\Pi^* = \theta^2 S[\eta^2 + (1-\eta)^2]$, notice that:

$$\begin{aligned}
\frac{\partial x^0_{\mathcal{A}}(\alpha)}{\partial S} &= 2\theta^2 S[\eta^2 + (1-\eta)^2](\alpha - \eta) + \theta^2 S[(1-\alpha)\eta^2 - \alpha(1-\eta)^2] \\
&\propto 2[\eta^2 + (1-\eta)^2](\alpha - \eta) + (1-\alpha)\eta^2 - \alpha(1-\eta)^2 \\
&\xrightarrow[\alpha\to 0]{} -2[\eta^2 + (1-\eta)^2]\eta + \eta^2 < (1-2\eta)\eta^2 < 0 \\
&\xrightarrow[\alpha\to \eta]{} (1-\eta)\eta^2 - \eta(1-\eta)^2 \propto 2\eta - 1 > 0
\end{aligned}$$

The fact that $\frac{\partial^2 x^0_{\mathcal{A}}(\alpha)}{\partial S \partial \alpha} \propto \eta^2 + (1-\eta)^2 > 0$ completes the proof. □

Online Appendix B: Supplementary Tables and Figures

Table B.1 – Description of mergers involved in the reform.

Post-reform	Pre-reform	Referendum	Participation	Effective from	In sample	Comment
710 Sandefjord	706 Sandefjord	No	Voluntary	Jan 1, 2017	No	Appointed intermediary council
	719 Andebu	No	Voluntary			
	720 Stokke	No	Voluntary			
712 Larvik	709 Larvik	No	Voluntary	Jan 1, 2018	No	Appointed intermediary council
	728 Lardal	No	Voluntary			
715 Holmestrand	714 Hof	No	Voluntary	Jan 1, 2018	No	Appointed intermediary council
	702 Holmestrand	No	Voluntary			
729 Færder	723 Tjøme	Yes	Voluntary	Jan 1, 2018	No	Extraordinary election prior to merger
	722 Nøtterøy	No	Voluntary			
5054 Indre Fosen	1624 Rissa	No	Voluntary	Jan 1, 2018	No	Appointed intermediary council
	1718 Leksvik	No	Voluntary			
1103 Stavanger	1103 Stavanger	Yes	Voluntary	Jan 1, 2020	Yes	
	1141 Finnøy	Yes	Voluntary			
	1142 Rennesøy	Yes	Voluntary			
1108 Sandnes	1102 Sandnes	Yes	Voluntary	Jan 1, 2020	Yes	
	1129 Forsand	No	Voluntary			
1506 Molde	1502 Molde	No	Voluntary	Jan 1, 2020	Yes	
	1543 Nesset	Yes	Voluntary			
	1545 Midsund	Yes	Voluntary			
1507 Ålesund	1504 Ålesund	No	Voluntary	Jan 1, 2020	Yes	
	1523 Ørskog	Yes	Voluntary			
	1529 Skodje	Yes	Voluntary			
	1534 Haram	Yes	Forced			
	1546 Sandøy	No	Voluntary			
1577 Volda	1444 Hornindal	No	Voluntary	Jan 1, 2020	Yes	
	1519 Volda	Yes	Voluntary			
1578 Fjord	1524 Norddal	Yes	Voluntary	Jan 1, 2020	Yes	
	1526 Stordal	Yes	Voluntary			
1579 Hustadvika	1548 Fræna	Yes	Voluntary	Jan 1, 2020	Yes	
	1551 Eide	Yes	Voluntary			
1806 Narvik	1805 Narvik	Yes	Voluntary	Jan 1, 2020	No	Involved split municipality
	1850 Tysfjord (split)	No	Forced			
	1854 Balangen	Yes	Voluntary			
1875 Hamarøy	1849 Hamarøy	Yes	Voluntary	Jan 1, 2020	No	Involved split municipality
	1850 Tysfjord (split)	No	Forced			
3002 Moss	104 Moss	No	Voluntary	Jan 1, 2020	Yes	
	136 Rygge	No	Voluntary			
3005 Drammen	602 Drammen	No	Voluntary	Jan 1, 2020	Yes	
	625 Nedre Eiker	Yes	Voluntary			
	711 Svelvik	No	Voluntary			
3014 Indre Østfold	122 Trøgstad	Yes	Voluntary	Jan 1, 2020	Yes	
	123 Spydeberg	Yes	Forced			
	124 Askim	No	Voluntary			
	125 Eidsberg	No	Voluntary			
	138 Hobøl	No	Voluntary			
3020 Nordre Follo	213 Ski	Yes	Voluntary	Jan 1, 2020	Yes	
	217 Oppegård	No	Voluntary			
3025 Asker	220 Asker	No	Voluntary	Jan 1, 2020	Yes	
	627 Røyken	No	Voluntary			
	628 Hurum	Yes	Voluntary			
3026 Aurskog-Høland	121 Rømskog	No	Voluntary	Jan 1, 2020	Yes	
	222 Aurskog-Høland	No	Voluntary			
3030 Lillestrøm	226 Sørum	No	Forced	Jan 1, 2020	Yes	
	227 Fet	Yes	Forced			
	231 Skedsmo	Yes	Forced			
3802 Holmestrand	713 Sande	Yes	Voluntary	Jan 1, 2020	Yes	
	715 Holmestrand	No	Voluntary			
3803 Tønsberg	704 Tønsberg	No	Voluntary	Jan 1, 2020	Yes	
	716 Re	Yes	Voluntary			
3817 Midt-Telemark	821 Bø	Yes	Voluntary	Jan 1, 2020	Yes	
	822 Sauherad	No	Voluntary			
4204 Kristiansand	1001 Kristiansand	No	Voluntary	Jan 1, 2020	Yes	
	1017 Songdalen	Yes	Voluntary			
	1018 Søgne	Yes	Forced			
4205 Lindesnes	1002 Mandal	No	Voluntary	Jan 1, 2020	Yes	
	1021 Marnardal	No	Voluntary			
	1029 Lindesnes	Yes	Forced			
4225 Lyngdal	1027 Audnedal	Yes	Voluntary	Jan 1, 2020	Yes	
	1032 Lyngdal	No	Voluntary			
4602 Kinn	1401 Flora	Yes	Voluntary	Jan 1, 2020	Yes	
	1439 Vågsøy	Yes	Voluntary			
4618 Ullensvang	1227 Jondal	Yes	Voluntary	Jan 1, 2020	Yes	
	1228 Odda	Yes	Voluntary			
	1231 Ullensvang	Yes	Voluntary			
4621 Voss	1234 Granvin	Yes	Voluntary	Jan 1, 2020	Yes	
	1235 Voss	No	Voluntary			
4624 Bjørnafjorden	1241 Fusa	No	Voluntary	Jan 1, 2020	Yes	
	1243 Os	No	Voluntary			
4626 Øygarden	1245 Sund	No	Voluntary	Jan 1, 2020	Yes	
	1246 Fjell	No	Voluntary			
	1259 Øygarden	No	Voluntary			
4631 Alver	1256 Meland	Yes	Voluntary	Jan 1, 2020	Yes	
	1260 Radøy	No	Voluntary			
	1263 Lindås	No	Voluntary			
4640 Sogndal	1418 Balestrand	Yes	Forced	Jan 1, 2020	Yes	
	1419 Leikanger	Yes	Forced			
	1420 Sogndal	Yes	Voluntary			
4647 Sunnfjord	1430 Gaular	Yes	Voluntary	Jan 1, 2020	Yes	
	1431 Jølster	Yes	Voluntary			
	1432 Førde	No	Voluntary			
	1433 Naustdal	Yes	Voluntary			
4649 Stad	1441 Selje	Yes	Voluntary	Jan 1, 2020	Yes	
	1443 Eid	Yes	Voluntary			
5001 Trondheim	5001 Trondheim	No	Voluntary	Jan 1, 2020	Yes	
	5030 Klæbu	Yes	Voluntary			
5006 Steinkjer	5004 Steinkjer	Yes	Voluntary	Jan 1, 2020	Yes	
	5039 Verran	Yes	Voluntary			
5007 Namsos	5005 Namsos	No	Voluntary	Jan 1, 2020	Yes	
	5040 Namdalseid	Yes	Voluntary			
	5048 Fosnes	Yes	Voluntary			
5055 Heim	1571 Halsa	Yes	Voluntary	Jan 1, 2020	Extended	Involved split municipality
	5011 Hemne	No	Voluntary			
	5012 Snillfjord (split)	No	Voluntary			
5056 Hitra	5013 Hitra	No	Voluntary	Jan 1, 2020	No	Involved split municipality
	5012 Snillfjord (split)	No	Voluntary			
5057 Ørland	5015 Ørland	Yes	Forced	Jan 1, 2020	Yes	
	5017 Bjugn	Yes	Forced			
5058 Åfjord	5018 Åfjord	No	Voluntary	Jan 1, 2020	Yes	
	5019 Roan	Yes	Voluntary			
5059 Orkland	5012 Snillfjord (split)	No	Voluntary	Jan 1, 2020	No	Involved split municipality
	5016 Agdenes	No	Voluntary			
	5023 Meldal	No	Voluntary			
	5024 Orkdal	No	Voluntary			
5060 Nærøysund	5050 Vikna	Yes	Forced	Jan 1, 2020	Yes	
	5051 Nærøy	Yes	Voluntary			
5406 Hammerfest	2004 Hammerfest	Yes	Voluntary	Jan 1, 2020	Yes	
	2017 Kvalsund	Yes	Voluntary			
5412 Tjelsund	1852 Tjeldsund	Yes	Voluntary	Jan 1, 2020	Yes	
	1913 Skånland	Yes	Voluntary			
5421 Senja	1927 Tranøy	Yes	Voluntary	Jan 1, 2020	Yes	
	1928 Torsken	Yes	Forced			
	1929 Berg	Yes	Voluntary			
	1931 Lenvik	No	Voluntary			

Note: This table catalogues all municipal mergers in Norway from 2017 to 2020, during which the total number of municipalities decreased from 428 to 356. It lists both the new and old municipalities by name and their official identifying numbers in the 'post-reform municipality' and 'pre-reform municipality' columns, respectively. The 'referendum' column indicates if a consultative referendum was held in the pre-reform municipality, while the 'participation' column denotes whether the merger was voluntary or mandated by the national government. The 'effective from' column specifies the date when the new municipality officially came into effect.

Table B.2 – Summary statistics by merger status.

	All municipalities		Non-Merging municipalities		Merging municipalities		Difference	OLS
	Mean	SD	Mean	SD	Mean	SD	Diff. in mean	Coef (Std.)
Economic characteristics								
Population	12,598	40,066	11,727	43,240	15,343	27,791	3,616	0.07
Children (share age 0 to 5)	0.061	0.012	0.059	0.012	0.065	0.010	0.006***	0.04
Young (share age 6 to 15)	0.119	0.016	0.117	0.016	0.125	0.016	0.008***	0.01
Elderly (share 66+)	0.197	0.038	0.201	0.038	0.183	0.038	-0.018***	-0.15
Women (share)	0.490	0.010	0.489	0.011	0.491	0.009	0.002	0.02
Unemployed (share)	0.016	0.006	0.016	0.006	0.016	0.005	0.001	-0.01
Grants per capita (in 1000 NOK)	35.339	13.095	36.195	13.475	32.640	11.470	-3.555**	0.15*
Tax from income and wealth (1000 NOK per capita)	28.387	6.595	28.501	7.151	28.027	4.413	-0.474	-0.12*
Per capita property tax (residential)	1.399	1.272	1.489	1.338	1.115	0.989	-0.374***	-0.06
Per capita property tax (commercial)	2.611	6.082	2.826	6.336	1.933	5.175	-0.893	0.01
Area (km^2)	720.581	854.101	832.402	931.610	368.001	363.453	-464.401***	-0.14***
Distance to nearest neighboring municipality (minutes)	27.589	24.079	30.407	26.349	18.701	10.821	-11.707***	-0.17***
Political leadership								
Socialist left party mayor	0.002	0.050	0.003	0.057	0.000	0.000	-0.003	-0.08
Labor party mayor	0.474	0.500	0.502	0.501	0.388	0.490	-0.114**	Ref.
Center party mayor	0.226	0.419	0.249	0.433	0.153	0.362	-0.096**	-0.01
Liberal party mayor	0.015	0.121	0.010	0.098	0.031	0.173	0.021	0.07
Christian democratic party mayor	0.037	0.189	0.032	0.177	0.051	0.221	0.019	0.02
Conservative party mayor	0.167	0.374	0.117	0.321	0.327	0.471	0.210***	0.19***
Progress party mayor	0.012	0.110	0.010	0.098	0.020	0.142	0.011	0.04
Other mayor	0.066	0.249	0.078	0.268	0.031	0.173	-0.047**	-0.02
N	407		309		98			

Note: The table reports statistics for all municipalities, our merging sample and non-merging municipalities in 2019, before the mergers were effective. Wave 1 mergers and municipalities involved in mergers that included split municipalities are excluded from our sample, and not part of the table. The second column from the right reports the difference between non-merging and merging municipalities. and the last column reports standardized coefficient estimates from an OLS regression of merger status on all variables in the table. 'Grants per capita' reports central government grants to the municipality in 1000 NOK per capita. 'Tax from income and wealth' reports the municipalities' income from tax on income, wealth and natural resources in 1000 NOK per capita. 'Per capita property tax (residential)' reports the revenues from residential property taxation in 1000 NOK per capita, and 'Per capita property tax (commercial)' from commercial property taxation. 'Distance to nearest neighboring municipality' reports the driving distance from the town hall of the municipality to the nearest town hall of a neighboring municipality in minutes.

Table B.3 – Main results measuring faction size in terms of their population share.

	Safe			Contested		
	(1)	(2)	(3)	(4)	(5)	(6)
Size	0.584	0.522	0.519	0.777	0.744	0.691
	(0.038)	(0.056)	(0.096)	(0.023)	(0.035)	(0.058)
Local party FE	NO	YES	YES	NO	YES	YES
Controls	NO	NO	YES	NO	NO	YES
Mean of outcome variable	0.384	0.384	0.384	0.384	0.384	0.384
Observations	658	658	658	658	658	658
Clusters	38	38	38	38	38	38
R-squared	0.39	0.42	0.44	0.69	0.70	0.72

Note: Columns (1) and (4) provides the results from simple linear regressions of faction's share of list positions on faction's population share. Columns 2 and 5 represent separate regressions based on Equation (16). In column 3 and 6, we control for a faction's number of elected politicians and whether a faction had the mayor in the pre-merger council 2015-2019, the driving distance from the town hall of each pre-merger municipality to the town hall of the largest pre-merger municipality in the merger, and the share of the population in the pre-merger that lives in an urban area as of 2019.

Table B.4 – Main results split by voluntary status of merger.

Panel A: Voluntary

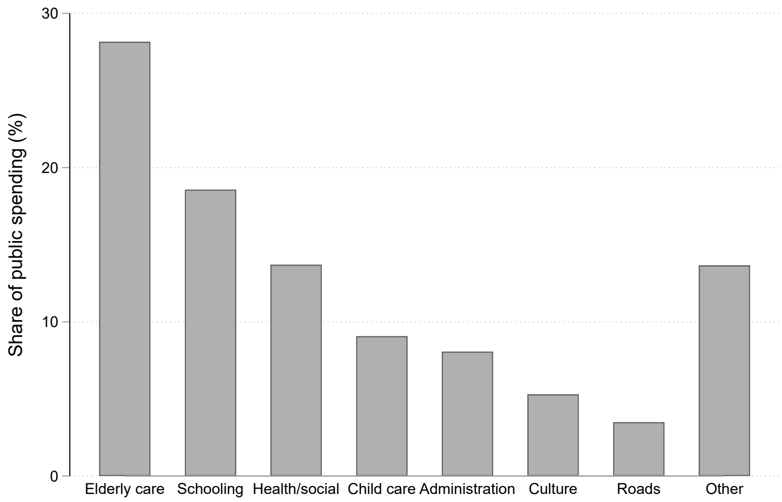
	Safe			Contested		
	(1)	(2)	(3)	(4)	(5)	(6)
Size	0.597	0.560	0.623	0.811	0.794	0.747
	(0.044)	(0.068)	(0.153)	(0.021)	(0.033)	(0.073)
Local party FE	NO	YES	YES	NO	YES	YES
Controls	NO	NO	YES	NO	NO	YES
Mean of outcome variable	0.426	0.426	0.426	0.426	0.426	0.426
Observations	465	465	465	465	465	465
Clusters	30	30	30	30	30	30
R-squared	0.41	0.43	0.45	0.74	0.75	0.76

Panel B: Involuntary

	Safe			Contested		
	(1)	(2)	(3)	(4)	(5)	(6)
Size	0.603	0.557	0.540	0.733	0.702	0.684
	(0.052)	(0.066)	(0.112)	(0.065)	(0.088)	(0.124)
Local party FE	NO	YES	YES	NO	YES	YES
Controls	NO	NO	YES	NO	NO	YES
Mean of outcome variable	0.285	0.285	0.285	0.285	0.285	0.285
Observations	193	193	193	193	193	193
Clusters	8	8	8	8	8	8
R-squared	0.41	0.43	0.45	0.66	0.67	0.68

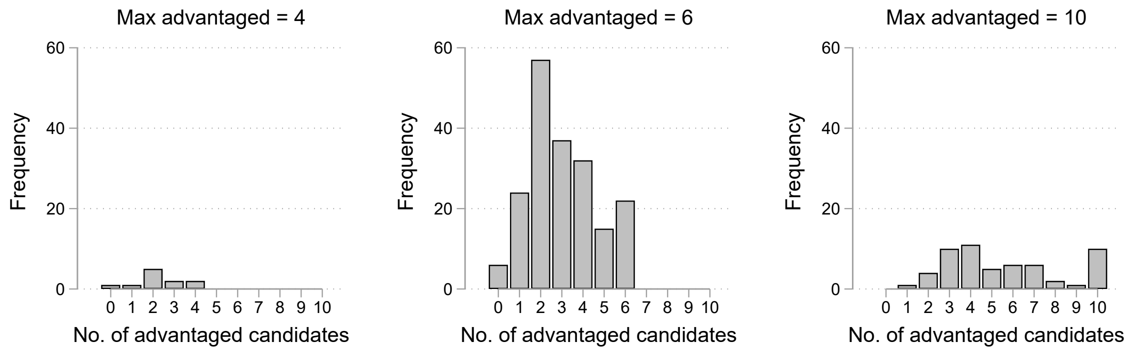
Notes: Columns (1) and (4) provides the results from simple linear regressions of faction's share of list positions on faction's share of party's votes. Columns 2 and 5 represent separate regressions based on Equation (16). In column 3 and 6, we control for a faction's number of elected politicians and whether a faction had the mayor in the pre-merger council 2015-2019, the driving distance from the town hall of each pre-merger municipality to the town hall of the largest pre-merger municipality in the merger, and the share of the population in the pre-merger that lives in an urban area as of 2019. Panel A displays the results for post-mergers where all pre-merger municipalities agreed to the merger, and Panel B for post-mergers where at least one pre-merger was forced to participate in the merger.

Figure B.1 – Average spending on different sectors among municipalities in 2020.



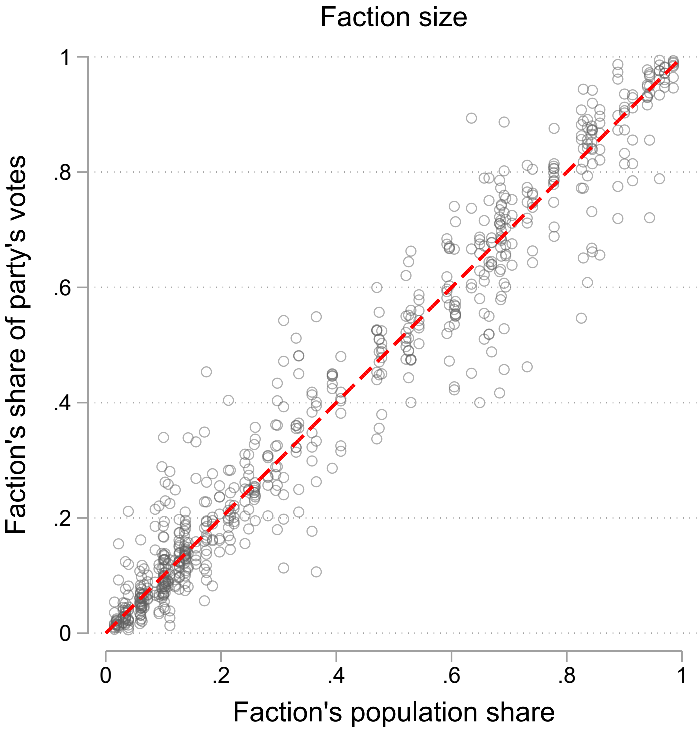
Note: The figure plots the municipality average spending on different sectors, as percentage share of their total public spending in 2020. Spending is the sum of gross current expenditures and gross investment for the various sectors.

Figure B.2 – Number of advantaged candidates on each list split by the maximum allowed.



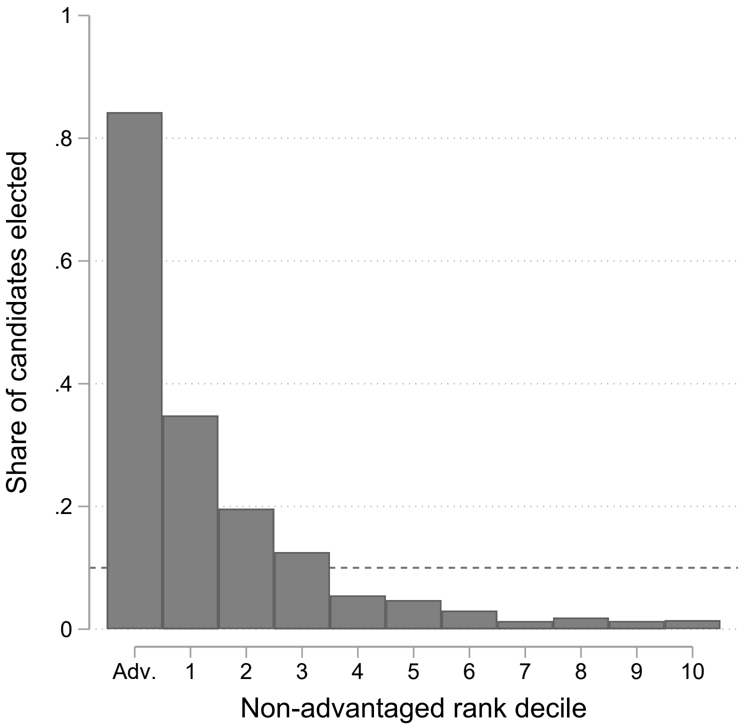
Note: The figures plot histograms of the number of lists with different numbers of advantaged candidates, split by the number of advantaged candidates they are allowed. The left figure plots the distribution for lists that are allowed maximum 4 advantaged candidates, the middle for those allowed maximum 6, and the right for those allowed maximum 10.

Figure B.3 – Scatter plot of different measures of faction size.



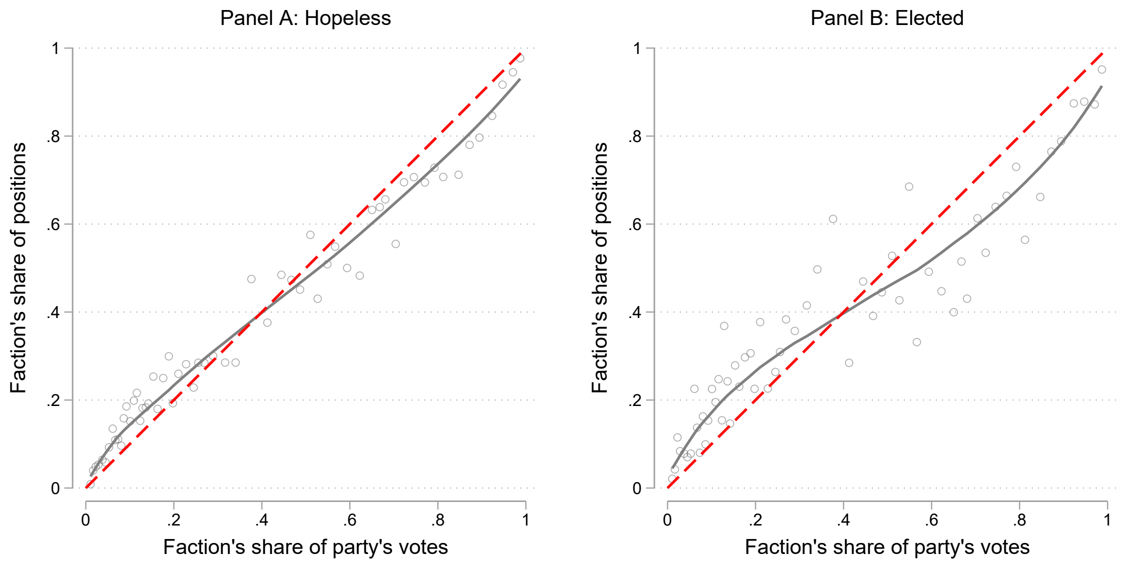
Note: The figure plots each faction's size, measured by their share of the party's votes (y axis) and their population share (x axis), both relative to the other factions in the post-merger party. A faction's share of the party's votes is calculated according to equation 15. A faction's population share is calculated as its share of the sum of the populations in the municipalities involved in a merger. The red line corresponds to the function $x = y$.

Figure B.4 – Share of elected candidates by non-advantaged rank decile.



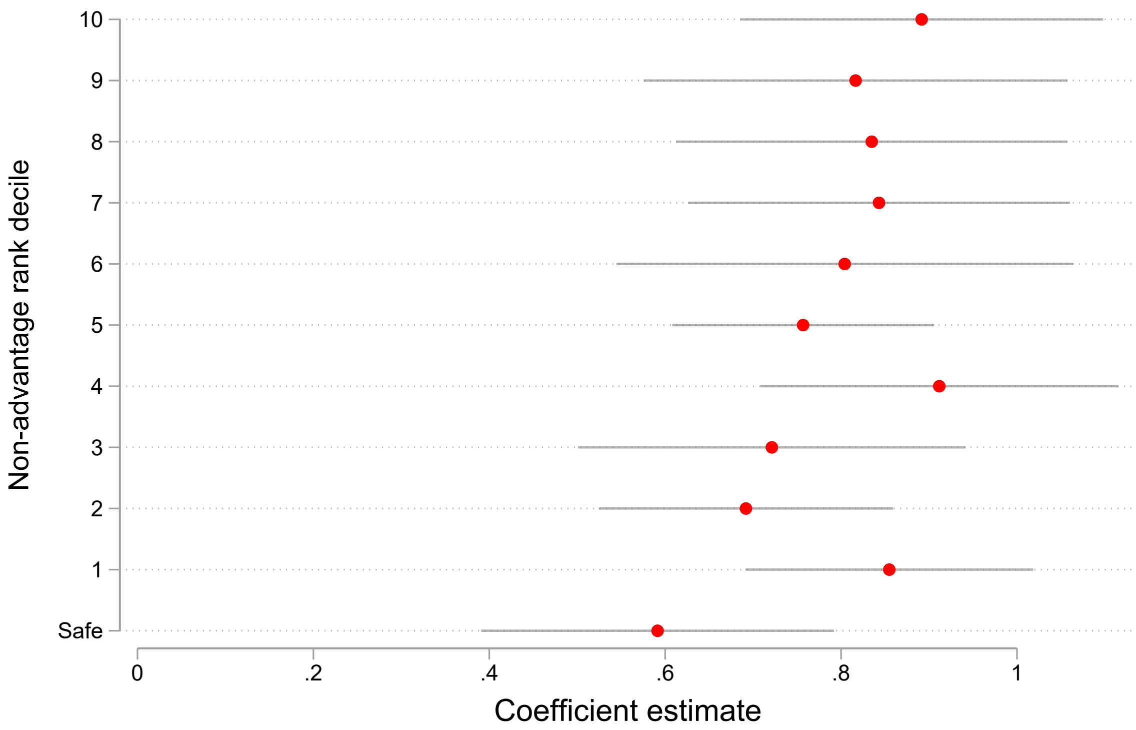
Note: The figure plots the share of elected candidates by their rank decile after the advantaged candidates have been excluded from the list. For reference, the share of elected candidates with the advantaged is included in the left of the plot, labeled 'Adv.'.

Figure B.5 – Allocation of hopeless list positions and elected candidates according to faction size.



Note: Panel A displays factions' share of 'hopeless' positions in the 2019 local elections as a function of the faction's share of the party's votes in the 2017 national elections, categorized into 60 equal-sized bins. Panel B similarly plots factions' share of elected candidates in the 2019 local elections as a function of the faction's share of the party's votes in the 2017 national elections. The black lines are obtained using locally weighted scatter plot smoothing (lowess). The red lines represents the Gamsonian allocations.

Figure B.6 – Coefficient of faction size on faction's share of different non-advantaged rank decile positions, with controls.



Note: The figure plots estimates of the coefficient of 'Size' from Equation 16 on faction's share of different non-advantage rank decile positions. We control for the faction's number of incumbent councilors on the list, whether the faction has an incumbent mayor running for election, geographic distance between the faction and the new municipality center and the faction's urban share. The estimated coefficient of 'Size' on faction's share of safe positions (Table 2, column 3) is included at the bottom for reference.