Party Factions and Candidate Selection*

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Abstract

We study how parties share power internally by analyzing the allocation of list positions to different factions. We develop a theory of intraparty 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 intraparty 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: Party Factions, Intra-Party Power Sharing, Candidate Selection, Geographic Representation, 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 (Gerber and Green, 2000; Górecki and Marsh, 2012).

The allocation of these resources within parties is rarely straightforward. While parties may appear as cohesive entities, they are not unitary actors. Instead, they are composed of different factions, each with its own demands and interests. Balancing these competing interests is a constant challenge for party leaders. Additionally, parties must distribute rewards in ways that incentivize effort from their members, who often belong to one of these factions. Promises of rewards that are contingent on the party's performance serve as critical tools for motivating these efforts (Mershon, 2001*a*,*b*; Invernizzi and Prato, 2023).

To investigate how parties manage these organizational imperatives, we study both theoretically and empirically how factions negotiate over candidate lists—a primary mechanism for allocating resources within parties in list-based election systems. Our design overcomes the well-known issues of opacity in party internal processes (Gallagher, 1988; Hazan and Rahat, 2010) and uncovers systematic patterns in candidate allocation. We show that smaller factions are often overrepresented, particularly in safer list positions, aligning with a model of consensus-driven negotiations. As evidence of internal party fragmentation grows, viewing parties as cohesive entities becomes increasingly untenable (Kölln and Polk, 2024). In this context, our findings become crucial to 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 observe. While most parties are internally divided into more or less stable and cohesive groups, the absence of formal recognition or structural delineation makes the empirical identification of factional affiliations extremely challenging (Kitschelt, 1989; Greene and Haber, 2016; Kölln and Polk, 2024).

Our empirical setting—Norwegian municipal elections—allows us to overcome both issues. First, we build a theory of intraparty negotiations based on the premise that contingent resource allocations shape mobilization efforts by activists. We then evaluate the implications of our theory by leveraging a wave of municipal mergers that, although officially implemented in January 2020, were applied to the 2019 Norwegian elections. 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' sub-units are typically organized along territorial lines (Valen, 1988).[1] We also exploit an interesting feature of the Norwegian local electoral process to construct a simple measure of contestability of each list position. This, in turn, allows us to measure the value of factional rewards.

Our model studies how two factions of differing size negotiate over a list of party candidates. 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 intraparty 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.

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

To understand the extent to which intraparty negotiations will produce these "Gamsonian," or proportional allocations, we build a model in which factions negotiate over their share of the list via Nash bargaining (Binmore, Rubinstein and Wolinsky, 1986). In this framework, the larger faction's "bargaining weight" reflects its relative influence in the negotiation process and, therefore, the degree of internal majoritarianism in the informal and formal norms that shape intraparty negotiations. Our goal is to use the model to connect patterns of realized allocation of resources to draw conclusions about the degree of internal majoritarianism of intra-party negotiations.

When the larger faction's size is less than its bargaining weight, we define the negotiations *majoritarian*: larger factions have a disproportionate influence on the party list and, as a consequence, on the allocation of resources across factions.

When instead the smaller faction's size is less than its bargaining weight, we define the negotiations *consensus-based*. This means that the smaller faction has a greater influence on the party list than its size alone would predict, and internal party norms favor consensus over size. Parties often adhere to norms that protect smaller factions, ensuring they are not marginalized and receive more resources than their size might warrant. These norms endure because they play a crucial role in maintaining internal cohesion—by preventing defections of smaller factions—and in preserving a balance of power, preventing any one faction from becoming too dominant.[2]

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 its similarity to our Gamsonian benchmark, to the best of our knowledge the underlying rationale behind this predictions is 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

[2]Alternative mechanisms may also contribute to a smaller faction's bargaining weight exceeding its size. We emphasize consensus norms here, however, as these seem especially relevant within the Norwegian context.

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 greater than its size, our theory predicts that it will be over-compensated relative to the smaller faction.

Third, motivated by existing literature on how the structure of the party system influences intraparty dynamics (Invernizzi and Prato, 2023), we examine how these results change with the stakes of the election, i.e., the degree to which resources are sensitive to a party's electoral performance. Our theory predicts that under consensus-based negotiations, the over-compensation of smaller factions should be larger when the stakes are high, in order to more effectively incentivize mobilization efforts by party activists belonging to larger factions.

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, we test whether these patterns are stronger under high-stakes. We capture variation in stakes in two ways: First, we use party size—i.e., a dichotomous measure capturing high likelihood of securing the mayoral and other key executive positions that carry considerable influence over governance outcomes. Second, we compare the 2019 Norwegian municipal elections to the 2023 elections, with the latter representing a low-stakes environment (as supported by survey data).

Consistent with our theoretical expectations, we find that the over-compensation of smaller factions is more pronounced in larger parties and significantly weaker in the 2023 election. This result provides new evidence on how a party's electoral context shapes intraparty dynamics. When the stakes are higher, such as when key executive positions are at play, negotiations tend to favor smaller factions, underscoring the strategic role of consensus and power-sharing in competitive settings.

Taken together, these findings contribute to our understanding of intraparty negotiations and candidate selection processes. They also challenge the notion that strong incentives necessarily conflict with broad, consensus-based decision-making within parties. Our research suggests that there is no inherent trade-off between promoting equality among factions and efficiently incentivizing mobilization effort by party activists. Parties can effectively balance internal inclusiveness with effective governance strategies, especially in contexts where competitive incentives drive internal dynamics.

The rest of 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 intraparty power sharing (Persico, Pueblita and Silverman, 2011; Invernizzi, 2023; Invernizzi and Prato, 2023). We share with this literature the focus on within-party aggregate actors, political factions. In doing so, our model provides a novel account for observed empirical variation in intraparty power sharing.

Despite their importance, it is hard to empirically operationalize party factions. Scholars face severe data limitations: on the one hand, factional affiliations are often fluid, on the other hand, parties have little incentive to formally recognize factions—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 intraparty 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 suggest that norms of consensus can lead smaller factions to be overcompensated in terms of candidate list positions.

Our results expand the literature on intraparty 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. While Gamson's law constitutes a reasonable approximation for between-party post-electoral agreements (Gamson, 1961; Browne and Franklin, 1973), our analysis shows that (i) party list positions display systematic deviations from Gamson's law and (ii) these systematic deviations highlight the importance of both consensus-based intraparty negotiations and internal moral hazard issues.

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; Cox et al., 2021; Buisseret and Prato, 2022; Buisseret et al., 2022), which typically focuses on individual candidates, rather than 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 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 Norwegian parties, identifying territorial groups' representation as one of the most important devices for the nomination of individual candidates.[3]

[3]This claim is consistent with data from the 2019 Survey on Municipal Parties and Local Lists (Saglie et al., 2023), which shows that local party leaders in Norway rank candidates' geographic affiliation as the third

Two related studies in the field of political geography show the causal effects of within municipality local geographic representation of municipal councilors on the location of public services, but in a non-merger context. Folke et al. (2024) conclude that local politicians tend to live in advantaged neighborhoods that they shield from local public "bads." In addition, Harjunen, Saarimaa and Tukiainen (2023) show that candidates' residential location has a causal effect on school closures. Our work demonstrates the importance of intraparty 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 (Jakobsen and Kjaer, 2016; Bakke and Folkestad, 2021). By being able to identify advantaged positions within the lists, our analysis allows us to more accurately measure intraparty power sharing, and more clearly attribute these patterns to strategic party decisions, not voter behavior.

3. Model

We study a party composed of a unit-mass continuum of members who belong to one of two factions, $\mathcal{A}$ and $\mathcal{B}$. We denote by $\eta \in [1/2, 1]$ the relative size of faction $\mathcal{A}$, which is without loss of generality the larger faction.

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's electoral performance. Effort e is associated with a quadratic cost $C(e) = e^2/2$.

Mobilization effort improves party performance π, which can be high ($\pi = 1$) or low ($\pi = 0$). We assume that total effort probabilistically increases party performance:

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

where θ captures the responsiveness of electoral performance to mobilization effort (relative to, for example, ideological considerations).

most important consideration when assembling local election lists, and far beyond the next most important consideration (Appendix Figure B.1).

Under low performance, the party controls an amount of resources whose value is normalized to one. Under high performance, instead, the value of the party resources equals $1 + S$. Total party resources as function of party performance can then be written as $1 + \pi S$.

The parameter S captures the *stake* of the election, i.e., the sensitivity of party resources to the electoral outcome.[4] 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, (iii) the amount of discretionary spending that parties can direct, and (iv) increased access to executive positions (e.g., the mayor).

Before their members exert effort, factions negotiate over a contingent division of party resources. This allocation determines, for instance, how party lists are filled. Formally, a division rule specifies a pair (x_i^0, x_i^S), where (i) $x_i^0 \in [0, 1]$ is the share of faction i's resources under low electoral performance and (ii) $x_i^S \in [0, 1]$ is the share of faction i's additional resources under high electoral performance. Since all party resources are divided between the two factions, the resources allocated to factions $\mathcal{A}$ and $\mathcal{B}$ are then, respectively $x_{\mathcal{A}}^0 + x_{\mathcal{A}}^S \pi S$ and $(1 - x_{\mathcal{A}}^0) + (1 - x_{\mathcal{A}}^S)\pi S$.

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 without loss of generality), we assume that they *only* value resources allocated to their own faction. In the Appendix, we relax this assumption and consider a more general version of the model with an arbitrary number of factions whose members value party resources *independently* of their own faction's ability to appropriate them (in line with the idea of ideological motivations), and show that our results generalize to this setting.

Formally, the payoff of member m belonging to faction $i \in \{\mathcal{A}, \mathcal{B}\}$ who exerts effort e under division $\mathbf{x} = (x_{\mathcal{A}}^0, x_{\mathcal{A}}^S)$ and party performance π is given by:

$$u_m(e, \mathbf{x}, \pi) = x_i^0 + x_i^S \pi S - C(e). \tag{2}$$

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

Finally, 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 (Nash, 1950). 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 $\mathbf{x}$:

$$V_i(\mathbf{x}) = \int_{m\in i} \big[\mathbb{E}_\pi\{u_m(e_m(\mathbf{x}), \mathbf{x}, \pi)\} - C(e_m(\mathbf{x}))\big]\, dm, \tag{3}$$

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

$$\max_{\mathbf{x}} V_{\mathcal{A}}(\mathbf{x})^{\alpha} V_{\mathcal{B}}(\mathbf{x})^{(1-\alpha)}. \tag{4}$$

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 not smaller than its size. We refer to the case of $\alpha < \eta$ as *consensus-based negotiations*, since the smaller faction's influence on the division rule is higher than its size would predict.

Using Nash Bargaining allows us to (i) avoid specific assumptions about the protocol that governs these negotiations, and (ii) involve a number of theoretical results showing 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 opaque bargaining processes.

Timing unfolds as follows:

(1) factions' negotiate over a division of resources $\mathbf{x}$;

(2) each party member decides how much effort to exert;

(3) the party electoral performance is realized and resources are allocated according to $\mathbf{x}$.[5]

[5] 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. Since we did not impose an exogenous upper bound on effort choices, we use θ to ensure that the probability of $\pi = 1$ is interior:

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

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* $(x^0_{\mathcal{A}}, x^S_{\mathcal{A}}) = (\eta, \eta)$.

Note that we focus on the equilibrium value of $x^S_{\mathcal{A}}$ (the additional resources $\mathcal{A}$ gets under $\pi = 1$), instead of the total resources obtained by $\mathcal{A}$ under $\pi = 1$ for two reasons. First, the quantity $x^S_{\mathcal{A}}$ is more directly connected to the activists' incentive to exert effort, which plays a crucial role in our theory. Second, it maps more easily into the share of 'contested' ranks on party lists, which is one of our key empirical quantities.

4. Theoretical results

4.1 *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:

$$e_i = \arg\max_e \mathbb{E}\{x^0_i + x^S_i \pi S - C(e)\}, \tag{5}$$

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

$$e_{\mathcal{A}} = \theta x^S_{\mathcal{A}} S, \tag{6}$$

$$e_{\mathcal{B}} = \theta(1 - x^S_{\mathcal{A}}) S. \tag{7}$$

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 is increasing in the share of the stakes going to her faction. Therefore, an increase in $x^S_{\mathcal{A}}$

strengthens the incentive to exert effort for the members of faction $\mathcal{A}$ and weakens the incentive to exert effort for the members of faction $\mathcal{B}$. When $x^S_{\mathcal{A}} = 1/2$, all party activists have the same incentive to exert effort.

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

$$\Pi(\mathbf{x}) \equiv \theta^2 S[\eta x^S_{\mathcal{A}} + (1-\eta)(1-x^S_{\mathcal{A}})]. \tag{8}$$

Notice that the effect of x^S_i, the share of the stakes going to each faction i, is proportional to its size: increasing $x^S_{\mathcal{A}}$ increases party performance by a factor proportional to $2\eta - 1$, the gap in factions' size.

4.2 *Optimal division of the 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 (6) and (7) into $V_i(\mathbf{x})$ we obtain

$$V_{\mathcal{A}}(\mathbf{x}) = x^0_{\mathcal{A}} + \Pi(\mathbf{x}) x^S_{\mathcal{A}} S - \frac{[\theta x^S_{\mathcal{A}} S]^2}{2} \tag{9}$$

$$V_{\mathcal{B}}(\mathbf{x}) = 1 - x^0_{\mathcal{A}} + \Pi(\mathbf{x})(1 - x^S_{\mathcal{A}}) S - \frac{[\theta(1 - x^S_{\mathcal{A}}) S]^2}{2}. \tag{10}$$

The factions' joint payoff equals

$$W(\mathbf{x}) = 1 + \Pi(\mathbf{x}) S - \frac{[\theta x^S_{\mathcal{A}} S]^2}{2} - \frac{[\theta(1 - x^S_{\mathcal{A}}) S]^2}{2}. \tag{11}$$

Our first result shows that in any efficient resource allocation (i.e., one which maximizes the factions' joint payoff), the allocation of the stake S is Gamsonian: 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 $x^S_{\mathcal{A}}$ captures the share of the total incentive to exert effort allocated to members of $\mathcal{A}$. Also notice that, from the perspective of the party, (1) the marginal value of a faction's effort is proportional to its size, since $\Pr(\pi = 1) = \theta(\eta e_{\mathcal{A}} + (1-\eta)e_{\mathcal{B}})$, and (2) equilibrium effort in faction i is proportional to the incentive x_i^S. As a consequence, the marginal effect of increasing $x_{\mathcal{A}}^S$ on expected party performance is proportional to $2\eta - 1$, as pointed out earlier.

Increasing $x_{\mathcal{A}}^S$, however, also affects the total *cost* of effort, which factions care about as well. Since the marginal cost of increasing x_i^S is linear, we find that equalizing the marginal cost and the marginal benefit of $x_{\mathcal{A}}^S$ involves setting $2\eta - 1$ to $2x_{\mathcal{A}}^S - 1$.

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

$$\Pi^* = \theta^2 S[\eta^2 + (1-\eta)^2]. \tag{12}$$

A direct implication of Equation (12) is that for any division rule that *does not* feature $x_{\mathcal{A}}^S = \eta$, there exist another division rule that leads both factions to achieve a higher expected payoff.

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

This result 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. While this is consistent with the well-documented patterns observed in inter-party resource distribution (Warwick and Druckman, 2001; Indridason, 2015), the mechanism we propose is novel: rather than norms of fairness, the proportionality of resources is driven by efficiency considerations: it is the best way to motivate mobilization effort.

4.3 *Optimal division of safe rewards*

How do factions negotiate over safe rewards (i.e., $x_{\mathcal{A}}^0$)? Our analysis reveals that in this case the bargaining weight α plays a crucial role.

Lemma 2. *In equilibrium, we have*

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

Lemma 2 implies that as a faction's bargaining power increases, so does its ability to appropriate safe resources. In addition, 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 a compensation for the equilibrium x^S_i: conditional on high performance, faction $\mathcal{A}$ receives a share of additional resources that is proportional to its size regardless of α. As a result, whenever $\alpha > \eta$ (respectively, $\alpha < \eta$), faction $\mathcal{A}$ (respectively, faction $\mathcal{B}$) needs to be compensated for receiving a share of the stakes that is below its bargaining weight. When $\alpha = \eta$, that term equals zero, indicating that the faction's additional share of resources is proportional to its size, and thus no compensation is needed.

The third term captures a compensation for the higher cost of effort: since in equilibrium the larger faction exerts higher effort and thus suffers a higher cost, she needs to earn a "premium" to make up for that fact. 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.

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

The second key implication of our theory is that 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.

4.4 *The effect of higher stakes*

We conclude our analysis 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 by Proposition 2, the larger faction is under-represented relative to its size in the allocation of safe resources *only when* negotiations are consensus-based. Conversely, the larger faction's share of the contested resources, i.e., the stakes, must be proportional to its size (by Proposition 1), to ensure that incentives are allocated efficiently across factions. As stakes (S) increase, the over-compensation of smaller factions becomes more pronounced when their bargaining power ($1-\alpha$) is sufficiently low. This occurs because even though the smaller faction receives a proportional share of the contingent resources (stakes), higher stakes amplify the need to offset this allocation imbalance with a larger share of the safe resources. In essence, as the stakes grow, the larger faction must concede more certain resources to ensure the smaller faction remains incentivized and cooperative, given its relatively weaker bargaining position.[6]

We can illustrate the Nash Bargaining solution for the two polar cases of strong consensus-based negotiations ($\alpha < \alpha^*$) and majoritarian negotiations ($\alpha \geq \eta$) 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 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 majoritarian negotiations. Again, 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 $x_{\mathcal{A}}^0$ is above the dashed line. Conversely, in the right panel the dashed line overlaps with $x_{\mathcal{A}}^S$, in line with Proposition 1.

[6]Notice that under majoritarian negotiations, the larger faction's ability to impose its will on the smaller faction is so large that the main effect of increasing the stake S is to increase the cost of effort of its member, and to compensate for this $x_{\mathcal{A}}^0$ may actually increase.

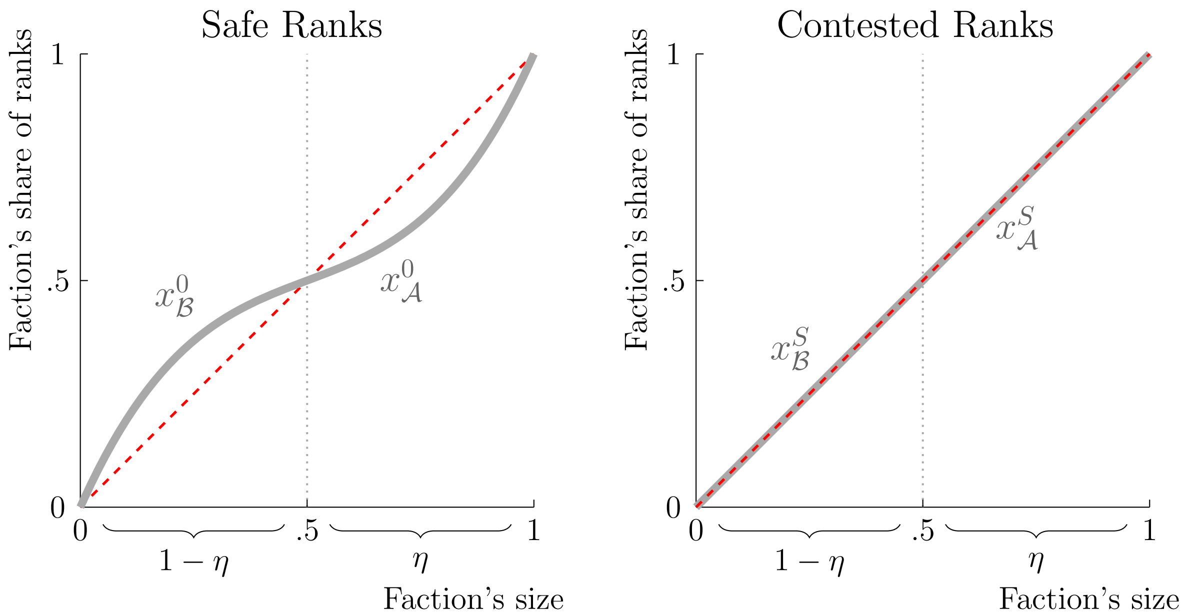


Figure 1 – Strong consensus-based negotiation ($\alpha \leq \alpha^* < \eta$). The solid gray line represents the equilibrium division rule for safe ($x^0_{\mathcal{B}} = 1 - x^0_{\mathcal{A}}$ and $x^0_{\mathcal{A}}$, left) and contested ($x^S_{\mathcal{B}} = 1 - x^S_{\mathcal{A}}$ and $x^S_{\mathcal{A}}$,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

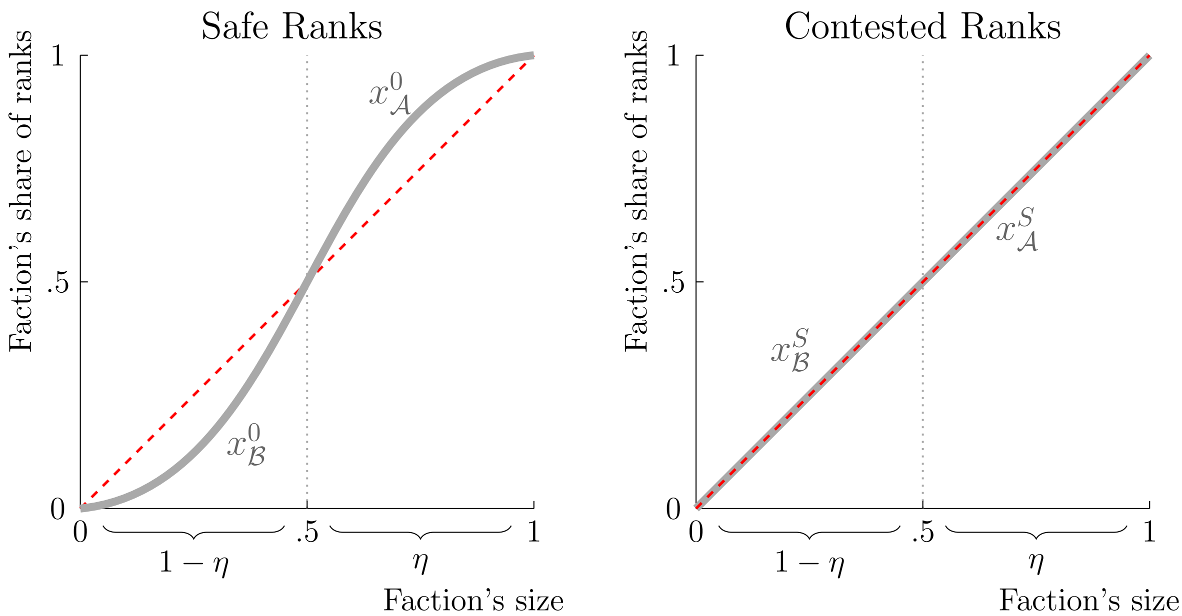


Figure 2 – Majoritarian negotiation ($\alpha \geq \eta$). The solid gray line represents the equilibrium division rule for safe ($x^0_{\mathcal{B}} = 1 - x^0_{\mathcal{A}}$ and $x^0_{\mathcal{A}}$, left) and contested ($x^S_{\mathcal{B}} = 1 - x^S_{\mathcal{A}}$ and $x^S_{\mathcal{A}}$, right) ranks.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

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 sectors 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.2).

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.[7]

5.2 *Municipal Merger Reform*

Municipalities vary dramatically in size, from 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 referendums or citizen surveys.[8]

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

[7]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.

[8]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).

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.[9]

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.[10] 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.

5.3 *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.[11] Each municipality forms a single electoral district.

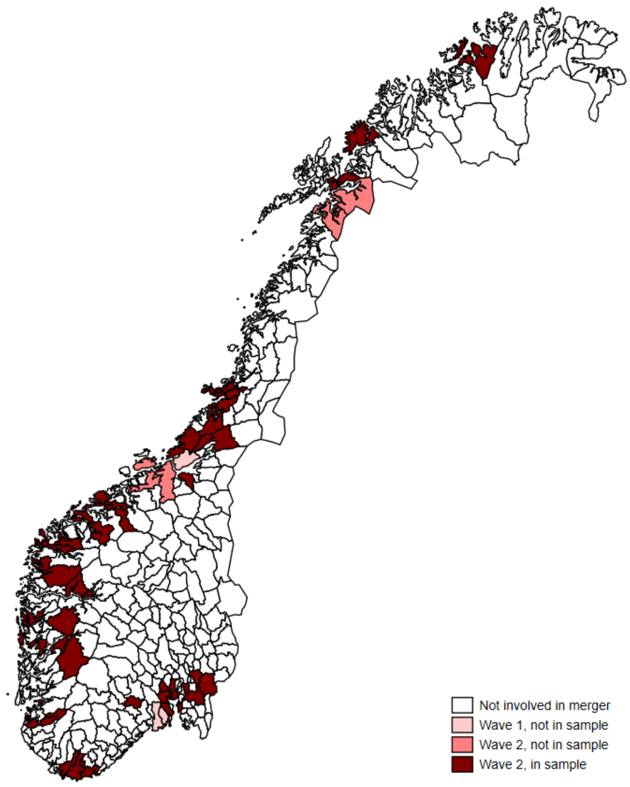
The flexible-list election system provides political parties with important tools for orchestrating political selections. Specifically, it allows parties to give certain candidates a *head start* by increasing their personal vote-share with an additional 25% of the total number of votes received by the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

[9]The newly elected councils started meeting before the year-end, although the new municipalities were not in effect until January 1, 2020. The councils of the pre-mergers continued to perform basic functions until December 31, 2019.

[10]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.

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

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.

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.[12] The number of advantaged candidates on each list split by the maximum allowed is plotted in Appendix Figure B.3. For the vast majority of party lists, the restriction is not binding. In the 2019 local elections 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.

[12] 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.

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% 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.[13] 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 receive 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.

[13]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.

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.[14] The other main parties participated in about two-thirds of the municipalities. However, in the national elections, all seven parties participated in all municipalities.[15] We will leverage this feature in our empirical strategy, as explained below.

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.

[14]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).

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

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.[16] In Figure 4, we can see that the candidates' local affiliation is perceived to be the fourth most important characteristics in the non-merging municipalities and the second most important in the merging ones.

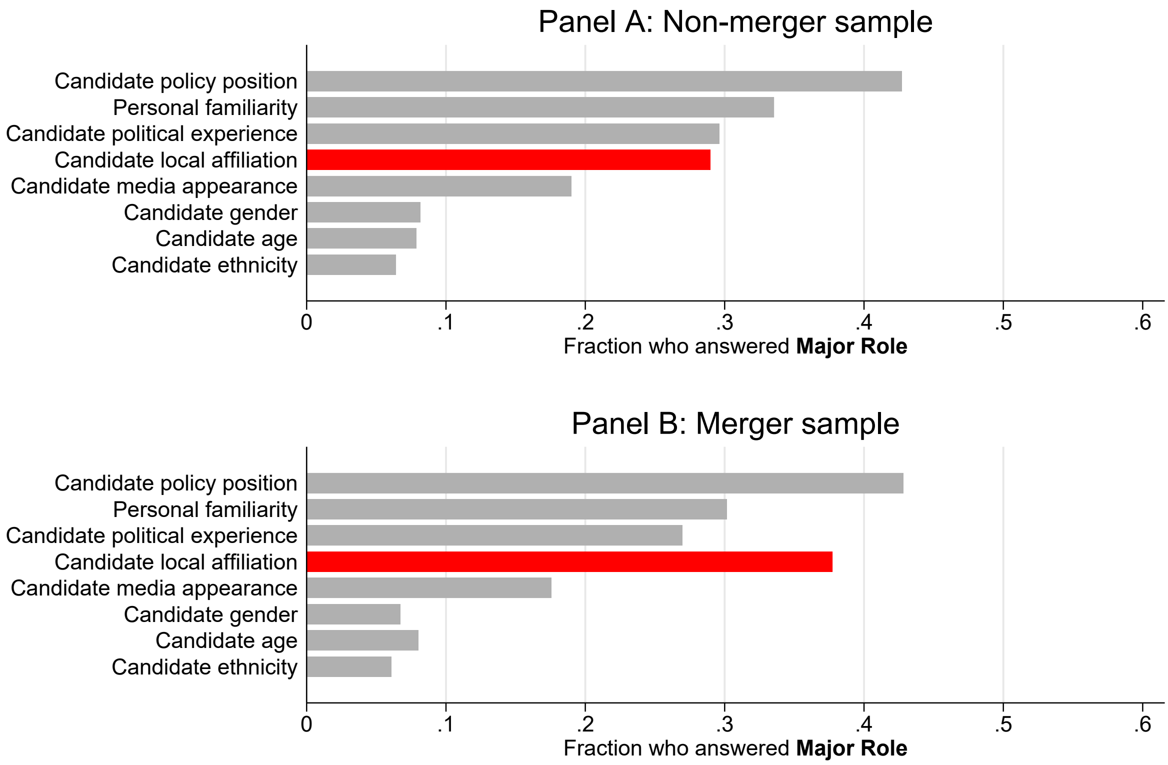
This survey evidence is also consistent with the literature. To begin with, we consider existing evidence from national elections. A large literature shows that representation in a legislative body matters for the geographic distribution of centralized spending (e.g., Ansolabehere, Gerber and Snyder 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 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.[17] 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

[16] 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 (Statistisk sentralbyrå and Institutt for samfunnsforskning, 2022).

[17] 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.

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.

dominant position, with public services being shifted to its center, potentially at the expense of smaller municipalities that are also part of the merger.[18] 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: 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 shows that local politicians have geographic preferences for directing spending to their own pre-merger level municipalities.

6. Empirical Strategy

6.1 *Data*

To test our predictions of intraparty 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.[19]

Our starting sample consists of 8680 candidates running for office in 38 merging municipalities.[20] Each merger municipality consists of between two and five pre-merger municipalities,

[18] Harjunen, Saarimaa and Tukiainen (2021) also show that the mode and intensity in the relocation of services correlates with the political representation of the pre-merger municipalities, 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.

[19] A potential concern could be that candidates decide to move to another municipality after a merger is announced. Our results are robust to excluding candidates who move into their pre-merger after January 1, 2014.

[20] 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, as it is not

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:

$$Size_{ipm} = \frac{Vote_{ipm}}{\sum_{i \in m} Vote_{ipm}}, \tag{13}$$

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. The correlation between 2017 votes and local party membership is very high, as evidenced by Appendix Table B.2. We use voting data from the 2017 national level election, as all seven parties participated in this election in all pre-merger municipalities.[21]

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.5). Safe candidates constitute 10.6% of the overall sample.

It is not obvious where we should set the cut-off between 'contested' and 'hopeless' positions. In our baseline analyses, we classify non-advantaged candidates in the top 30% of the list, excluding advantaged candidates, as contested (25.1% of the sample, of which 22% are

possible to identify their factional affiliation. 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.

[21] An alternative measure of faction size would be their population share. Appendix Figure B.4 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.

ultimately elected).[22] 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.[23] 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.[24]

6.2 *Empirical Specification*

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

$$Y^l_{ipm} = \lambda^l_{pm} + \beta^l_1 Size_{ipm} + \epsilon^l_{ipm}, \tag{14}$$

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 (13), 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. ϵ^l_{ipm} is an error term. We cluster standard errors at the post-merger municipality level.

We extend our baseline model by adding controls in some specifications. Specifically, we control for the faction's number of incumbent councilors on the list and whether it has an incumbent mayor running, as experienced candidates may excel in intraparty bargaining or be more valuable for campaigning and governing. Geographic distance between partner municipalities is included as a proxy for personal relationships, which may influence power-

[22] 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.5).

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

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

sharing. We also control for the pre-merger urban population share to account for the need to represent widely dispersed populations. Finally, we control for candidate characteristics such as the shares of women, young (under 30), and highly educated candidates.

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:

$$Y^l_{ipm} = \lambda^l_{pm} + \gamma^l_1 Size_{ipm} + \gamma^l_2 Size_{ipm} \times TopTwoParty_{pm} + \xi^l_{ipm}, \tag{15}$$

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.

As a complement to this party-level approach, we turn to data from the second election following the municipal reform, where the stakes were arguably lower than in the election directly after the reform. Appendix Figure B.7, based on data from the Norwegian Local Election Surveys, illustrates the percentage of respondents over time who believe that the municipal election outcomes will significantly influence their municipality over the next four years, disaggregated by merger status. The results show that respondents from merging municipalities perceived higher stakes in the 2019 election compared to 2023.

7. Results

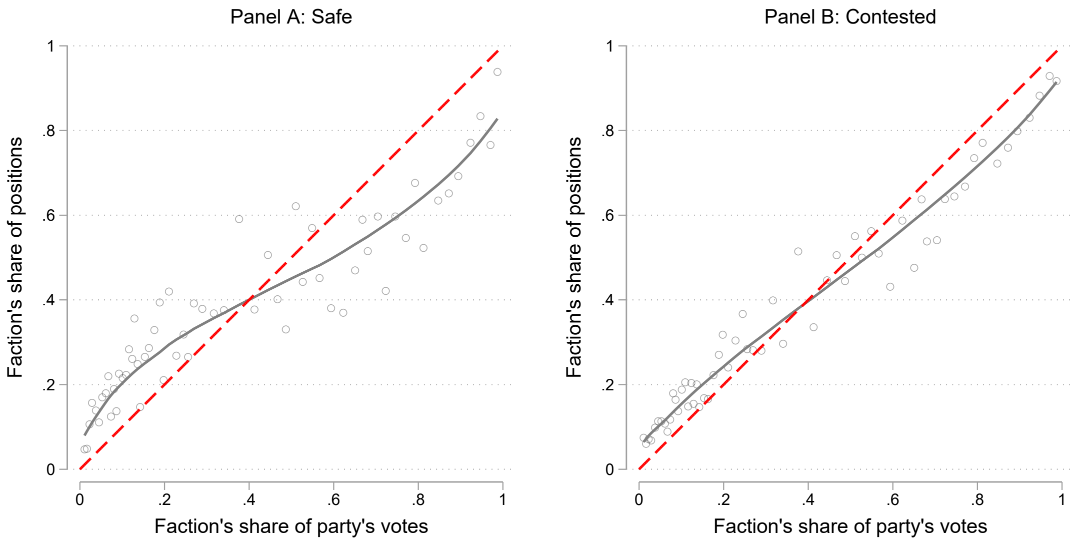
7.1 *Allocation of List Positions*

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).[25] Bigger factions, on the other hand, tend to get a smaller share of safe positions than their relative size dictates.

[25] 98.3% of the biggest factions have more than 40% of the votes and 95.2% have more than 50% of the votes.

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.[26] Overall, Figure 5 is remarkably similar to the theoretical prediction displayed in Figure 1. This result suggests that norms of consensus, promoting equality among factions, play an important role in intraparty negotiations.

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.

In Table 2, we present our main results in a regression framework. Columns (1) and (5) provide the results from simple linear regression models capturing the bivariate relationship between a faction's share of list positions and its share of the party's votes. As we have

[26]Panel A of Appendix Figure B.6 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.6 documents that the overrepresentation of smaller factions in safe and contested list positions carries over to realized election outcomes.

already seen in Figure 5, there is a marked difference in the allocation of safe and contested candidate positions.[27]

In columns (2) and (6) of Table 2 we add local party fixed effects, as specified by Equation (14). 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 points increase in a faction's size is associated with a 5.6 percentage points increase in safe ranks (with a 95% confidence interval spanning from .45 to .67), and a 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 points 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). In columns (3) and (7), we control for candidate incumbency and pre-merger characteristics. Finally, we add our set of controls for candidate characteristics in column (4) and (8). Again, in both of these specifications, the baseline results are robust.

Figure 6 visually displays the coefficient estimates and corresponding 95% confidence intervals. Rather than pooling candidates in the top three deciles 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 allocated similarly across faction sizes (with a coefficient of about 0.8). Therefore, the results in Table 2 are insensitive to the chosen cut-off point between contested and hopeless positions.[28]

[27] A cubic polynomial fit confirms the S-shape observed in Figure 5, as evidenced by the statistical significance of the second- and third-order terms (Appendix Table B.3). However, the R^2 increases only moderately when moving from a linear to a cubic specification (from 0.43 to 0.46).

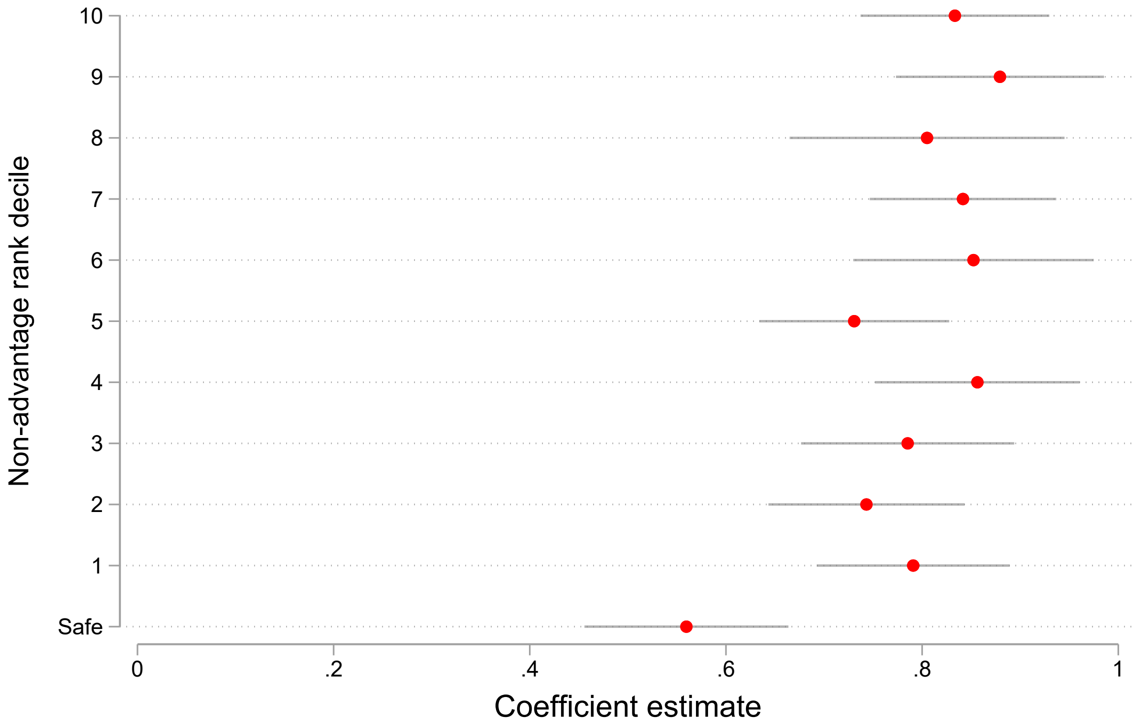
[28] In Appendix Figure B.8, we add the set of controls from column (3) and (7) of Table 2. Although the precision of the estimates reduces, the patterns are the same as in Figure 6.

Table 2 – Main results

	Safe				Contested			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Size	0.616	0.560	0.591	0.544	0.802	0.773	0.739	0.708
	(0.036)	(0.053)	(0.102)	(0.118)	(0.021)	(0.033)	(0.064)	(0.068)
No. of elected in prev. council			0.022	0.022			0.017	0.018
			(0.011)	(0.011)			(0.007)	(0.007)
Mayor in prev. council			-0.045	-0.043			-0.025	-0.024
			(0.050)	(0.051)			(0.035)	(0.036)
Dist. to municipal center (in hours)			0.045	0.042			0.016	0.018
			(0.077)	(0.085)			(0.048)	(0.055)
Population urban share			-0.136	-0.145			-0.016	-0.012
			(0.079)	(0.102)			(0.052)	(0.065)
Female candidate share				0.094				0.011
				(0.074)				(0.067)
Young candidate share				0.071				0.069
				(0.145)				(0.104)
Highly educated candidate share				-0.002				-0.022
				(0.095)				(0.054)
Local party FE	NO	YES	YES	YES	NO	YES	YES	YES
Mean of outcome variable	0.384	0.384	0.384	0.394	0.384	0.384	0.384	0.394
Observations	658	658	658	642	658	658	658	642
Clusters	38	38	38	38	38	38	38	38
R-squared	0.43	0.46	0.47	0.48	0.74	0.74	0.75	0.76

Notes: Columns (1) and (5) 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 (6) represent separate regressions based on Equation (14). 'Safe' list positions are those with the discretionary 25% advantage in personal votes and 'contested' are those in the top 30% of the list 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 (13). In column (3) and (7), 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. In column (4) and (8) we control for factions' females, highly educated and young (under 30) on the list, as share of their total number of candidates.

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



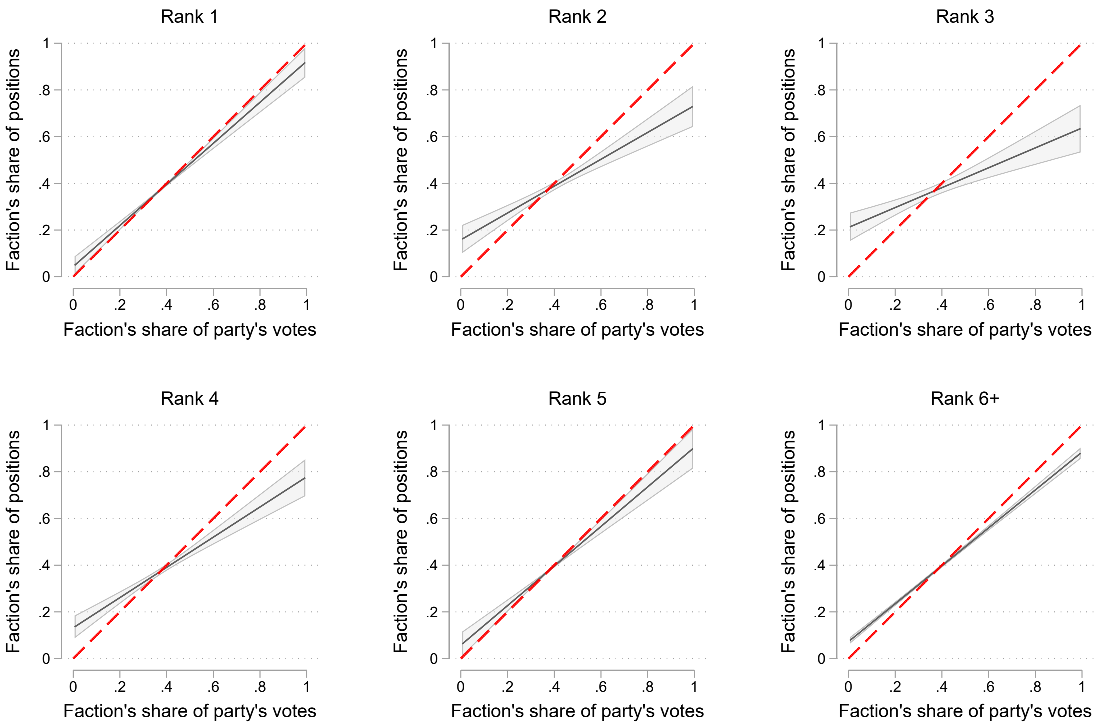
Note: The figure plots estimates of the coefficient of 'Size' from Equation 14 on faction's share of different non-advantage rank decile positions. The estimated coefficient of 'Size' on faction's share of safe positions (Table 2, column 2) is included at the bottom for reference.

7.2 *Robustness*

A possible explanation for 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.

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

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.

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 in Table 2 are robust to various control variables and fixed effects attempting to capture such mechanisms, this concern is alleviated.

If the primary factors driving mergers are economic, geographic, and demographic, it is 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.4. Although this type of analysis has limitations (Gordon and Knight, 2009; Saarimaa and Tukiainen, 2014; Weese, 2015), 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 connections between factions is strongly influencing merger decisions.

It is also worth considering the possibility that parties in large municipalities may have promised to give the parties in small municipalities a disproportionate share of attractive list positions to secure their agreement to the merger. However, such a scenario would require a high level of coordination and commitment, with all parties in the larger municipalities agreeing to cede influence to candidates from smaller municipalities. Still, to alleviate this concern, we show in Appendix Table B.6 that the results are very similar for mergers that were forced by the central government and for the voluntary ones. For example, in the specifications with a full set of controls, we estimate β_1^l from Equation (14) to be 0.568 for voluntary mergers and 0.505 for involuntary mergers. In our baseline specification, pooling both types of mergers, the point estimate is 0.544 (Table 2, column 4).

7.3 *Heterogeneous Effects: the Role of Stakes*

Next, we analyze how the allocation of list positions varies with the stakes of the election. Our theory predicts that if larger factions are under-represented in safe positions (as we found in Section 7.1), higher stakes should magnify this under-representation.

To evaluate this prediction empirically, we first use a party's expected top-two status as a proxy for electoral stakes. The rationale is that the two largest parties are competing to become the primary governing party, meaning that high electoral performance does not only lead to more seats but also to control of key executive positions such as the mayoralty. Table 3 displays the results of heterogeneous effects by election stakes. The variable 'Top-two party' indicates whether a party was expected to be among the two largest parties in the 2019 election.

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)	(7)	(8)
Size	0.658	0.607	0.630	0.584	0.821	0.794	0.762	0.731
	(0.052)	(0.076)	(0.101)	(0.116)	(0.028)	(0.043)	(0.064)	(0.066)
Top-two party	0.054				0.023			
	(0.031)				(0.016)			
Size × Top-two party	-0.134	-0.148	-0.395	-0.397	-0.058	-0.064	-0.239	-0.230
	(0.081)	(0.120)	(0.127)	(0.115)	(0.042)	(0.061)	(0.069)	(0.077)
Local party FE	NO	YES	YES	YES	NO	YES	YES	YES
Incumbency and pre-merger controls	NO	NO	YES	YES	NO	NO	YES	YES
Candidate characteristic controls	NO	NO	NO	YES	NO	NO	NO	YES
Mean of outcome variable	0.384	0.384	0.384	0.394	0.384	0.384	0.384	0.394
Observations	658	658	658	642	658	658	658	642
Clusters	38	38	38	38	38	38	38	38
R-squared	0.44	0.46	0.49	0.50	0.74	0.75	0.76	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 6 represent separate regressions based on Equation (15). In column 3 and 7, 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. In column 4 and 8 we control for factions' females, highly educated and young (under 30) on the list, as share of their total number of candidates.

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

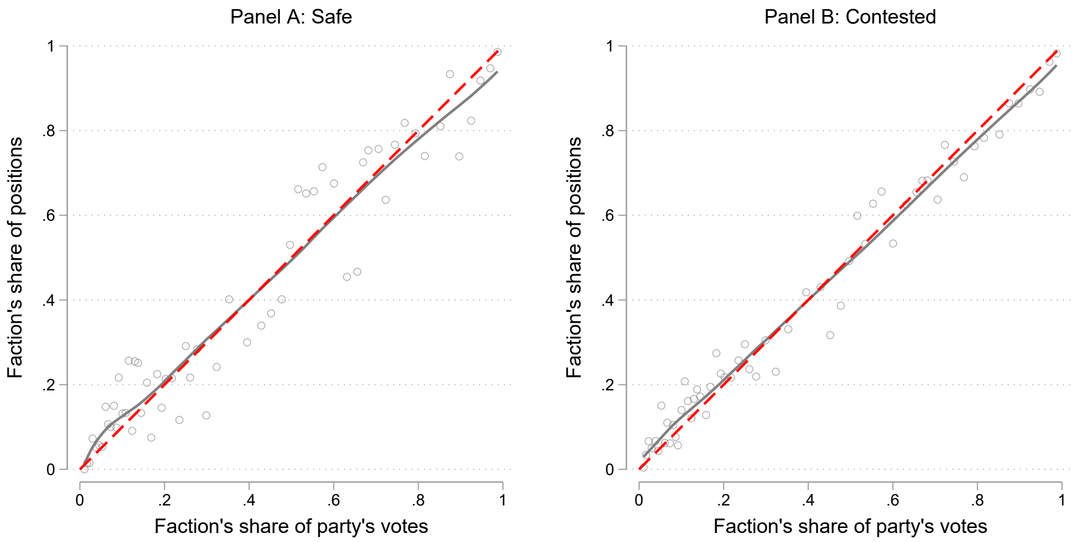
In addition to this party-level measure, we can assess the stakes of an election using an aggregate measure. To achieve this, we rely on the results from the 2023 municipal election, where the stakes are arguably lower. In contrast to the 2019 election, which involved numerous long-term governance decisions that would shape the status quo in subsequent years, the 2023 election brought only incremental changes to local public service provision. Thus, from the perspective of intraparty divisions, the stakes in 2023 were lower than in 2019.

Figure 8 illustrates that in the 2023 election, both types of positions were allocated more proportionally to faction size compared to 2019.[29] This outcome aligns with Proposition

[29] Note that some municipalities decreased the size of their council from 2020 to 2024, thereby reducing the number of seats available in the 2023 election. However, we do not find notable differences in allocations between municipalities that reduced their council size and those that did not.

3, demonstrating that the over-representation of smaller factions is more pronounced when the stakes are high, as seen in the 2019 election. Appendix Figure B.9 also reveals that we continue to observe an over-payment to the smaller factions in 'safe' positions among parties competing for the mayoral position in 2023.

Figure 8 – Allocation of list positions in the 2023 election.



Note: The figure displays the allocation of 'safe' (panels A) and 'contested' (panels B) list positions in the 2023 election as a function of the faction's share of the party's votes in the 2017 national elections, categorized into 60 equal-sized bins. The black line is obtained using locally weighted scatter plot smoothing (lowess). The red line represents the Gamsonian allocation.

Overall, these results indicate that the stakes of an election significantly shape how list positions are distributed. In high-stakes contexts, over-representation of smaller factions becomes a strategic tool for building internal cohesion and maximizing electoral outcomes, while lower-stakes elections tend to follow a more proportional, size-based approach. These findings provide novel insights into the conditions under which smaller factions gain influence within parties. Our evidence shows that the stakes of the election play a crucial role in shaping how power is distributed among factions, with consensus-based arrangements becoming more prominent when the party's performance and control over executive positions are on the line.

8. Conclusion

Factions play a crucial role in the internal dynamics of modern political parties, shaping decisions on candidate selection, policy platforms, and resource allocation. Despite their importance, studying factions is challenging due to their often informal, fluid, and opaque nature. In this article, we address this challenge by studying both theoretically and empirically how parties share power internally. We use data from local elections in Norway following a wave of municipal mergers to develop a geography-based measure of candidates' factional affiliation, and to quantify how factions divide up a scarce resource—ranks on party lists.

Our theory is based on the premise that parties set up internal power-sharing rules to incentivize mobilization efforts by their members. It produces different predictions about contested list positions (i.e., those which only result in a seat when the party does well) and safe list positions (i.e., those which almost always result in a seat). In contested list positions, factions should receive a number of candidates proportional to their size. In contrast, our predictions regarding safe list positions depend the norms that structure intraparty bargaining (consensus-based negotiations versus internal majoritarianism) and on the importance of the electoral outcome for party resources, i.e., the stake of the election.

Our empirical analysis shows that (i) factions' share of contested list positions are roughly proportional to their size and that (ii) smaller factions tend to be over-compensated in terms of their relative share of safe list positions, especially when the stakes are high. This findings align with our consensus-based model of intraparty bargaining where smaller factions have significant bargaining power due, for instance, to strong norms of consensus or an extrinsic political cost associated with party disunity.

We focus on Norway as it provides a unique empirical setting to study political factions, enabling us to measure both factional divisions and the scarce resources they share. However, our findings are relevant beyond Norway and extend to settings where factions negotiate over distributive resources, such as policies targeting specific population groups. Moreover, geography is a salient dimension of factional organization beyond local politics; for instance, many Western European parties are structured hierarchically along territorial lines, creating multi-level organizations analogous to those studied here.

While we believe our findings generalize to many of these parties, further research is needed to assess the weight of contextual factors that are absent from our setting, or clearly second-order. Our theory should be tested in a setting where factions can be distinguished ideologically rather than geographically. Consider the case of France, where 138 *micro-parti* ("mini-parties") function as factions backing prominent candidates. These factions primarily channel campaign funding, which can serve as a proxy for mobilization. Future research could complement our findings by exploring how these funds shape voter mobilization. More generally, our work highlights the consensual nature of intra-party rules, norms, and cultures, but it only scratches the surface of a broader research agenda on how intra-party dynamics arise, evolve, and shape political and policy outcomes.

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Online Appendix A: Theoretical Results

A.1: Proofs of Formal Statements

Optimal effort choices. Expressions 6 and 7 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[30] 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

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

[30] 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 $x^S_{\mathcal{A}} = \eta$ in $V_{\mathcal{A}}(\mathbf{x})$ and $V_{\mathcal{B}}(\mathbf{x})$ yields

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

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

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

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

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

This completes the proof. □

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

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

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

Second, observe that

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

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. □

A.2. Generalized Model

Consider a more general version of the model with k factions, ordered by size, so without loss of generality, $\eta_i > \eta_j$ implies $i > j$. We introduce ideology by assuming that factions value, to some extent, party resources, *independently* of their own faction's share of them. Formally, the payoff of a member m of faction i is equal to

$$\phi + (1-\phi)x_i^0 + \pi S[\phi + (1-\phi)x_i^S] - \frac{e_m^2}{2}, \tag{16}$$

where $\phi \in [0,1]$ captures, in a stylized manner, the importance of ideological considerations (relative to the resources considered in the baseline). The model we study in the body of the paper corresponds to the special case of $k = 2$ and $\phi = 0$.

Equation 16 implies that optimal effort and associated probability of high performance under division rule $(\mathbf{x}^0, \mathbf{x}^S) = \left(\{x_i^0\}_{i=1}^k, \{x_i^S\}_{i=1}^k\right)$ are given by

$$e_i^*(\mathbf{x}^S) = \theta S[\phi + (1-\phi)x_i^S] \tag{17}$$

$$\Pi(\mathbf{x}^S) = S\theta^2 \left[\phi + (1-\phi)\sum_{i=1}^k \eta_i x_i^S\right] \tag{18}$$

Substituting back into each faction's expected payoff and factions' joint payoff we obtain

$$V_i(\mathbf{x}^0, \mathbf{x}^S) = \phi + (1-\phi)x_i^0 + \Pi(\mathbf{x}^S)S[\phi + (1-\phi)x_i^S] - \frac{\theta^2 S^2[\phi + (1-\phi)x_i^S]^2}{2} \tag{19}$$

$$W(\mathbf{x}^S) = \sum_{i=1}^k V_i(\mathbf{x}^0, \mathbf{x}^S) = (k\phi + 1 - \phi)(1 + S\Pi(\mathbf{x}^S)) - \sum_{i=1}^k \frac{\theta^2 S^2[\phi + (1-\phi)x_i^S]^2}{2} \tag{20}$$

Differentiating $W(\mathbf{x}^S)$ with respect to each x_i^S yields

$$(k\phi + 1 - \phi)S^2\theta^2(1-\phi)\eta_i = \theta^2 S^2[\phi + (1-\phi)x_i^S](1-\phi)$$
$$\Leftrightarrow \quad x_i^S = \frac{\phi}{1-\phi}[\eta_i k - 1] + \eta_i \equiv Q_i^S$$

Notice that $Q_i > \eta_i$ if and only if $\eta_i > 1/k$ and $\lim_{\phi \to 0} Q_i = \eta_i$. In words: larger factions should be over-represented in the contested ranks, and this over-representation declines with the importance of ideology.

The equilibrium probability of high performance is then $\Pi^* = S\theta^2 \left[\phi + (1-\phi)\sum_{i=1}^{k} \eta_i Q_i^S\right]$. From this, we obtain that the optimal division rule of the safe rewards satisfies:

$$\max_{\mathbf{x}^0} \sum_{i=1}^{k} \alpha_i \left\{ \phi + (1-\phi)x_i^0 + \Pi^* S[\phi + (1-\phi)Q_i^S] - \frac{\theta^2 S^2 [\phi + (1-\phi)Q_i^S]^2}{2} \right\},$$

where α_i denotes the bargaining weight of faction i in the Nash bargaining problem. For every pair of factions $i > j$, we obtain that in equilibrium

$$\begin{aligned} &\alpha_i \left\{ \phi + (1-\phi)x_j^0 + \Pi^* S[\phi + (1-\phi)Q_j^S] - \frac{\theta^2 S^2 [\phi + (1-\phi)Q_j^S]^2}{2} \right\} \\ =&\alpha_j \left\{ \phi + (1-\phi)x_i^0 + \Pi^* S[\phi + (1-\phi)Q_i^S] - \frac{\theta^2 S^2 [\phi + (1-\phi)Q_i^S]^2}{2} \right\} \end{aligned}$$

Since in equilibrium $\phi + (1-\phi)Q_i^S = \eta_i(k\phi + 1 - \phi)$, this yields

$$\alpha_j x_i^0 - \alpha_i x_j^0 = \left\{ \begin{array}{c} \frac{\phi(1+\Pi^* S)(\alpha_i - \alpha_j)}{1-\phi} + (\alpha_i Q_j^S - \alpha_j Q_i^S)\Pi^* S + \\ \\ \frac{\theta^2 S^2 \alpha_j [(k-1)\phi+1]^2 \eta_i^2 - \alpha_i [(k-1)\phi+1]^2 \eta_j^2}{2} \end{array} \right\}$$

Notice that under proportional bargaining ($\alpha_i = \eta_i$ and $\alpha_j = \eta_j$) we obtain

$$\eta_j x_i^0 - \eta_i x_j^0 = \left\{ \begin{array}{c} \frac{\phi(1+\Pi^* S)(\eta_i - \eta_j)}{1-\phi} + (\eta_i Q_j^S - \eta_j Q_i^S)\Pi^* S + \\ \\ +\theta^2 S^2 \eta_i \eta_j \frac{[(k-1)\phi+1]^2 (\eta_i - \eta_j)}{2} \end{array} \right\} \tag{21}$$

By inspection, the last term in the right-hand side is strictly positive. Moreover, using the fact that $(1-\phi)Q_i^S = \eta_i[(k-1)\phi + 1] - \phi$, we obtain

$$\phi(\eta_i - \eta_j) = (1-\phi)(\eta_i Q_j^S - \eta_j Q_i^S),$$

which implies that the sum of the first two terms on the right-hand side is also strictly positive. As a result, we must have $\eta_j x_i^0 > \eta_i x_j^0$, that is $\frac{x_i^0}{\eta_i} > \frac{x_j^0}{\eta_j}$. This has several implications for proportional bargaining: first, there exists a cutoff size η^* such that a faction is over-represented only if its size is above η^* ($\frac{x_i^0}{\eta_i} > 1$ if and only if $\eta_i > \eta^*$). Second, over-representation above η^* is increasing in size and under-representation below η^* is increasing in size. Third, these patterns are amplified by S, by inspection of equation (21). We conclude that Propositions 2 and 3 generalize to this setting.

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	
	221 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	No	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 – Two-way frequency table of local party membership and 2017 votes.

	2017 Vote Group							
Members	1	2	3	4	5	6	7	Total
$1-10$	9	8	2	3	0	2	0	24
$11-20$	14	28	26	3	1	0	0	72
$21-50$	0	36	126	46	3	2	0	213
$51-100$	0	0	51	88	33	0	1	173
$101-200$	1	0	8	28	48	9	0	94
$201-500$	0	0	0	5	9	31	2	47
> 500	0	0	0	0	0	3	9	12
Total	24	72	213	173	94	47	12	635

Note: This table reports the local parties' 2019 membership against their 2017 votes. The data on membership is from the 2019 Survey on Municipal Parties and Local Lists, which asks local party leaders to report their party's approximate membership using the categories reported in the leftmost column. We group the parties' number of 2017 votes into categories matching the number of observations in each of the membership categories, resulting in cutoffs at 64, 162, 538, 1326, 3440 and 11123 votes. We report data on all local parties in the survey, regardless of their merger status. For post-merger parties, we aggregate the votes of the pre-mergers. Post-mergers which included split pre-mergers are excluded. The spearman rank correlation between the two variables is 0.75.

Table B.3

	Safe				Contested			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Size	1.962	1.906	1.898	1.766	1.401	1.141	0.954	0.877
	(0.265)	(0.378)	(0.455)	(0.523)	(0.196)	(0.334)	(0.318)	(0.319)
Size^2	-3.570	-3.780	-3.613	-3.343	-1.656	-1.465	-1.160	-1.048
	(0.705)	(0.897)	(0.955)	(1.123)	(0.512)	(0.743)	(0.712)	(0.724)
Size^3	2.455	2.701	2.563	2.373	1.172	1.240	1.064	0.997
	(0.488)	(0.640)	(0.669)	(0.795)	(0.337)	(0.458)	(0.447)	(0.466)
No. of elected in prev. council			0.016	0.017			0.016	0.017
			(0.011)	(0.011)			(0.006)	(0.007)
Mayor in prev. council			-0.041	-0.040			-0.023	-0.023
			(0.050)	(0.051)			(0.034)	(0.034)
Dist. to municipal center (in hours)			0.010	0.012			-0.010	-0.006
			(0.073)	(0.082)			(0.045)	(0.050)
Population urban share			-0.162	-0.170			-0.022	-0.017
			(0.071)	(0.092)			(0.051)	(0.062)
Female candidate share				0.074				0.002
				(0.072)				(0.066)
Young candidate share				0.062				0.057
				(0.142)				(0.107)
Highly educated candidate share				-0.027				-0.030
				(0.092)				(0.055)
Local party FE	NO	YES	YES	YES	NO	YES	YES	YES
Mean of outcome variable	0.384	0.384	0.384	0.394	0.384	0.384	0.384	0.394
Observations	658	658	658	642	658	658	658	642
Clusters	38	38	38	38	38	38	38	38
R-squared	0.46	0.48	0.49	0.50	0.74	0.75	0.76	0.76

Note: Note: Columns (1) and (5) provides the results from a cubic polynomial regression of faction's share of list positions on faction's share of party's votes. In column (2) and (6) we add local party fixed effects. In column (3) and (7), 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. In column (4) and (8) we control for factions' females, highly educated and young (under 30) on the list, as share of their total number of candidates.

Table B.4 – 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.5 – Main results measuring faction size in terms of their population share.

	Safe				Contested			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Size	0.584	0.522	0.519	0.492	0.777	0.744	0.691	0.674
	(0.038)	(0.056)	(0.096)	(0.106)	(0.023)	(0.035)	(0.058)	(0.059)
No. of elected in prev. council			0.032	0.031			0.028	0.028
			(0.011)	(0.011)			(0.008)	(0.008)
Mayor in prev. council			-0.028	-0.025			0.001	0.003
			(0.051)	(0.052)			(0.039)	(0.039)
Dist. to municipal center (in hours)			0.032	0.041			0.016	0.029
			(0.063)	(0.074)			(0.033)	(0.039)
Population urban share			-0.130	-0.145			-0.034	-0.032
			(0.083)	(0.105)			(0.064)	(0.072)
Female candidate share				0.089				0.004
				(0.076)				(0.074)
Young candidate share				0.087				0.086
				(0.149)				(0.106)
Highly educated candidate share				-0.005				-0.030
				(0.099)				(0.059)
Local party FE	NO	YES	YES	YES	NO	YES	YES	YES
Mean of outcome variable	0.384	0.384	0.384	0.394	0.384	0.384	0.384	0.394
Observations	658	658	658	642	658	658	658	642
Clusters	38	38	38	38	38	38	38	38
R-squared	0.39	0.42	0.44	0.46	0.69	0.70	0.72	0.74

Note: Columns (1) and (5) provides the results from simple linear regressions of faction's share of list positions on faction's population share. Columns (2) and (6) represent separate regressions based on Equation (14). In column (3) and (7), 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. In column (4) and (8) we control for factions' females, highly educated and young (under 30) on the list, as share of their total number of candidates.

Table B.6 – Main results split by voluntary status of merger.

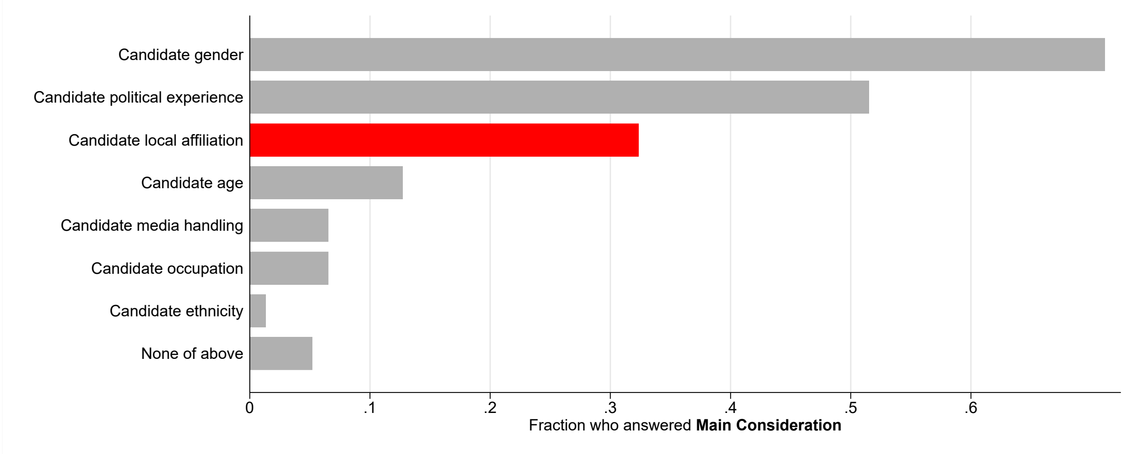
Panel A: Voluntary

	Safe				Contested			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Size	0.597	0.560	0.623	0.568	0.811	0.794	0.747	0.718
	(0.506 0.688)	(0.422 0.699)	(0.311 0.936)	(0.197 0.939)	(0.767 0.855)	(0.727 0.861)	(0.597 0.898)	(0.546 0.891)
	[0.502 0.688]	[0.454 0.661]	[0.382 0.927]	[0.252 0.907]	[0.766 0.853]	[0.743 0.842]	[0.631 0.876]	[0.573 0.866]
No. of elected in prev. council			0.023	0.021			0.019	0.019
			(-0.005 0.051)	(-0.005 0.048)			(0.001 0.037)	(0.001 0.037)
			[0.001 0.047]	[-0.000 0.043]			[0.005 0.035]	[0.006 0.035]
Mayor in prev. council			-0.014	-0.010			-0.021	-0.021
			(-0.142 0.113)	(-0.148 0.128)			(-0.105 0.062)	(-0.107 0.064)
			[-0.109 0.085]	[-0.111 0.097]			[-0.083 0.045]	[-0.084 0.045]
Dist. to municipal center (in hours)			0.090	0.079			-0.016	-0.021
			(-0.200 0.381)	(-0.234 0.393)			(-0.101 0.068)	(-0.121 0.078)
			[-0.040 0.540]	[-0.063 0.560]			[-0.056 0.167]	[-0.127 0.182]
Population urban share			-0.134	-0.154			-0.043	-0.053
			(-0.340 0.072)	(-0.431 0.123)			(-0.163 0.076)	(-0.211 0.105)
			[-0.316 0.022]	[-0.412 0.061]			[-0.138 0.070]	[-0.181 0.084]
Female candidate share				0.142				0.094
				(-0.069 0.352)				(-0.074 0.262)
				[-0.005 0.327]				[-0.031 0.242]
Young candidate share				0.239				0.084
				(-0.238 0.716)				(-0.262 0.430)
				[-0.161 0.694]				[-0.138 0.462]
Highly educated candidate share				-0.008				-0.040
				(-0.343 0.327)				(-0.204 0.123)
				[-0.242 0.258]				[-0.162 0.072]
Local party FE	NO	YES	YES	YES	NO	YES	YES	YES
Mean of outcome variable	0.426	0.426	0.426	0.436	0.426	0.426	0.426	0.436
Observations	465	465	465	454	465	465	465	454
Clusters	30	30	30	30	30	30	30	30
R-squared	0.41	0.43	0.45	0.46	0.74	0.75	0.76	0.76

Panel B: Involuntary

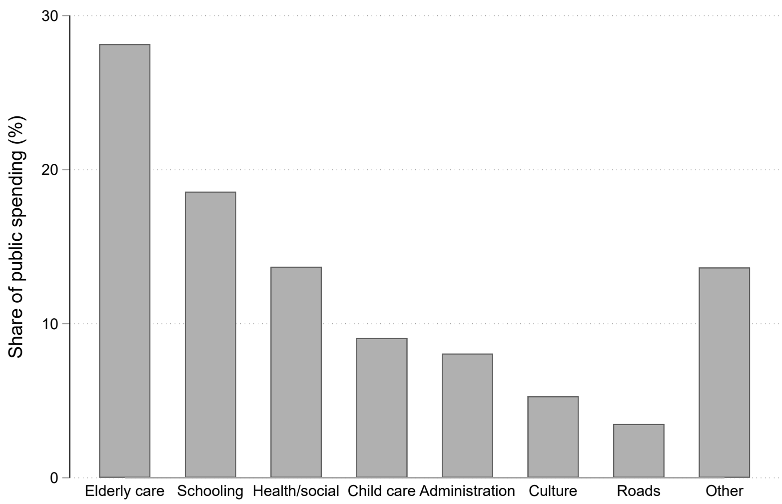
	Safe				Contested			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Size	0.603	0.557	0.540	0.505	0.733	0.702	0.684	0.630
	(0.481 0.726)	(0.401 0.713)	(0.275 0.804)	(0.321 0.690)	(0.580 0.887)	(0.495 0.909)	(0.390 0.977)	(0.483 0.777)
	[0.488 0.757]	[0.418 0.716]	[0.298 0.868]	[0.338 0.751]	[0.584 0.915]	[0.473 0.908]	[0.453 1.090]	[0.514 0.810]
No. of elected in prev. council			0.021	0.022			0.014	0.019
			(-0.027 0.068)	(-0.024 0.068)			(-0.014 0.042)	(-0.003 0.041)
			[-0.017 0.079]	[-0.014 0.077]			[-0.015 0.051]	[-0.002 0.057]
Mayor in prev. council			-0.161	-0.156			-0.025	-0.040
			(-0.342 0.019)	(-0.336 0.024)			(-0.236 0.185)	(-0.256 0.175)
			[-0.415 -0.045]	[-0.401 -0.051]			[-0.219 0.175]	[-0.229 0.163]
Dist. to municipal center (in hours)			-0.029	-0.015			0.056	0.070
			(-0.134 0.077)	(-0.142 0.113)			(-0.073 0.186)	(-0.085 0.225)
			[-0.163 0.305]	[-0.203 0.331]			[-0.078 0.454]	[-0.087 0.445]
Population urban share			-0.162	-0.143			0.043	0.074
			(-0.348 0.024)	(-0.377 0.092)			(-0.200 0.285)	(-0.190 0.338)
			[-0.375 0.158]	[-0.379 0.200]			[-0.234 0.331]	[-0.254 0.392]
Female candidate share				0.005				-0.134
				(-0.274 0.283)				(-0.424 0.157)
				[-0.316 0.273]				[-0.389 0.088]
Young candidate share				-0.014				0.075
				(-0.383 0.355)				(-0.277 0.428)
				[-0.321 0.296]				[-0.285 0.400]
Highly educated candidate share				-0.004				-0.013
				(-0.110 0.101)				(-0.159 0.134)
				[-0.099 0.093]				[-0.146 0.160]
Local party FE	NO	YES	YES	YES	NO	YES	YES	YES
Mean of outcome variable	0.285	0.285	0.285	0.293	0.285	0.285	0.285	0.293
Observations	193	193	193	188	193	193	193	188
Clusters	8	8	8	8	8	8	8	8

Figure B.1 – Survey evidence on key considerations for assembling local election lists.



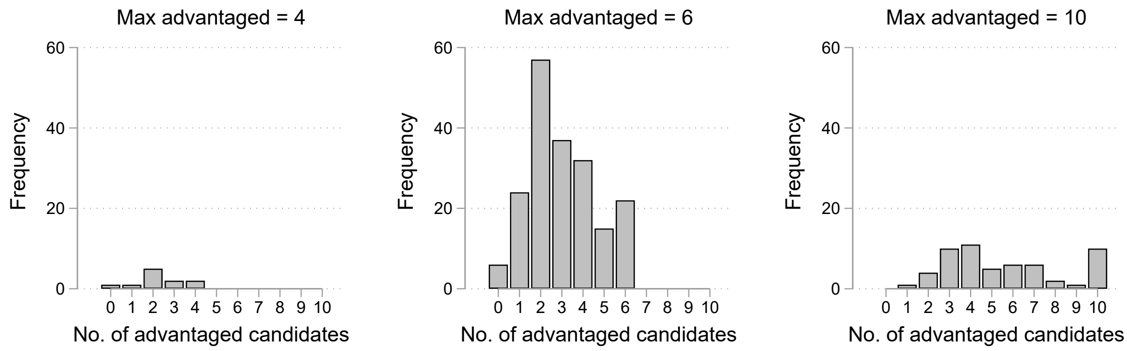
Note: The figure shows the fraction of local party leaders (N=825) who identified the candidate characteristic listed in the legend as the most important factor in assembling the nomination list for the local election. Respondents can choose up to two categories. The exact wording of the 'local affiliation' category is: "geography (affiliation to a specific part of the municipality)". The data is from the Survey on Municipal Parties and Local Lists conducted in 2019.

Figure B.2 – Average spending on different sectors among municipalities in 2020.



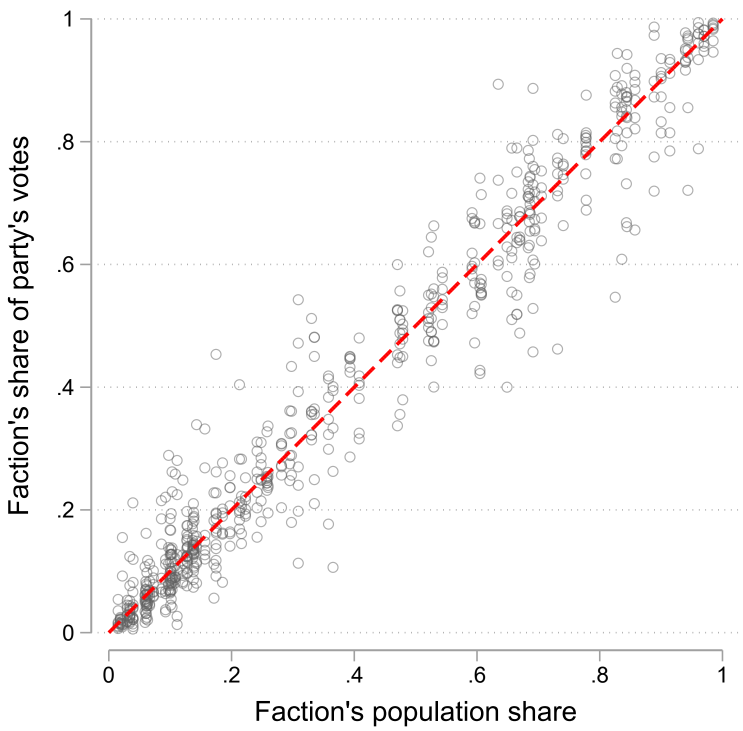
Note: The figure plots the municipality average spending on different sectors, as percentage share of their total public spending in 2020. Spending is the sum of gross current expenditures and gross investment for the various sectors.

Figure B.3 – Number of advantaged candidates on each list split by the maximum allowed.



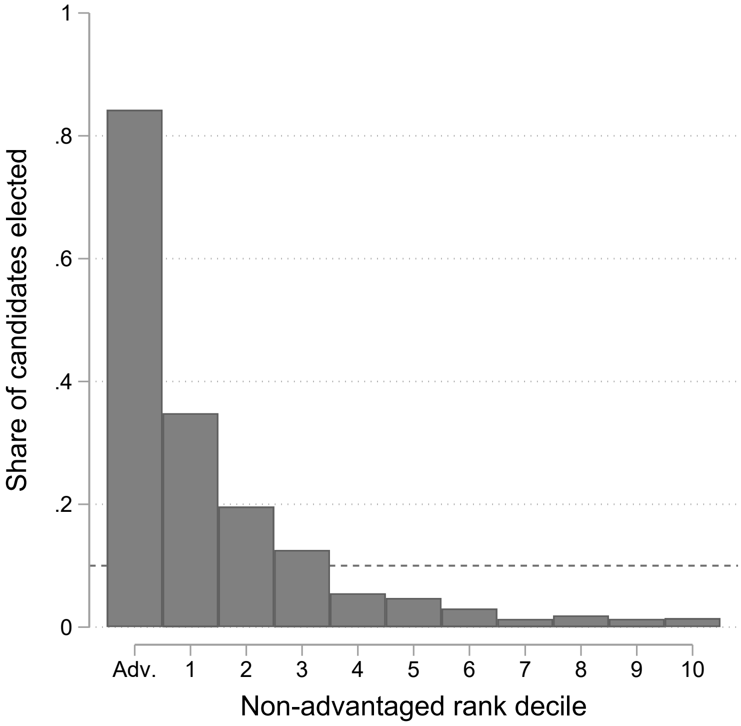
Note: The figures plot histograms of the number of lists with different numbers of advantaged candidates, split by the number of advantaged candidates they are allowed. The left figure plots the distribution for lists that are allowed maximum 4 advantaged candidates, the middle for those allowed maximum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

Figure B.4 – Scatter plot of different measures of faction size.



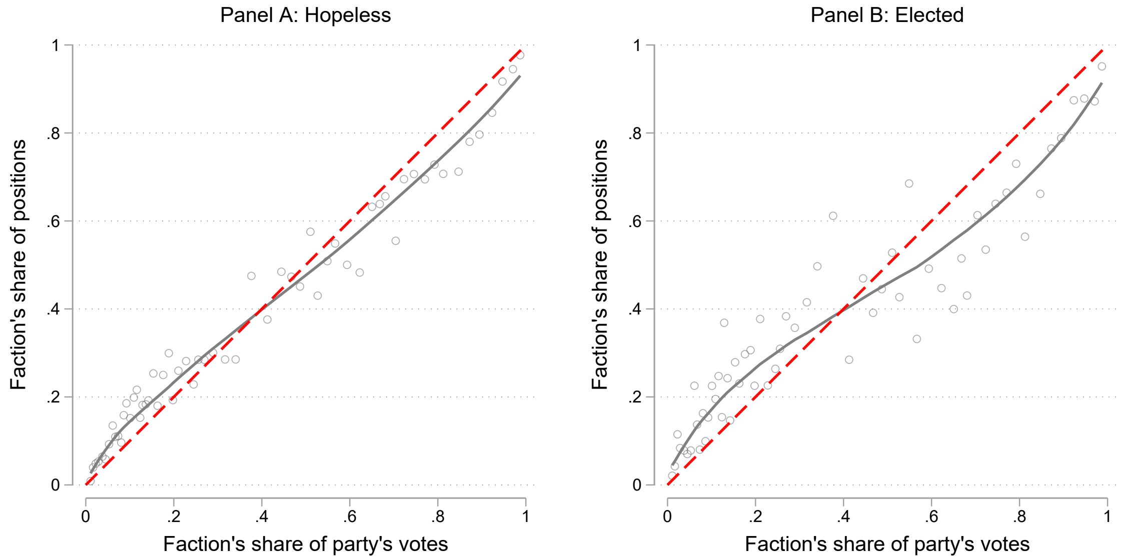
Note: The figure plots each faction's size, measured by their share of the party's votes (y axis) and their population share (x axis), both relative to the other factions in the post-merger party. A faction's share of the party's votes is calculated according to equation 13. A faction's population share 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.5 – 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.6 – Allocation of hopeless list positions and elected candidates according to faction size.



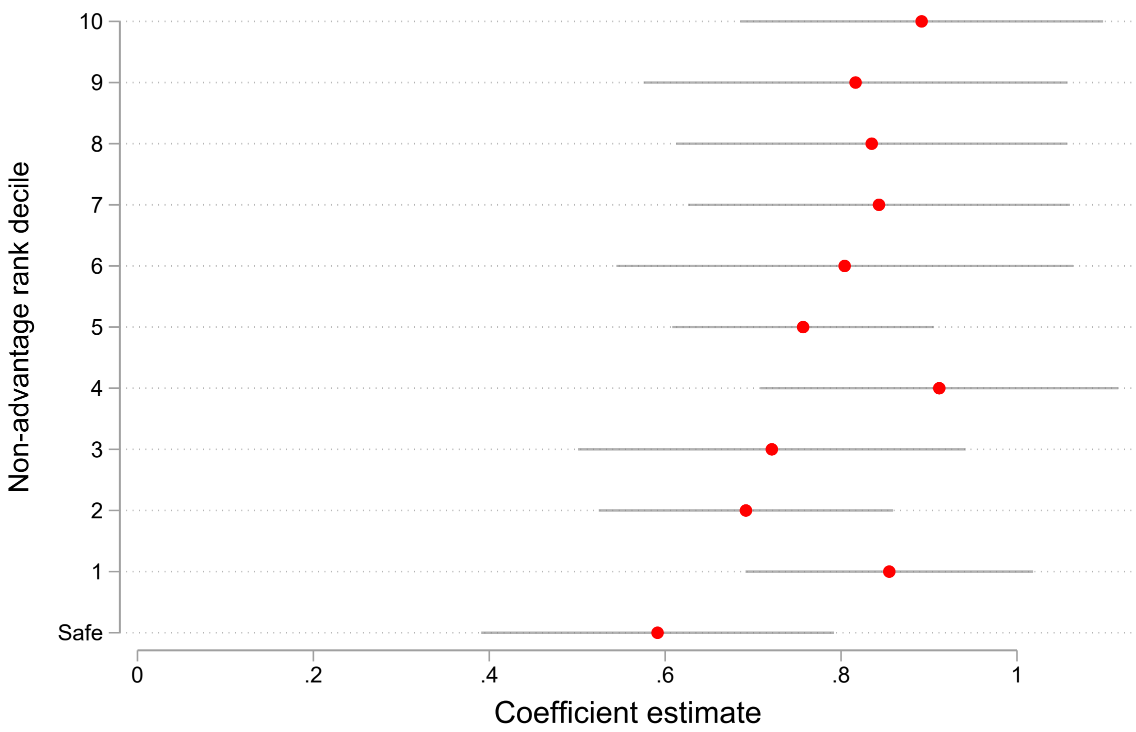
Note: Panel A displays factions' share of 'hopeless' positions in the 2019 local elections as a function of the faction's share of the party's votes in the 2017 national elections, categorized into 60 equal-sized bins. Panel B similarly plots factions' share of elected candidates in the 2019 local elections 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.7 – Survey evidence on perceived election stakes

Cannot show this figure due to data security issues.

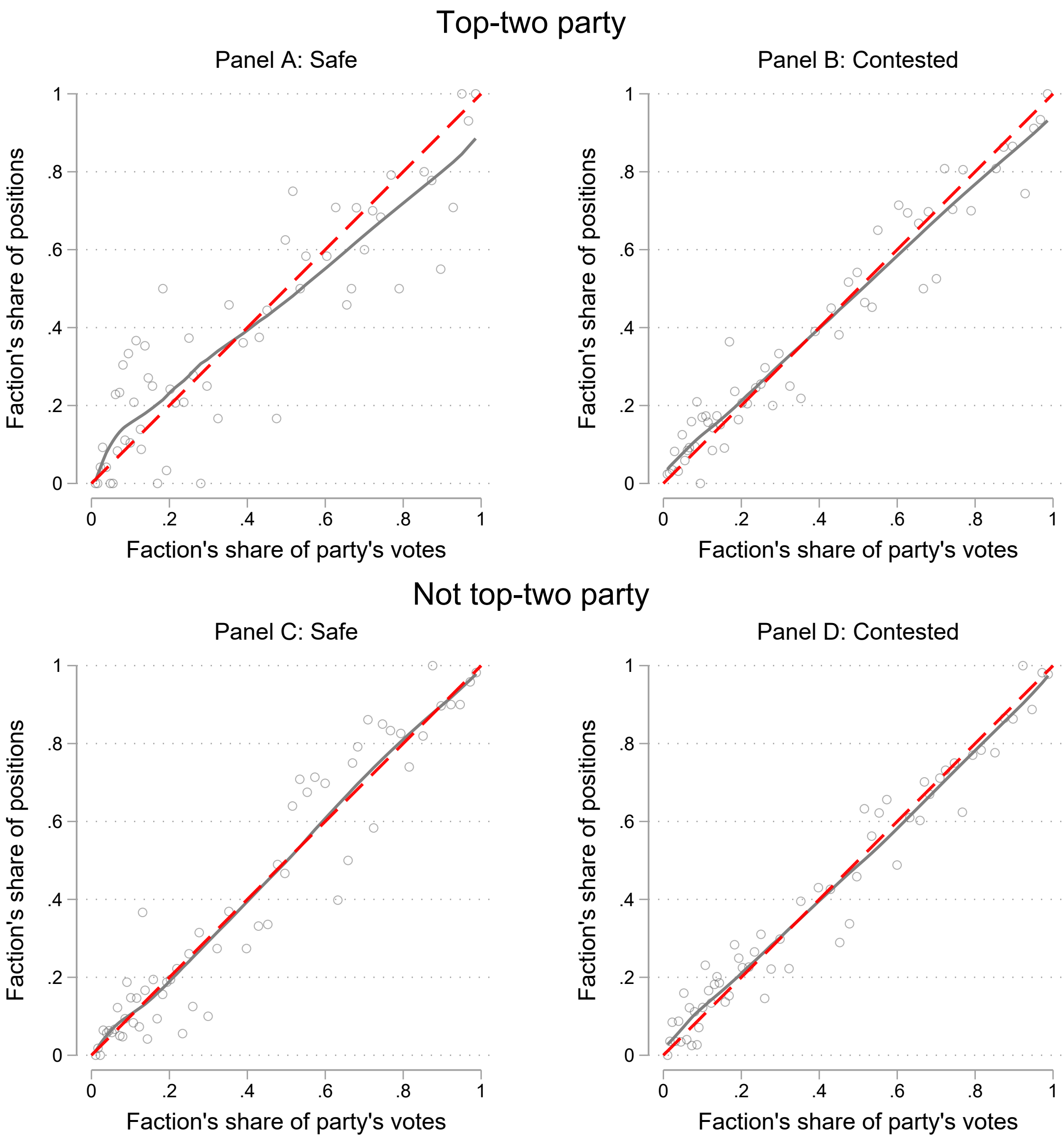
Note: The figure plots the fraction of survey respondents answering the outcome of the election will play major role for what happens in their municipality over the next four years. The other response categories are 'some role', 'no role' and 'don't know'. Results are displayed for respondents living in a municipality in our merger sample (N=3759) and in a non-merging municipality (N=10370). Respondents in municipalities which were merged between 2002 and 2018 are excluded. The data is from the Norwegian Local Election Survey.

Figure B.8 – 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 14 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.

Figure B.9 – Allocation of list positions in the 2023 election, split by top-two status.



Note: The figure displays the allocation of 'safe' (panels A and C) and 'contested' (panels B and D) list positions in the 2023 election as a function of the faction's share of the party's votes in the 2017 national elections, categorized into 60 equal-sized bins. In panels A and B are results for parties that were among the two parties with the most votes in the previous (2019) election. Panels C and D display results for smaller parties. The black line is obtained using locally weighted scatter plot smoothing (lowess). The red line represents the Gamsonian allocation.

Online Appendix C: Data Access

Please note that in this paper we use confidential administrative records from Norway and data from election surveys. As is customary in such cases, we will submit all programs, information on empirical analysis, and simulations that are needed for replication of the results presented in the paper if it is accepted for publication. However, we are not authorized to provide the original datasets for confidentiality reasons. We will collaborate with researchers interested in replicating the results in our paper by providing them all the necessary information on how to obtain the data, in particular by facilitating their access to the institutions that are the original depositories of the data.