

Chapter 2

A song of preference and power: A theoretical model of parliamentary intra-partisan delegation

The political parties created democracy and modern democracy is unthinkable save in terms of the parties.

Schattschneider 1942

2.1 Introduction

Political parties serve as foundational elements in modern political systems, performing a range of functions vital to the democratic process. They act as programmatic guides for voters evaluating future policy options and assist retrospective voters in attributing accountability for past decisions. Additionally, they recruit political candidates and organize the political offer into coherent policy bundles. Parties notably help solve both internal and external collective action problems (for external see (Fiorina and Shepsle 1989; Cox and M. McCubbins 1993; Cox and M. D. McCubbins 2005) and for internal see (Schwartz 1977; Aldrich 1995)). Partisan cohesion facilitates, if not enables, political negotiations with other parties, influencing every aspect of the parliamentary routine from policy decisions and public expenditures to nominations and government formation. Thus, the effective democratic role of parties is at least partially contingent upon their ability to maintain internal cohesion.

While academic literature broadly agrees on the centrality of partisan unity in shaping political outcomes, there is less consensus on the specific mechanisms that underpin this unity. Generally, it is understood to emerge from two sequential

processes: the initial candidate selection based on ideological or policy preferences, which inherently fosters some level of intra-party cohesion; and the subsequent management of elected representatives, where party leaders wield rewards and sanctions to maintain unity among MPs with divergent views. However, existing research tends to either take a macro-level approach to partisan unity or scrutinize individual coercion tactics in isolation with a strong focus on the mere role played by ideological preferences.

In this paper, I extend existing theories of intra-partisan coordination by incorporating the concept of political capital. I present a new theoretical model that delineates how party leaders strategically employ coercion instruments, taking into account their varying efficacy based on the targeted MP's preferences and accumulated political capital. The model not only focuses on the strategic deployment of these instruments by leaders and the corresponding responses by MPs, but it also sheds light on the pivotal role that party leaders play in representing the citizenry. The paper centers on three core arguments:

1. The influence of MPs extends beyond their *ideological preferences* and is significantly shaped by their *political capital*.
2. Understanding the distribution of political capital within a party unveils intra-party inequalities, which have a direct impact on an MP's ability to represent constituents and, indirectly, on the overall quality of democratic representation.
3. A comprehensive understanding of intra-party delegation requires examining the interplay of multiple resources, rather than analyzing individual resources or behaviors in isolation. An isolated focus leads to an incomplete—and potentially skewed—understanding.

This paper employs a formal model to articulate these three key arguments, suggesting that the strategic allocation of political resources within a party is influenced by a combination of two factors: (1) the leader's relative power, (2) the joint distribution of political preferences and political capital among MPs. Faced with the dilemma of whether to favor ideologically aligned MPs or prominent MPs whose defection would be highly costly, partisan leaders often avoid sanctions, successfully maintaining party cohesion without defections. When confronted with influential extremists within their ranks, leaders strategically broaden the party's ideological scope, albeit at the expense of diluting the policies the party advocates for.

The present theoretical framework holds wide-ranging implications for studies on political representation. The power imbalances between MPs, shaped by their accrued political capital, translate directly into uneven representation for their constituents. Interestingly, the model underscores the mitigating role played by party leaders in reducing intra-party power inequalities.

The remainder of this paper is organized as follows. First, I survey the existing literature on partisan unity before introducing the concept of political capital and discussing its implications for intra-party delegation processes. Recognizing the importance of political capital necessitates the development of a novel model of policy-making. This model extends traditional spatial theories and conceptualizes political decisions as Tullock contests. Subsequently, I present a formal model of intra-party delegation, wherein a party leader allocates resources between two MPs. After outlining the dominant strategies for both leaders and MPs, I demonstrate that actors adopt markedly different strategies based on the combined distribution of preferences and political capital. Finally, I propose a series of hypotheses and discuss their ramifications for the quality of representation within a given political system.

2.2 Parties, Unity and Representation

2.2.1 Parties and internal cohesion

Internal cohesion offers a multitude of benefits to political parties. It not only increases the likelihood of electoral success (Greene and Haber 2015; Bøggild and Pedersen 2020), but also minimizes the moral hazard associated with intra-party delegation, allowing members to focus on individual tasks without the need for extensive peer monitoring (Aldrich 1995). Cohesion also streamlines inter-party negotiations, making cohesive parties more attractive coalition partners and thereby enhancing their chances of government participation and policy implementation (Bowler, Farrell, and Katz 1999; Ceron 2016). In summary, cohesion contributes to the three classical objectives of political parties: policy advancement, office acquisition, and vote acquisition (Strøm and W. C. Müller 1999).

However, an overemphasized cohesion can have drawbacks. Parties seeking to appeal to a diverse electorate may benefit from internal preference heterogeneity. Such diversity can also facilitate coalition-building in consensual political systems by increasing the likelihood of overlapping policy preferences with potential allies. Normatively speaking, a mix of heterogeneous preferences within a well-functioning intra-party deliberative framework can enhance the quality of democratic representation. Parties accordingly navigate a trade-off between cohesion and representativeness.

Academic discourse typically identifies two primary sources of partisan cohesion: initial cohesion through the selection of ideologically-aligned candidates, and ongoing discipline enforced by party leaders (Willumsen 2017; Krehbiel 1993). However, scholars are divided over the relative weight of these factors. Some empirical studies suggest that cohesion can be naturally sustained without active intervention from leaders (Hönnige and Sieberer 2013), while others indicate that leader actions are

pivotal in preserving unity (Chandler, Cox, and M. D. McCubbins 2006). Given this, it is unsurprising that the degree of cohesion varies widely both across and within different political systems. While parties generally coalesce around shared ideological tenets, perfect alignment on all policy dimensions is rare. The congruence in representatives' core preferences is shaped by a combination of factors, including candidate selection mechanisms, the organization of the party system, and the structure of political preferences. Additionally, MPs adapt their stances based on the specific constituencies they represent —be they geographical in single-member districts or factional in proportional systems. This adaptability can lead MPs within the same party to adopt divergent positions, the intensity of which is influenced by the existing institutional framework.

The Competing Principal Theory (CPT) posits that MPs serve as agents of two principals —constituents and their party— and thus enter into two separate delegation relationships (Carey 2007). When the two principals hold conflicting preferences regarding a specific matter, MPs are faced with the choice of aligning with their party or their electorate. CPT expects MPs to align with the principal who has the most leverage over the MP's reelection. Simplistically, CPT predicts that MPs are more likely to align with constituents in candidate-centered electoral systems and with their party in party-centered systems. Consequently, achieving partisan unity becomes more challenging in candidate-centered systems.

An increase in preference polarization and fragmentation compounds this challenge (André, Depauw, and Beyens 2015). As voter preferences grow more variegated, the initial cohesion established during candidate selection weakens. Furthermore, the rising dimensionality of political competition, marked by the emergence of new conflict lines and parties, amplifies the potential for internal party heterogeneity. For example, the issue of European integration, which gained prominence in the 1990s, disrupted traditional party lines and created internal divisions within both left- and right-leaning parties (Parsons and Weber 2011).

Recent political developments illustrate this trend of declining cohesion. For instance, France's last two presidential majorities (PS and En Marche) experienced notable internal dissensions. Similarly, divisions over Brexit within the UK's Conservative Party have led to a carousel of four Prime Ministers between 2018 and 2022. In Germany, the 2015 migrant crisis caused deep fissures within the Conservative Party, and in the U.S., the Trump presidency polarized the Republican Party into distinct factions. While a comprehensive explanation for the rise of intra-party conflicts worldwide is beyond the scope of this paper, the rarity of outright rebellions against party lines suggests that other mechanisms, possibly related to the strategic actions of parliamentary leaders, effectively sustain party unity. Despite the eroding potential for cohesion, parliamentary leaders seem to still successfully employ available tools to maintain discipline within their ranks.

2.2.2 The leader’s three levers: Office, policy and votes

To exert influence over MPs, leaders can affect three types of payoffs traditionally sought by MPs: office, policy, and votes (Strøm and W. C. Müller 1999). Each MP aspires to a unique blend of these payoffs with some MPs focusing more on policies other more on offices. This allows leaders to strategically reward or sanction each individual MP by manipulating these payoffs individually.

The acquisition of offices unfolds through two stages of selection. The first stage involves getting elected to parliament, a process in which party leaders play a crucial role through nominations. The structure of nomination processes varies considerably between parties and countries (Panebianco 1988; Rahat and Hazan 2001; Lundell 2004; Fernandes, Riera, and Cantú 2019). When nomination powers are centralized at the national level, leaders have greater leverage. They can either assign a candidate to a “safe seat,” or place them in a highly competitive race. The spectrum of rewards and sanctions in this context is continuous; for example, a milder sanction might involve assigning an MP to a more competitive district in Single Member District (SMD) systems, or lowering their rank in the party list in proportional systems (Sieberer 2006). In contrast, when nominations are determined at the local level, the leaders’ influence diminishes significantly. Additionally, leaders also wield control over campaign resources, such as grassroots activism, financial networks, and media access (Bøggild and Pedersen 2018). The extent of this control is shaped by institutional frameworks dictating the electoral rules and the centralization of campaign resources.

Upon election to parliament, a second phase of selection begins, involving appointments to various positions of responsibility. These may come with additional powers and sometimes financial benefits. Positions include government portfolios, parliamentary chairmanships, committee memberships and chairmanships, spokesperson roles, and whips. The allocation of these roles often involves bargaining with other parties and is subject to varying nomination rules (Rohde and Shepsle 1973; Martin and Mickler 2019). A leader’s leverage here depends on both cross-party and intra-party nomination mechanisms. Some parties centralize nomination powers entirely with the leader, while others employ internal elections to fill these roles. Lastly, in multi-level political systems like federal states or the European Union, leaders may also have the capability to distribute prestigious positions at local, regional, or supranational levels, thereby affecting an MP’s “office” payoff.

The second type of payoff that leaders can distribute pertains to policies. Leaders serve as the central coordinating authority within the party, and their strategic positioning —combined with the resource allocation mechanisms outlined in this paper— affords them the ability to shape the party’s policy agenda. While they do operate within certain constraints set by the party’s overarching stance, they have some latitude to accommodate MPs’ individual policy preferences. These policy

payoffs can manifest in various ways: endorsing a particular policy stance, placing a policy issue on the legislative agenda, or even strategically keeping an issue off the agenda to favor an MP's position.

Finally, leaders have the capacity to directly influence vote outcomes for MPs. While offices and policy payoffs can indirectly help MPs secure votes, leaders can also channel resources in the form of "pork barrel" projects for MPs' constituencies. This pork may involve local public investments that provide services or create jobs, thereby increasing an MP's electoral appeal in their constituency.

2.2.3 The cause and consequences of partisan unity

The empirical literature examining a party's ability to maintain internal cohesion primarily explores two avenues. The first set of studies focuses on aggregate-level factors that favor or undermine partisan unity, as well as the broader consequences of such unity. The second, smaller set concentrates on individual-level determinants that drive the allocation of sanctions and rewards within a party.

Broadly speaking, aggregate-level studies attempt to explain a party's degree of unity with contextual factors. For example, research on party strength often focuses on conditions that bolster the leader's influence over individual members. The Conditional Party Government theory posits that a leader's power is strengthened when the party's electorate is both homogeneous and polarized against the electorates of other parties (Aldrich and Rohde 2000). Certain parliamentary procedures, like votes of confidence or roll-call votes, can also enhance a leader's ability to enforce discipline (Diermeier and Feddersen 1998; Dewan and Spirling 2011b; Traber, Hug, and Sciarini 2014). Additionally, the size of a party or parliamentary group can impact its strength. In larger groups, MPs tend to favor decision rules that curtail the leader's authority (Patty 2008). In such settings, leaders are more inclined to use promises of rewards rather than threats of sanctions to maintain cohesion (Snowberg and Stanford 2008). The internal organization of a party also plays a crucial role in its cohesiveness (Ceron 2019). The electoral cycle further influences the efficacy of different disciplinary instruments, requiring leaders to adapt their strategies accordingly. For example, the costs of public rebellion rise as elections approach, prompting leaders to limit MPs' floor access in order to minimize risks of public dissent (Bäck, Baumann, et al. 2019).

Relatively few studies delve into the individual mechanisms of resource allocation and their efficacy in promoting party cohesion. These investigations have either concentrated on the distribution of individual resources like legislative speeches and high-profile positions or assessed the effectiveness of these mechanisms by examining partisan cohesion in legislative speeches and roll-call votes (Slapin et al. 2018; Proksch and Slapin 2012; Curini, Marangoni, and Tronconi 2011; Baumann, Debus, and J. Müller 2015; Hix 2002; Benedetto and Hix 2007; Willumsen and Öhberg

2017). For instance, Proksch & Slapin 2012 shows that ideological extremists are less likely to be given floor time, particularly in party-centered electoral systems. Moreover, such extremists are more often sidelined by party leaders, leading to greater partisan homogeneity (Eggers and Spirling 2016). Existing studies tend to describe partisan rewards and sanctions as functions of both contextual variables and individual MPs' preferences. One of the key contributions of this paper is the incorporation of political capital into the equation. Without rendering previous results obsolete, this approach enriches our understanding of the mechanics sustaining intra-party cohesion.

In summary, there remains a significant gap in our understanding of the individual-level mechanisms that affect party cohesion. In the sections that follow, I present a new argument that highlights the trade-offs faced by both leaders and MPs. The MPs' trade-off, which is fairly well-understood, involves a choice between loyalty to their constituents or to their party. The leaders' trade-off, on the other hand, has received far less attention in academic literature. Operating with limited resources, leaders must decide whether to minimize moral hazard by rewarding MPs who are ideologically aligned or to prevent defection by rewarding more extremist members. Finding the optimal balance in this trade-off necessitates consideration of political capital, a variable that significantly influences both MPs' sway over policy decisions and the costs associated with their potential rebellion.

2.3 Theoretical argument

2.3.1 Overview of the contribution

The argument put forth in this paper builds upon previous research aimed at understanding how parliamentary leaders allocate rewards and sanctions among party members. While earlier studies have recognized the importance of political preferences in this allocation process, they often suffer from two key limitations. First, these theories focus solely on preferences, thereby overlooking existing power dynamics within a party. This narrow focus fails to explain why extremist MPs might still receive party resources. Second, these studies often concentrate on just one type of coercion instrument, such as legislative speech or prestigious positions, neglecting the interconnectedness of various instruments and potentially missing out on other forms of rewards and sanctions. This paper seeks to address these gaps by focusing on three central ideas:

1. The influence of MPs extends beyond their *ideological preferences* and is significantly shaped by their *political capital*.
2. Understanding the distribution of political capital within a party unveils intra-party inequalities, which have a direct impact on an MP's ability to represent

constituents and, indirectly, on the overall quality of democratic representation.

3. A comprehensive understanding of intra-party delegation requires examining the interplay of multiple resources, rather than analyzing individual resources or behaviors in isolation. An isolated focus leads to an incomplete—and potentially skewed—understanding.

By addressing these issues, this paper aims to provide a more nuanced and comprehensive view of how intra-party dynamics affect resource allocation, party cohesion, and ultimately, democratic representation.

First, spatial approaches to intra-party bargaining often analyze parties through the lens of aggregate indicators, such as ideological distribution or level of polarization. This perspective treats each party member as if they hold equal weight, implicitly assuming a kind of power equality within the party. While this egalitarian view may be justified in settings where each member has one vote in majoritarian decisions, it doesn't fully capture the nuances of intra-party dynamics. This is because members differ in their levels of political capital, which greatly influences their ability to affect legislative outcomes.

Political capital is a broad concept that encompasses various resources MPs can mobilize to influence the decisions of others. These resources can include expertise, grassroots and financial networks, institutional prerogatives, and public prominence, among others. Not only does political capital enhance an MP's ability to influence policy, but it also strengthens their resilience against pressures from other actors, including party leaders. MPs endowed with high levels of individual political capital may be less reliant on the party to achieve their career and policy objectives. Consequently, incentivizing these MPs to adhere to the party line could require a greater allocation of resources compared to MPs who possess less individual political capital.

Moreover, MPs with substantial political capital have a greater capacity to obstruct party leaders' efforts to maintain unity. They can leverage their personal resources to influence, or even bribe, other MPs, thereby complicating the dynamics of internal party cohesion. Votes within the party, therefore, may not always be sincere or independent from each other. Once the "one member-one ballot" assumption is relaxed, it becomes evident that an MP's power is not just a function of their voting capacity, but also their ability to resist pressures and influence other MPs.

It's worth noting that this ability to influence is not wholly independent of the preferences of the actors involved. For instance, persuading someone is generally easier if their preferences are already aligned with yours. Rather than assuming uniformity or equality among party members, this paper argues that an MP's influ-

ence is proportional to their level of political capital, which in turn facilitates their ability both to influence and to resist influence.

To fully grasp both resource distribution and cohesion outcomes within political parties, it's essential to consider not just the distribution of ideological preferences but also the intersection of these preferences with political capital. Aldrich's theory of conditional party government argues that party strength is conditioned on intra-partisan polarization (Aldrich and Battista 2002). While they posit that a homogeneous party is more likely to elect a strong leader, thereby enhancing party strength, this view is incomplete. It doesn't take into account the political capital held by MPs. For example, a party with homogeneous preferences could still be weak if a few ideological extremists concentrate significant amounts of political resources. Conversely, a party with diverse ideological positions but a concentration of political capital around moderate stances could maintain its strength. Therefore, to make accurate predictions about intra-party resource allocation and the resulting cohesion, one must integrate the distribution of political capital into the equation.

Second, understanding the role of political capital reveals its implications for the quality of representation. Strong representatives, armed with substantial political capital, are better equipped to represent their constituents (Däubler 2022). Assessing representation quality thus requires looking beyond a mere numerical and descriptive approach to representation. Instead, it demands evaluating representation in terms of political capital. Larger constituencies should be represented by larger amounts of political capital; smaller constituencies by smaller amounts. In essence, the share of political capital held by representatives of a given constituency should approximately correspond to the constituency's size. As the main driver of the intra-partisan allocation of political capital, party leaders play a pivotal role in the distribution of political capital, especially when the party is large or enters government (). Thus, to fully understand representation, it proves to be crucial to examine the distribution of political capital across MPs and leaders' influence over this distribution.

Third, a more nuanced understanding of the delegation relationships between party leaders and members sheds light on the strategies designed to maintain party cohesion. This requires a holistic approach that considers the full array of political resources that may be transacted within these delegation relationships. Previous studies have often limited their focus to roll-call votes when analyzing party cohesion (Slapin et al. 2018; Curini, Marangoni, and Tronconi 2011). However, this offers only a partial picture. Representation is a multifaceted, performative act that encompasses more than roll-call votes. There is no doubt that roll-call votes are crucial as they can be used to send very strong signals. At the same time, there are problematic precisely because they are used to send strong signals. Roll-call votes are not triggered at random and display important selection biases (Carrubba, Gabel,

and Hug 2008; Crisp and Driscoll 2012). Other behaviors, such as parliamentary speeches (Bäck, Debus, and J. Müller 2014; Bäck and Debus 2019), policy work, or public reach (Ban et al. 2019), are equally critical for representation and can be used by leaders as bargaining chips for roll-call loyalty. The remarkable stability in partisan cohesion in roll-call votes can thus be interpreted in two ways: either no one wants to defy the party line (which would be surprising given its consistency across various contexts) or alternative mechanisms effectively mitigate roll-call vote defections. This paper leans toward the latter explanation, advocating for an inclusive approach that considers roll-call votes in conjunction with other forms of legislative behavior.

By accounting for these aspects—distribution of political capital, implications for representation quality, and the broader array of representative behaviors—this paper aims to provide a more comprehensive framework for understanding intra-party dynamics.

The objective of this paper is to develop a unified model that captures the strategic interactions between party leaders and MPs in the policy-making process. In contrast to conventional legislative models, where policy decisions result from proposals subjected to majoritarian votes, the present study approaches policy-making as a Tullock contest (Tullock, Buchanan, and Tollison 1980). In this framework, political actors, both leaders and MPs, allocate their political capital across a range of activities such as amendment drafting, parliamentary speeches, and grassroots mobilizations. These actions aim to pull the outcome towards a specific location and can generally be labeled as policy activity. Policy activities lie at the core of the process of intra-partisan delegation. A policy activity possesses two basic attributes: a policy location and an associated amount of capital. Obviously, procedures vary in reality and all activity do not have the same value but for the seek of doability, I chose to focus on the abstract concept that allows me to build such a comprehensive model. This offers a more generalized understanding of the forces at play in legislative settings, although it may not capture all the nuances of reality and may required to be adapted to specific provisions when applied to real-world examples.

The model is based on two key latent concepts: ideological positions and political capital. Ideology is one of the most ubiquitous concepts in political science and a long series of models have linked political actors' behavior to their ideological preferences. In contrast, the concept of political capital is less commonly utilized in the literature on political elites.

2.3.2 Political ideology

Since the seminal work of Downs 1957, political preferences are conceptualized as punctual locations within a multi-dimensional space. This spatial modeling approach not only revolutionized how we conceive of political preferences but also re-

enforced the notion that political actions stem from actors' underlying preferences. This principle holds true for intra-party delegation as well. For instance, when a party leader delegates the responsibility of delivering a parliamentary speech, the MP who takes on this task is likely to express her own preferences within the speech. However, the threat of sanctions can also induce MPs with more extreme views to temper their publicly expressed preferences. This rudimentary illustration underscores the importance of political preferences for intra-party delegation.

Ideology consists of the reduction of these multi-dimensional political preferences to a few, often just one, dimensions, such as the left-right ideological scale (K. T. Poole 2005). In parliamentary politics, spatial models are particularly useful for linking MPs' preferences with their behavior and the resulting collective outcomes. However, preferences do not invariably manifest as behavior. This translation is subject to strategic distortions: sometimes actors find it advantageous to conceal rather than disclose their true preferences. Rigorous party discipline, for example, can compel MPs to toe the party line, even when it diverges from their own inclinations. Much of the existing literature assumes a strong correlation between MPs' ideological preferences and their observable behavior. In this paper, we distinguish between an MP's core preferences and the preferences they publicly display. The model we introduce aims to identify the conditions under which behavior and preferences are most likely to align.

The term 'core preferences' refers to the personal policy positions held by MPs¹. These core preferences are then mapped onto the left-right ideological axis, a process that depends on the evolving definitions of 'left' and 'right,' which vary by context and time period. For example, what constitutes a left-leaning position is a composite of various policy stances that can differ depending on the specific historical or national setting.

Once MPs publicly establish a set of political preferences and build a political brand around them, altering those positions becomes a challenging endeavor. Most crucially, such shifts are likely to incur sanctions from both voters and party organizations, thereby providing strong incentives for MPs to maintain consistency in their political preferences. While MPs' preferences can evolve, such changes are generally either slow to manifest or come at a significant cost.

In the internal dynamics of party resource allocation, leaders aim to minimize the risks and costs associated with potential defections. These costs are inextricably tied to MPs' preferences—the greater the divergence of a speech from the party line, the higher the incurred costs. However, the equation also includes another variable: the MP's political capital. MPs with substantial political influence can amplify the

¹It is possible to differentiate further between the sincere and strategic stances advocated by MPs. For the purposes of this model, however, we focus on the strategic positions adopted by MPs, setting aside the question of sincerity. The assumption here is that MPs amalgamate their genuine preferences with those of their constituents to defend the most advantageous position.

impact of their defection, causing greater damage to the party compared to their less influential counterparts. Thus, the second facet of our argument focuses on the role of political capital.

2.3.3 Political capital

In conceptual terms, party leaders have two primary mechanisms for maintaining party unity: the immediate exercise of political power or the promise of future political power. For the purpose of this discussion, political power is defined as an actor's capacity to shift collective decisions closer to their own preferences.

The Potential Outcomes Framework (POF), generally employed to evaluate the causal effects of an intervention, offers a useful way to conceptualize political power (**rubin2005causal**). According to POF, the causal impact of an intervention is the difference between the outcomes under treatment and control conditions. The challenge lies in the fact that both states cannot be observed simultaneously. In line with this framework, an actor's political power can be considered as the differential effect of their presence versus absence on a political decision. While this concept is useful, it's empirically cumbersome for several reasons: only one state is observable, actors' powers are relative to each other, and measuring the shift in decisions is complex given their often multi-dimensional nature. Nonetheless, viewing power as the causal effect exerted by an actor on political decisions offers insights into the sources of political power and the dynamics of political conflict.

The notion that some actors wield more power than others is hardly counter-intuitive. For instance, U.S. presidents exert greater influence than state legislators, and government ministers outrank backbench MPs. The asymmetry in power often stems from institutional frameworks, a point well-established in the literature (Krehbiel 1992; Diermeier and Feddersen 1998; Tsebelis 2002; Cox and M. D. McCubbins 2005). However, reducing political power solely to its institutional dimension is overly simplistic and gives rise to erroneous empirical expectations. For example, two individuals holding identical institutional roles should, in theory, wield the same power. Similarly, individuals without any institutional privileges should not exert any political power. These two assumptions are readily debunked by numerous counter-examples across the world. Former U.S. presidents Barack Obama and Donald Trump still exert political influence within their party and in US politics more broadly. Regional leaders such as Carole Delga in France also influence national politics despite having no official position at the national level. Notorious backbenchers, such as Hans-Christian Ströbele oder Marco Bülow in Germany, leverage their prominence to influence public debates, which is also a form of political power.

To fully understand the dynamics of political power, one must go beyond institutional frameworks. While institutional privileges confer political power, they are not impenetrable to external influences. This suggests the existence of a 'market-

place' for political power, where actors can exchange forms of influence. To explore this, I introduce the notion of 'political capital,' comprising any resource —tangible or intangible— that can be utilized to exert political influence. The value of these commodities is inter-subjectively determined and can fluctuate over time. Thus, while one can estimate an MP's total power at a given point, this valuation cannot be universalized across different contexts or time frames. In this view, power is essentially the 'rent' derived from the portfolio of political capital an actor holds. This portfolio consists of political commodities, whose values are jointly influenced by institutional frameworks and demand and supply forces.

Political capital exists in two fundamental forms. On one side, there is 'consumable' capital, such as speeches, press releases, and policy drafts. On the other, there are forms of capital that yield a continuous 'rent' of power over time, such as institutional positions and staffing resources. This capital can manifest in various ways, including skill sets, political experience, financial backing, and moral standing, among others (Casey 2008, in footnote 13). The traditional triad of offices, policies, and votes can also be conceptualized in terms of political capital: holding an office affords institutional leverage, policy concessions represent immediate exertions of power, and votes grant a reservoir of legitimacy that can be tapped for future influence. Political capital is both inherited (symbolically) and accrued over the course of a career, with parties—and particularly party leaders— serving as the primary channels for this accumulation, particularly in the context of intra-partisan delegation.

The attributes of political capital parallel those of economic capital in several ways. It can be expended for immediate policy influence or hoarded for future use. Certain forms of political capital may depreciate with time, much like economic assets. Furthermore, it is convertible —amenable to being traded for economic resources or loaned in anticipation of future returns. The value of political capital, akin to economic capital, is market-determined and challenging to quantify precisely. This value usually depends on the supply and demand dynamics for specific political resources.

To adequately represent both actors' preferences and their varying degrees of political capital, a refined approach to policy-making is required. Policy models need to account for the structural inequalities between actors possessing different amounts of political capital. Simultaneously, the spatial nature of political preferences must be incorporated into the model, along with the principle that the costs incurred by actors are proportional to the divergence between adopted policies and their preferences. The following section will introduce a modified Tullock contest as a framework for understanding policy-making under these conditions.

2.3.4 Policy-making as an effort-based contest

The present model of policy-making starts with the straightforward premise that, all else being equal, the more political capital an actor invests in a policy, the closer the final collective decision will align with that actor's preferences. Classic models of policy-making envisage a legislature where each member holds a single vote. Under conditions where actors can strategically manipulate proposals and agenda-setting rules, the ultimate decision is generally reached through majority voting, wherein each representative wields one vote (Romer and Rosenthal 1978). This "one-member-one-vote" perspective implies a de facto equality of power among legislators, or at the very least, suggests that inequalities are confined to institutional roles such as policy drafting and agenda setting.

To illustrate, consider a hypothetical reform of minimum income, a policy issue that lends itself to straightforward representation on a continuous scale. Some MPs advocate for raising the minimum income, while others call for its reduction. Each MP has a specific policy preference and supports a particular proposal accordingly. An MP's individual payoffs associated with each potential policy can be represented as a single-peaked distribution, with the peak coinciding with the most favored policy position. As a proposed policy drifts from this optimal point, the associated payoff diminishes and may eventually become negative. For instance, an MP who prefers a one-dollar increase might be more amenable to a one-dollar decrease than to a twenty-dollar hike. In this scenario, the outcome would hinge on both the MPs' drafting prerogatives and the sequence in which votes are cast on various proposals.

Now, imagine an MP who argues for reducing the minimum income and possesses both compelling charisma and a strong background in economics. She is allotted abundant speaking time in both parliamentary and public forums, amplifying her arguments far and wide. Despite lacking any distinct institutional advantages, her strategic investment of political capital in the form of persuasive speeches and expert commentary can sway her colleagues' preferences or even the opinions of their constituents. This, in turn, shifts the overall policy outcome in her favor. Similarly, an MP endowed with robust political and financial networks can also influence the policy outcome, albeit through different mechanisms. She can trade her political capital by offering support for other MPs on unrelated policies, or even by contributing to their re-election campaigns, thereby gaining their support for her favored policy.

These few examples illustrate how political capital can be expended to sway votes within a legislative body. To model these dynamics effectively, it's crucial to recognize that legislative outcomes, even under majoritarian voting systems, hinge upon the amount of political capital spent by actors onto specific policy positions. Building on this notion, a policy proposal is defined not only by its location in the policy continuum but also by the corresponding amount of invested political

capital. To encapsulate these complexities, I suggest conceptualizing policy-making as an adaptation of Tullock's Contest model (Tullock, Buchanan, and Tollison 1980)².

In Tullock's Contest, players vie for a prize with their probability of winning proportionate to their invested effort. Specifically, Tullock presents a lottery model in which each player can purchase an unlimited amount of tickets, with the odds of winning based on the share of tickets bought. While this model is readily applicable to discrete policy spaces, such as legalizing same-sex marriage, it requires modification for continuous policy spaces. In such cases, the "prize" equates to influencing a policy's final position within that continuous space, and payoffs to players are proportionate to the distance between their preferred policy location and the enacted outcome.

This framework, incorporating political capital and a contest-based approach to policy-making, enables a more nuanced understanding of intraparty coordination. Rules governing parliaments and political parties often afford collective institutional advantages to organized party factions, manifesting as distributable political capital within the party. This specialized form of capital, hereafter referred to as 'partisan capital,' is allocated by party leadership. Leaders aim to project their governance capability in terms of both legislative productivity and intra-party unity. To this end, they strategically allocate partisan capital to party members, incentivizing them to invest their own political capital in alignment with the party's official stance. This alignment, depending on an MP's individual policy leanings, can entail varying degrees of personal cost for an MP. Leaders must therefore judiciously allocate partisan capital to offset the individual costs incurred by MPs in adhering to party lines.

However, party leaders are not the sole sources of political capital; MPs accumulate capital over their careers. When MPs enter the legislative arena, they bring with them an initial endowment of political capital that can be deployed independently of party directives. These initial resources create disparities among MPs and influence their individual bargaining power with party leadership. An MP with substantial individual capital can exert greater influence on policy decisions when adhering to the party line and can also impose higher costs on the leader when deviating from it. Whether in alignment or conflict with party leadership, an MP with considerable individual capital can either be a greater asset or a greater liability for the party. The threat of defection explains how MPs manage to secure resources, even when their preferences conflict with party leadership. When accounting for the role of political capital in the legislative process, it becomes apparent that a narrow focus on policy preferences alone overlooks significant drivers of MPs' actions. The following section delves into the strategies employed by the relevant actors in this complex landscape: party leaders and individual representatives.

²For an application of Tullock Contests to interest group politics, see Baye, Kovenock, & De Vries 1993

2.3.5 Intra-partisan delegation and actors' trade-offs

This section explores the payoff structures for the two key actors in focus: party leaders and individual Members of MPs.

Party leaders follow dual objectives. First, they aim to optimally mobilize the capital available within their party to demonstrate their leadership effectiveness. Second, they seek to advance their party's policy agenda through the successful enactment of legislation. In this framework, the optimal scenario for a leader involves having each party member expend all of their political capital to advocate the leader's preferred policy. By concentrating the capital spent by their party on a chosen policy, leaders not only increase the chances of that policy being adopted but also showcase their aptitude in resolving internal collective action problems. However, MPs may have differing opinions and could oppose the leader's policy choice either out of genuine disagreement or strategic considerations. Leaders are not without tools to counteract these centrifugal forces. Anticipating MP behavior, they strategically allocate partisan capital, employing it as a unifying centripetal force. This enables them to either trade capital for future MP cooperation in advance or penalize non-compliance by withholding capital after the fact. Given that the pool of partisan capital is finite, leaders inevitably face an allocation trade-off.

This echoes existing findings in the literature. For example, in candidate-centered electoral systems, MPs owe their reelection to individual accomplishments and enjoy high levels of individual legitimacy, thus possessing higher levels of personal political capital. The proportion of partisan to individual capital is accordingly lower, reducing the leverage leaders have over MPs. In essence, candidate-centered systems amplify centrifugal forces at the expense of centripetal ones. Likewise, party polarization can accentuate these centrifugal tendencies. When polarization increases, more MPs hold policy preferences far removed from those of the party leaders, further complicating the leaders' allocation decisions.

In contrast to their leaders, MPs confront a choice between two distinct actions: voice or loyalty.³ Voicing preferences typically involves advocating for positions contrary to the party line, while loyalty entails expending political capital to support policies endorsed by the leadership. It's important to note that an MP's decision to abstain from investing any political capital, such as abstaining from a roll-call vote, effectively signals indifference toward the legislative outcome. Whether this aligns with the party line depends on the leader's strategy. Generally, MP only remain loyal to the party line if the benefits gained from the partisan capital bestowed by the leaders outweigh the policy costs incurred by supporting the party's positions.

The leader's allocation problem is intricate. Their strategies hinge on both the

³This dichotomy deviates from Hirschman's classical model (Hirschman 1970), which includes an additional option —exit. In the intra-party context, 'exit' would imply leaving the legislature or switching parties. These options are so rarely exercised that I chose to focus solely on voice and loyalty.

ratio of partisan to individual capital within the party and the distribution of ideological preferences and individual capital among MPs. The subsequent section presents a formal model that dissects this complex allocation process, aiming to illuminate the leaders' optimal allocation strategies and their implications for legislative outcomes, party strength, and the quality of representation.

2.4 Game set up

Table 2.1: Overview of the notation

x_L	Leader's ideal policy	Equals 0 by definition
x_i	Ideal policy of MP i	
r_i^m	Individual capital hold by MP i	
r^C	Partisan capital allocated by leader	$r^C = 1 - r_A^m - r_B^m$
α	Percentage of r^C allocated to A	
r_A	Total capital hold by A (individual + share of partisan capital)	$r_A = r_A^m + \alpha r^C$
T	Leader's tolerance threshold	How much deviation from her ideal policy is the leader ready to accept without sanctioning?
p_A	Location of A's policy proposal	
v_A	A's deviation from party line	$p_A = v_A x_A$
s_A	Total sanction bore by A	$s_A = \alpha r^C \sigma_A$
σ_A	Sanction parameter	$\sigma_A \in 0, 1$
U_{min}	Minimal utility from tolerated proposal	

The game features three players: 1 leader, denoted L , and 2 MPs, denoted A and B . All players belong to the same party. Each actor has an individual ideal policy x , located in a unidimensional policy space, X . By convention, the leader's position x_L is set to 0 serving as the reference point for the center of this policy space. The crux of the game revolves around policy delegation: the leader distributes the partisan capital to A and B , who then individually formulate policy proposals, i.e. locate them in the continuous policy space and spend political capital on them. The leader attempts to maximize the total amount of capital spent close to her ideal policy, while A and B aim to (1) maximize their accumulated political capital and (2) minimize the distance between their proposal and ideal policies.

By default, the total amount of political capital available in the game is normalized to one. This capital is bifurcated into partisan capital, managed by the leader, and individual capital, initially held by the MPs. The ratio of partisan to individual capital is exogenously determined. At the start of the game, nature endows each MP with individual-owned capital denoted r_A^m , resp. r_B^m . The leader allocates r^C - partisan capital - to A and B, who respectively receive r_A^C and r_B^C . Right after the allocation, the entire pool of capital is controlled by the MPs as shown in 2.1

$$r_A^m + r_B^m + r_A^C + r_B^C = 1 \quad (2.1)$$

Allocating all the partisan capital to MPs allows us to parameterize the allocation

process with a single parameter denoted $\alpha \in [0, 1]$ so that $r_A^C = \alpha \times r^C$ and $r_B^C = (1 - \alpha) \times r^C$.

2.4.1 Sequence: Three rounds

The game is played in a sequence of three rounds.

1. Allocation: The leader moves first and allocates to each MP a portion α of the available partisan capital r^C .

2. MP formulates policy proposals: After observing their share of collective resources, each MP formulates an individual policy proposal, denoted p_A and p_B . The two proposals are respectively parameterized with one parameter v_A , resp. v_B , which describe the relative deviation from the party line: $p_A = v_A \times x_A$. For instance, if A sticks to the party line, she chooses $v_A = 0$, so that $p_A = x^L = 0$. On the contrary, if A sticks to her ideal policy, she chooses $v_A = 1$, so that $p_A = x_A$.

3. Sanction: The leader, after observing MPs' proposals decides whether and how much she wants to sanction each MP. The closer a proposal is to the leader's position, the less likely it is to be sanctioned. To sanction MPs, leaders have the opportunity to take back some of the capital allocated in the first round. Again, MPs' sanctions are parameterized with two parameters σ_A and σ_B , representing the share of resources taken back by the leader.

The game ends after the third round and all actors observe their utility. The leader's and MPs' utilities depend on the location of the proposals p_A and p_B as well as on the total amount of capital hold by each MP r_A and r_B defined in equation 2.2.

$$\begin{cases} r_A = r_A^m + (\alpha - \sigma_A) \times r^C \\ r_B = r_B^m + (1 - \alpha - \sigma_B) \times r^C \end{cases} \quad (2.2)$$

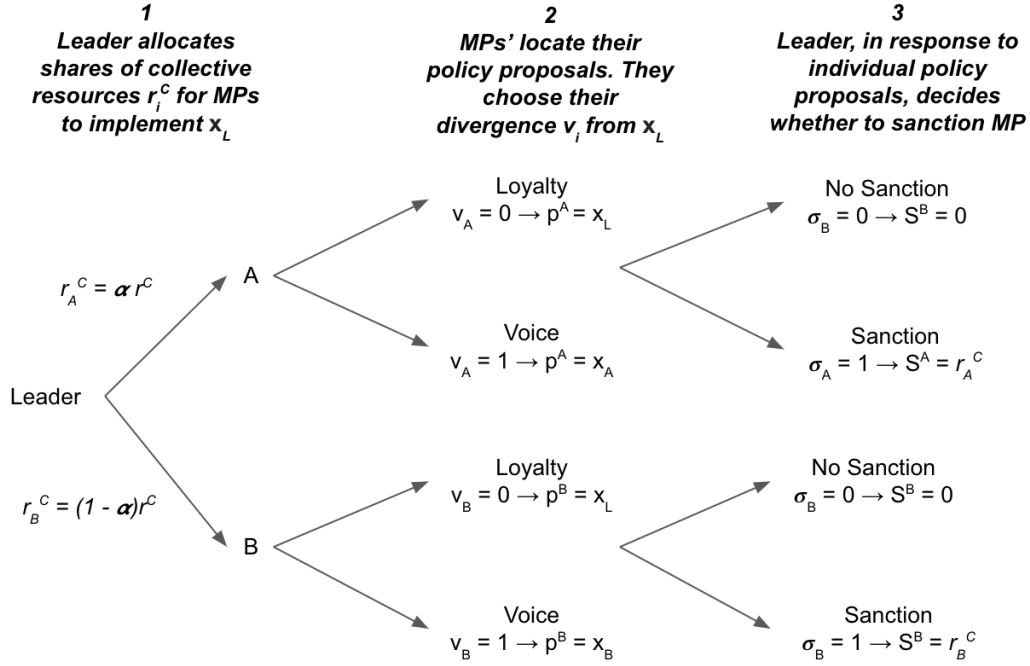
Figure 2.1 provides an overview of the game sequence.

2.4.2 Leader's utility

In the following sections, I present the utility function of the leader and the MPs.

The leader attempts to jointly minimize MPs' deviation from the party line and maximize the political capital spent on the proposals. This jointly maximizes her policy and homogeneity payoffs. The leader's total utility hence amounts to the sum of individual utilities derived from the MPs' proposal. The latter depends on both the location of the proposal and the amount of resources spent on it.

Figure 2.1: Overview of the game sequence



Tolerance interval

One challenging aspect of the leader's utility consists in the idea that the marginal utility of spent capital decreases, as the distance between the leader's preferred policy and the proposal increases. Close to the leader's preferred policy, the marginal utility is positive but becomes negative beyond a specific distance.

Consider a leader who advocates for a \$10 increase in the minimum wage. A proposal by an MP to raise it by \$5 would likely be viewed as favorable by the leader. Indeed, the leader may deem any increase above \$2 as beneficial, while regarding proposals below that threshold as detrimental. In this particular scenario, any resources allocated to a proposal advocating for more than a \$2 increase would augment the leader's utility. Conversely, resources allocated to proposals advocating for less than a \$2 increase, maintaining the status quo, or even reducing the minimum wage would have negative marginal utility, thereby decreasing the leader's utility. The stationary point, where the marginal utility of capital is neutral - \$2 increase in this example - sets a tolerance threshold around the leader's ideal policy. This establishes a "tolerance interval," differentiating between proposals with positive marginal utility (tolerated) and those with negative marginal utility (not tolerated).

Formally, this tolerance interval depends on a tolerance threshold $T > 0$, which is chosen by the leader and known by all players at the beginning of the game. It defines a tolerance interval $[-T, T]$ around the leader's ideal policy, which by definition is 0.

A proposal can be of two types:

1. **Tolerated proposals:** A proposal is deemed tolerated if $p \in [-T, T]$. Such proposals are located within or at the edge of the tolerance interval and are beneficial to the leader. In these cases, the leader aims to maximize resources allocated to this location.
2. **Non-tolerated proposals:** Conversely, if $p \notin [-T, T]$, the proposal falls outside the tolerance interval and is detrimental to the leader. Here, the leader seeks to minimize resources invested at this locale.

Proposal-specific Utility

The utility function for the leader in the context of tolerated proposals is determined by the Euclidean distance between the coordinates (p_A, r_A) and the ideal point $(0, 1)$. This ideal point represents a scenario in which all available resources are expended on the leader's preferred policy. The utility for the leader is given as the negation of this cost. The maximum utility, denoted as $U_{\max} = U_{p=0, r=1} = 0$, is achieved when a Member of Parliament (MP) allocates all resources ($r_i = 1$) toward a proposal situated at the leader's ideal point ($p = 0$). The minimum utility for a tolerated proposal is attained at the coordinates $(T, 0)$, and it is quantified as $U_{\min} = U_{|p|=T} = -\sqrt{T^2 + 1}$. The equation for utility arising from a proposal within the tolerance interval is specified in equation 2.3.

$$U_{p_i \leq T} = -\sqrt{p_i^2 + (r_i - 1)^2} \quad (2.3)$$

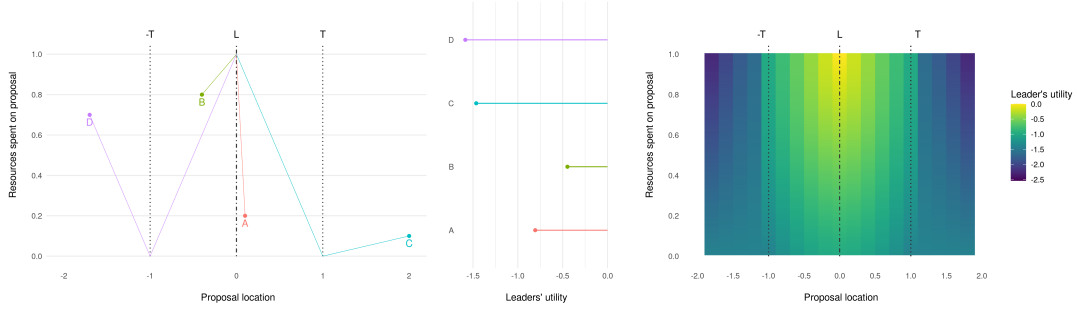
For non-tolerated proposals, the utility of the leader decreases as more capital is spent on a policy proposal. The utility is higher when a proposal is closer to the tolerance threshold and when fewer resources are committed to defending it. Specifically, the highest utility from a non-tolerated proposal is attained when $p = T$, and by previous definition, it is calculated as $U_{\min} = U_{|p|=T} = -\sqrt{T^2 + 1}$. The further a proposal strays from this tolerance threshold, the more precipitously the leader's utility declines, following a quadratic function of the distance from the threshold. Likewise, the greater the resource allocation outside the tolerance interval, the steeper the decrease in the leader's utility. This relationship is formalized in equation 2.4.

$$U_{p_i > T} = U_{\min} - \frac{(|p_i| - T)^2 r_i}{2} \quad (2.4)$$

Total Utility

As mentioned earlier, the total leader's utility amounts to the sum of the individual utilities derived from each proposal.

Figure 2.2: Visualization of leader's utility as a function of the location and resources of a proposal



$$U_L = U_{p_A, r_A, x_A} + U_{p_B, r_B, x_B} \quad (2.5)$$

Each of the proposals can respectively be tolerated or not tolerated, so the leader's utility takes one of four (2X2) different forms :

$$\begin{cases} \text{if } p_A \leq T \text{ and } p_B \leq T \rightarrow U_L = -\sqrt{p_A^2 + (r_A - 1)^2} - \sqrt{p_B^2 + (r_B - 1)^2} \\ \text{if } p_A \leq T \text{ and } p_B > T \rightarrow U_L = -\sqrt{p_A^2 + (r_A - 1)^2} + U_{min} - \frac{(p_B - T)^2 \times r_B}{2} \\ \text{if } p_A > T \text{ and } p_B \leq T \rightarrow U_L = U_{min} - \frac{(p_A - T)^2 \times r_A}{2} - \sqrt{p_B^2 + (r_B - 1)^2} \\ \text{if } p_A > T \text{ and } p_B > T \rightarrow U_L = 2 \times U_{min} - \frac{(p_A - T)^2 \times r_A}{2} - \frac{(p_B - T)^2 \times r_B}{2} \end{cases} \quad (2.6)$$

Fig 2.2 illustrates the variation in the leader's utility based on the location of a proposal and the resources allocated to it. Within the tolerance interval, resource allocation can offset the distance from the leader's ideal point, as evidenced by B having higher utility than A. Outside of this interval, the leader's utility experiences a decline due to increases in both the distance from the threshold and the amount of resources committed. The right panel of the figure provides a comprehensive view, showing how utility reacts to proposals across the entire space.

2.4.3 MPs' Utility

In contrast to the leader, whose utility jointly depends on policy and spent capital, MPs' utility comprises two additive components. Firstly, MPs gain utility from crafting policy proposals that align closely with their ideal policies. Secondly, they derive utility from the accumulation of political capital. These dual aspects encapsulate the trade-off MPs face: they can either make policy concessions to amass more political capital or forgo such capital to adhere to their policy preferences.

The first component of MPs' utility is rooted in the policy proposal itself. MPs aim to minimize the distance between their policy proposal and their ideal policy, with a greater distance incurring a higher cost. The second component pertains to

the political capital MPs accumulate. These components are formalized in equation 2.7.

$$\begin{cases} \text{Policy costs: } \pi_i = -(p_i - x_i)^2 \\ \text{Accumulated capital: } \kappa_i = r_i^m + r_i^C - s_i \\ \text{Utility: } U_i = \kappa_i + \pi_i \end{cases} \quad (2.7)$$

2.4.4 Leader's sanction

Given that an MP's utility is influenced by sanctions, it is crucial to elaborate on the types and nature of these sanctions, the conditions under which a leader might impose them, and the method for determining their severity. Sanctions can be of two types: passive and active. Passive sanctions adversely affect MPs by raising their opportunity costs, such as when an MP is denied a public speaking opportunity or a prominent position, resulting in less accrued political capital than anticipated. Active sanctions, by contrast, are more burdensome as they necessitate the leader or other MPs to expend capital in publicly criticizing the sanctioned MP. Due to their high cost for both MPs and leaders, active sanctions are less commonly used than passive ones. For the sake of model simplicity, we only consider passive sanctions herein.

As for the magnitude of the sanction, leaders in practice are likely to impose sanctions that are both proportional and incremental. They possess a wide array of methods and frequent opportunities to discipline MPs. It is reasonable to posit that the spectrum of possible sanctions covers a continuous space, granting leaders nuanced options for punishment that correspond to the degree of deviation from the party line. However, to confine the model's complexity and eschew speculation about the functional form of such proportionality, we adopt a straightforward approach where sanctions take a discrete form, such that $\sigma_i \in 0, 1$.

Under this simplifying assumption, the leader faces a binary choice regarding an MP's sanction. She can either tolerate the MP's deviation without enforcing any sanctions, denoted by $\sigma_i = 0$, or she can respond by imposing a full sanction, represented by $\sigma_i = 1$. In this framework, any proposal outside the tolerance interval will incur a sanction, whereas proposals within the interval will escape such punitive measures.

$$\begin{cases} \forall p_i \in [-T, T] \rightarrow \sigma_i = 0 \\ \forall p_i \notin [-T, T] \rightarrow \sigma_i = 1 \end{cases} \quad (2.8)$$

2.5 Dominant strategies

In this section, I present the formal implication of the models, pinpointing the dominant strategies for both leaders and MPs. To identify these strategies, I employ backward induction and treat each round of the game as a sub-game.

2.5.1 Sanction

The final decision in the game involves the leader's choice to impose a sanction on an MP after observing the location of her proposal. The binary nature of the sanction sets a deterministic rule for when a sanction is applied. By design, the leader's utility rises with each additional resource allocated within the tolerance interval and drops for each additional resource spent outside of it. Consequently, the leader sanctions any proposal that falls outside this tolerance interval. Because capital committed to non-tolerated proposals inherently has negative marginal utility, the leader is invariably better off sanctioning such proposals.

2.5.2 Policy proposals

The second-to-last stage in the game focuses on the MPs' decision regarding the location of their policy proposal, which can also be modeled as a sub-game. At this juncture, each MP is aware of the collective resources they have been allocated. As stated in the previous paragraph, MPs also understand they will face sanctions if their proposals lie outside the leader's tolerance interval.

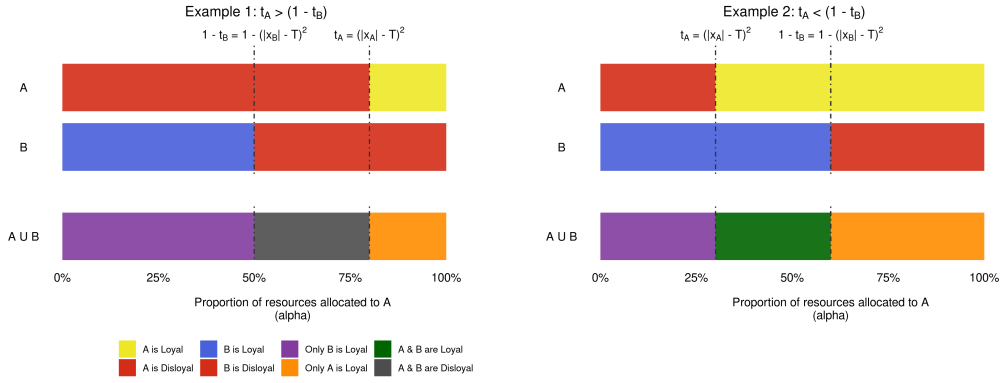
MPs navigate through three distinct scenarios, contingent on the proximity of their ideal policy to the leader's tolerance interval and their allocation of collective resources.

Firstly, if an MP's ideal policy is within the tolerance interval, they will advocate for that policy. Here, they are immune from sanctions and lack any incentive to either converge towards or diverge from the leader's stance.

Secondly, if an MP's ideal policy is outside the tolerance interval, a trade-off emerges. The MP can either shift her proposal closer to the leader's position to avoid sanctions and secure some partisan capital. In such a case, she would place her proposal at T (or $-T$, if her position is negative), receiving a utility of $r_A^m + r_A^C - (|x_A| - T)^2$. This represents the closest she can come to her ideal policy while evading sanctions. Alternatively, the MP can forsake her share of partisan capital to maximize her policy objective, positioning her proposal at her ideal location and incurring a sanction, thereby ending up with a utility of r_A^m .

Therefore, an MP will adhere to the party line if the partisan capital allocated by the leader sufficiently offsets the policy costs of aligning with the tolerance threshold.

Figure 2.3: How does the leader anticipate MPs' response?



$$\left\{ \begin{array}{l}
 \text{Sincerely loyal:} \\
 \text{if } |x_A| \leq T \rightarrow p_A = x_A \rightarrow U_A = r_A^m + r_A^C \\
 \text{Constrained to loyalty:} \\
 \text{if } |x_A| > T \ \& \ r_A^C > (x_A - T)^2 \rightarrow p_A = T \rightarrow U_A = r_A^m + r_A^C - (x_A - T)^2 \\
 \text{Disloyal:} \\
 \text{if } |x_A| > T \ \& \ r_A^C < (x_A - T)^2 \rightarrow p_A = x_A \rightarrow U_A = r_A^m
 \end{array} \right. \quad (2.9)$$

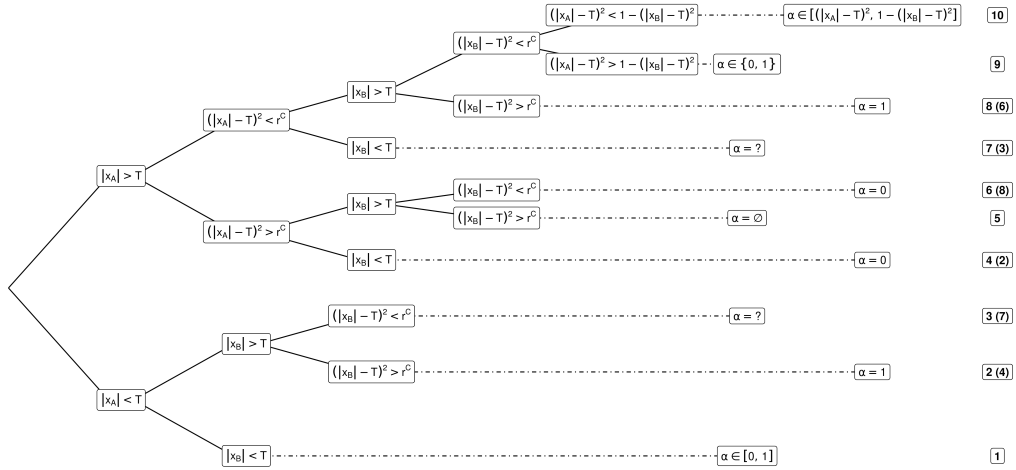
2.5.3 Leaders' resource allocation

The action taken by an MP is influenced by two key factors: their personal policy preference and the allocation of resources from the party leader. An MP can display three types of actions: sincere, constrained, or disloyal. Each MP makes her decision in a sub-game, which the party leader can predict. Sincere loyalty is readily observable because it is not contingent on resource allocation. On the other hand, constrained loyalty and disloyalty are not immediately discernible and depend on the variable α .

An MP's decision to remain loyal hinges on the allocation of partisan resources. Each MP has a unique loyalty threshold, denoted by $t_i = (|x_i| - T)^2$, which quantifies the policy cost of loyalty. If the resources allocated surpass this threshold, the MP remains loyal; if not, the MP deviates from the party line. Given any allocation scenario $\alpha \in [0, 1]$, the leader can thus forecast an MP's behavior. For example, if $\alpha \in [0, t_A]$, MP A remains loyal because the resources allocated exceed her threshold, whereas for $\alpha \in [t_A, 1]$, MP A is disloyal.

The existence of these decision thresholds partitions the leader's decision-making space into up to four distinct intervals.

Figure 2.4: Scenarios faced by the leader when allocating resources



$$\begin{cases} \alpha > t_A \text{ and } \alpha < t_B \rightarrow \text{Both MP are disloyal} \\ \alpha > t_A \text{ and } \alpha > t_B \rightarrow \text{B is loyal but not A} \\ \alpha < t_A \text{ and } \alpha < t_B \rightarrow \text{A is loyal but not B} \\ \alpha < t_A \text{ and } \alpha > t_B \rightarrow \text{Both MP are loyal} \end{cases} \quad (2.10)$$

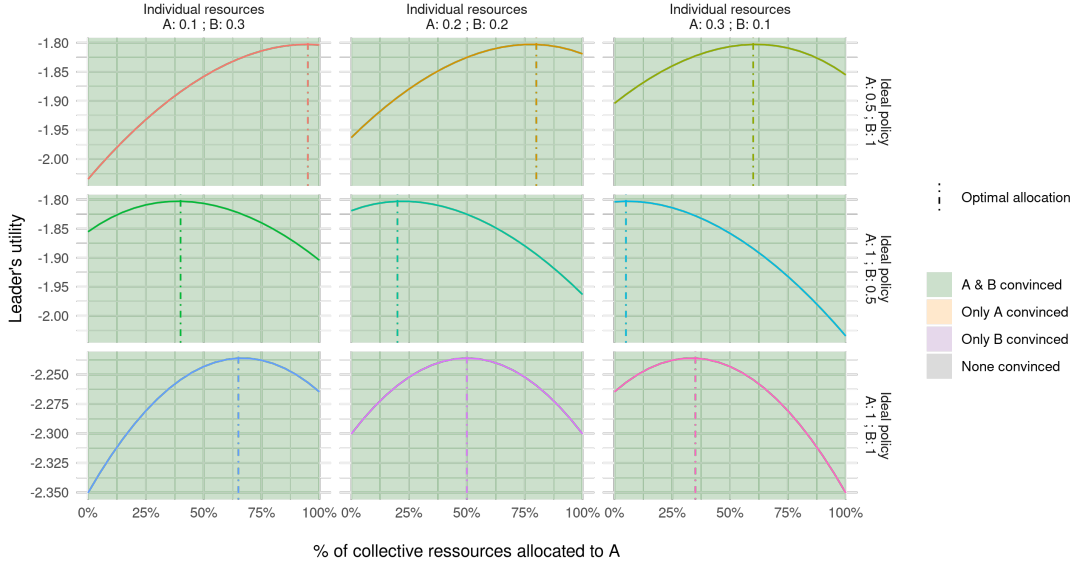
In each of these intervals, the leader can: (1) delineate the form of her utility function, (2) identify the value of α that maximizes this utility, and (3) select the allocation that yields the highest utility across all intervals.

Depending on the MPs' ideal policy positions x_A, x_B and a given tolerance threshold T , the leader may encounter one of ten different scenarios, as illustrated in Fig 2.4. Some of these scenarios are symmetrically equivalent, reducing the effective number of unique scenarios to seven:

- **Scenario 1: Both MPs are sincere and loyal**
- Scenario 2 (4): A (B) is sincerely loyal and B (A) cannot be convinced
- **Scenario 3 (7): A (B) is sincerely loyal and B (A) can be convinced**
- Scenario 5: A and B cannot be convinced
- Scenario 6 (8): A (B) cannot be convinced and B (A) can be convinced
- **Scenario 9: A and B can both be convinced but not simultaneously**
- **Scenario 10: A and B can be simultaneously convinced**

In five of these scenarios (Scenarios 2/4, 5, and 6/8), the leader confronts at least one MP who is impervious to persuasion, limiting her strategic agency. Because

Figure 2.5: Scenario 1: Both MP are sincerely loyal



these scenarios offer limited analytical leverage, this study focuses on the remaining five scenarios (Scenarios 1, 3/7, 9, 10)⁴.

Scenario 1: Both MPs are sincere and loyal

In Scenario 1, both MPs have policy preferences that fall within the leader's tolerance interval. As a result, each MP is free to propose their ideal policy without incurring any sanctions. The leader's utility in this situation is governed by equation 2.11, and any allocation between 0 and 1 ($\alpha \in [0, 1]$) could be considered optimal for her.

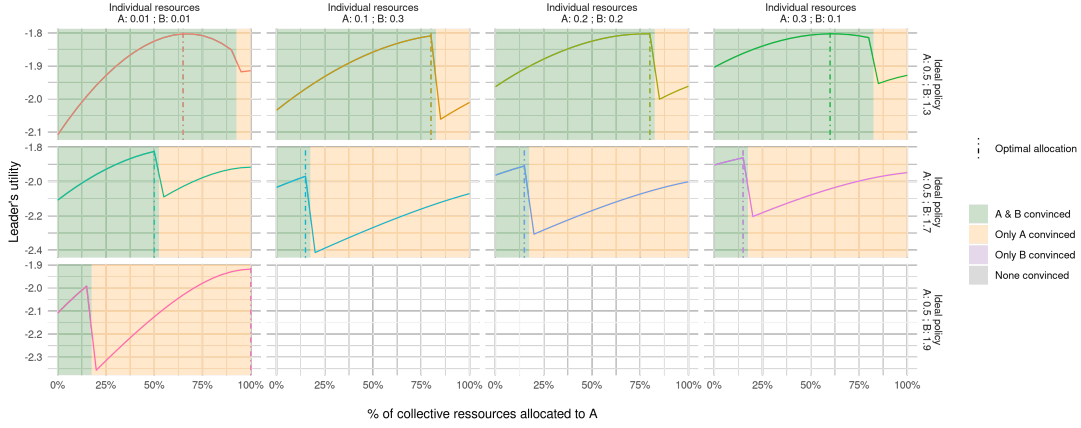
$$U_L = -\sqrt{x_A^2 + (\alpha \times r^C + r_A^m - 1)^2} - \sqrt{x_B^2 + ((1 - \alpha) \times r^C + r_B^m - 1)^2} \quad (2.11)$$

As depicted in Fig 2.5, the leader's allocation of collective resources to the MPs varies based on their ideological stances and personal resources. For example, when $|x_A| < |x_B|$ and $r_A^m = r_B^m$, the leader would allocate 80% of the collective resources to MP A.

This scenario portrays a party that is highly cohesive, at least within the bounds of the leader's tolerance. Although the leader faces minimal risk of moral hazard, her allocation choices still carry weight. Specifically, they influence the relative power of MPs and the quality of representation provided to their respective constituents.

⁴A comprehensive analysis of the less analytically potent scenarios is available in the appendix

Figure 2.6: Scenario 3: A is loyal and B can be convinced



Scenario 3: A is sincerely loyal and B can be convinced

In scenario 3, A's ideal policy lies within the tolerance interval and A is sincerely loyal. B's ideal policy, on the other hand, has a policy preference outside this interval but can potentially be convinced of being loyal, as the leader possesses enough resources to sway her proposal.

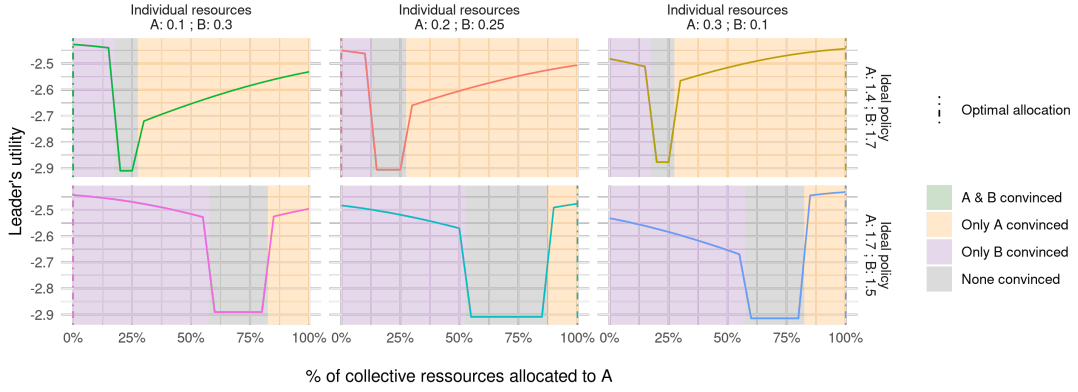
The leader's utility function can manifest in two distinct forms depending on whether B is successfully convinced to adhere to the party line.

$$\left\{ \begin{array}{l} \text{if } \alpha > 1 - \frac{(x_B - T)^2}{r^C} \rightarrow p_B = x_B \rightarrow U_L = -\sqrt{x_A^2 + (r_A^m + r^C - 1)^2} + \\ \quad U_{min} - \frac{(x_B - T)^2 \times r_B^m}{2} \\ \text{if } \alpha < 1 - \frac{(x_B - T)^2}{r^C} \rightarrow p_B = T \rightarrow U_L = -\sqrt{x_A^2 + (r_A^m + \alpha \times r^C - 1)^2} - \\ \quad \sqrt{T^2 + (r_B^m + (1 - \alpha) \times r^C - 1)^2} \end{array} \right. \quad (2.12)$$

Simulations are presented in Fig 2.6. The amount of partisan capital allocated to B determines whether she aligns with the party line (green area) or rebels against it (yellow area). The triggering allocation depends on (1) B's ideological position and (2) the available political capital. B is easier to persuade when she is closer to the tolerance threshold and when the overall partisan capital is smaller, a larger share is needed to secure her loyalty.

B's dual possible behavior leads to two separate utility functions for the leader. If B is convinced (blue area), she proposes a policy within the tolerance threshold, essentially converting the scenario into Scenario 1. If B is not convinced (yellow area), she proposes a policy outside the leader's tolerance. Most often, the leader chooses to allocate enough resources to B to ensure her loyalty, even if it means directing nearly all resources toward her. However, the leader typically allocates only the bare minimum required to secure B's loyalty, reserving the remainder for A.

Figure 2.7: Scenario 9: A and B can both be convinced but not simultaneously



In exceptional cases, the leader may find it more beneficial to allow B to rebel. In such instances, the resources required to persuade B yield higher utility when allocated to A, thus fully directing resources to A ($\alpha = 1$). In essence, the value of strengthening A's proposal outweighs the benefit of securing B's loyalty. These unique situations occur when B's loyalty comes at a high cost (high ideological divergence) and offers low payoff (low individual resources), while A's proposal brings high marginal utility due to closer ideological alignment and limited individual resources.

Scenario 9: Scenario 9: A and B can both be convinced but not simultaneously

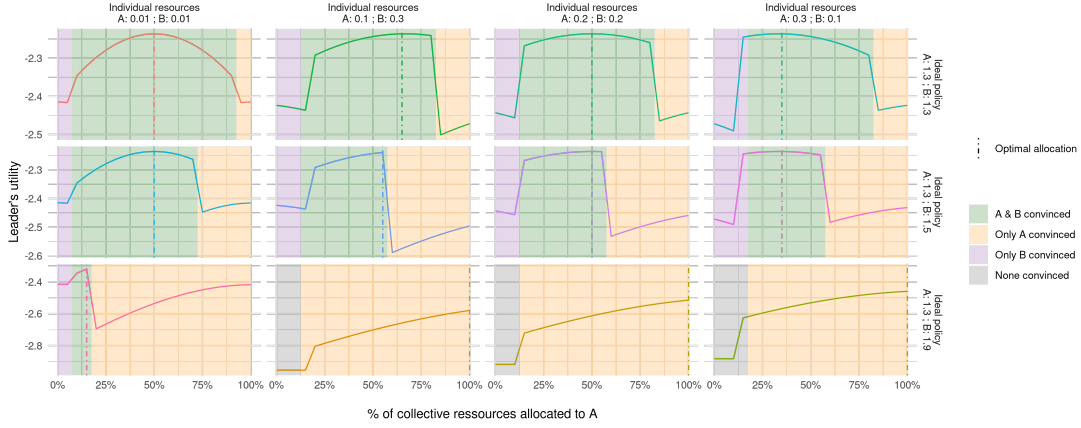
In certain instances, the leader may find it impossible to persuade both MPs to adhere to the party line. This is especially likely when both MPs hold extremist views or when the leader has limited resources available. In such situations, the leader directs all available partisan capital toward the MP who offers the highest marginal utility. Given that both MPs, once convinced, will align their proposals with the tolerance threshold, the marginal utility of the allocated partisan capital hinges solely on each MP's individual resources. Consequently, the MP with the greater individual capital will invariably offer higher marginal utility. In this scenario, the leader consistently allocates all resources to the MP possessing the most substantial individual capital as shown in equation 2.13.

$$\begin{cases} \text{if } r_A^m > r_B^m \rightarrow \alpha = 1 \rightarrow p_A = T ; p_B = x_B \\ \text{if } r_A^m < r_B^m \rightarrow \alpha = 0 \rightarrow p_A = x_A ; p_B = x_B \end{cases} \quad (2.13)$$

Scenario 10: A and B can be simultaneously convinced

The final scenario presents a particularly intricate set of dynamics as neither MP possesses a stable, dominant strategy. The leader's utility function is contingent on both the allocation of resources and each MP's individual policy costs. Three

Figure 2.8: Scenario 10: A and B can be simultaneously convinced



potential outcomes exist: (1) both MPs are persuaded to adhere to the party line, (2) only A is convinced, or (3) only B is convinced.

$$\left\{ \begin{array}{l}
 (1) \text{ if } \begin{cases} \alpha \geq 1 - \frac{(|x_A| - T)^2}{r^C} \rightarrow p_A = T \\ \alpha \leq 1 - \frac{(|x_B| - T)^2}{r^C} \rightarrow p_B = T \end{cases} \\
 \rightarrow U_L = -\sqrt{T^2 + (\alpha \times r^C + r_A^m - 1)^2} - \sqrt{T^2 + ((1 - \alpha) \times r^C + r_B^m - 1)^2} \\
 \\
 (2) \text{ if } \begin{cases} \alpha \geq 1 - \frac{(|x_A| - T)^2}{r^C} \rightarrow p_A = T \\ \alpha > 1 - \frac{(|x_B| - T)^2}{r^C} \rightarrow p_B = x_B \end{cases} \\
 \rightarrow U_L = -\sqrt{T^2 + (\alpha \times r^C + r_A^m - 1)^2} + U_m \text{in} - \frac{(|x_B| - T)^2 r_B^m}{2} \\
 \\
 (3) \text{ if } \begin{cases} \alpha < 1 - \frac{(|x_A| - T)^2}{r^C} \rightarrow p_A = x_A \\ \alpha \leq 1 - \frac{(|x_B| - T)^2}{r^C} \rightarrow p_B = T \end{cases} \\
 \rightarrow U_L = U_m \text{in} - \frac{(|x_A| - T)^2 \times r_A^m}{2} - \sqrt{T^2 + ((1 - \alpha) \times r^C + r_B^m - 1)^2}
 \end{array} \right. \quad (2.14)$$

As depicted in Fig 2.8, the leader's utility varies depending on different combinations of parameters. Intriguingly, the leader consistently opts for the allocation scenario that persuades both MPs to align with the party (green area). Once an MP is convinced, the marginal utility derived from allocating the remaining partisan resources to the other MP becomes systematically higher. This is because a convinced MP will position her policy proposal at the tolerance threshold. If sufficient resources are available to also persuade the second MP to align her proposal similarly, the leader gains equal marginal utility from either allocation. Should the leader choose to tolerate one MP's dissent, she incurs additional costs, thereby rationalizing her preference for persuading both MPs to toe the party line when it is feasible.

2.6 Implications

The model provides a framework for generating expectations about three distinct but interconnected phenomena of interest:

1. Leader's ability to enforce the party line
2. Power inequalities within a parliamentary group
3. MP's capacity to secure partisan capital

2.6.1 Is the leader able to enforce the party line?

Fig 2.8 illustrates the leader's capacity to enforce party cohesion among MPs. Generally, the leader succeeds in uniting both MPs under the party line. Her efficacy diminishes, however, when faced with two conditions: (1) an MP harboring extreme policy preferences, and (2) the availability of only limited partisan capital in comparison to the capital held by individual MPs. These factors synergistically undermine the leader's control, making it difficult to influence even a single MP when both conditions are met. The leader's utility further diminishes as the amount of capital held by a rebellious MP increases.

The scenarios depicted underscore that a leader tolerates rebellion only when the dissident MP is both ideologically extreme and politically weak. Specifically, in scenario 3, the leader intentionally permits MP 'B' to rebel when 'B' is both resource-poor and ideologically extreme. Otherwise, the leader typically enforces party cohesion. This pattern suggests that the leader's influence is largely determined by external factors —namely, the ideological positioning of MPs relative to a tolerance threshold and the proportional availability of partisan capital vis-a-vis individual MP capital.

Therefore, any exogenous variables that either (1) increase ideological diversity within the party or (2) diminish the ratio of partisan to individual capital will weaken the leader's capacity to maintain party discipline.

Several structural factors influence the distribution of preferences and resources within a party as well as the overall pool of partisan capital. The institutional environment significantly affects an MP's relative bargaining power. In candidate-focused, majoritarian systems like the American Senate, individual MPs control most of the resources, limiting the leader's influence and elevating the probability of insubordination. Factors like parliamentary rules and nominations to key positions can either amplify or restrain a leader's ability to influence MPs. Governmental control over policy likewise provides leaders with additional institutional tools to wield against rebellious members. The internal architecture of a party, particularly its level of centralization, also influences the leader's capacity for enforcing discipline.

Institutional frameworks also shape intra-party ideological diversity. The type of electoral system in place impacts party size and structure, affecting the range of preferences a party must represent. For example, majoritarian systems confront parties with broader electoral bases, making party discipline more challenging to maintain than in proportional systems.

Beyond institutional variables, the broader political landscape affects party cohesion. The fragmentation of a partisan system introduces new conflict line that can cause internal party discord. Even a party that is ideologically cohesive along the traditional left-right axis might struggle with unity on other issues. Sudden shifts in the political environment, like referenda on European Integration, the 2015 migration crisis, or the COVID pandemic, further destabilize intra-party relations and impede a leader’s ability to maintain discipline.

Idiosyncratic events, too, can challenge a leader’s control over the party line. The rise of charismatic MPs with non-mainstream views poses a distinct threat, as do unforeseen events like terrorist attacks or natural disasters, which can sway public opinion and alter the balance of power within the party.

Lastly, it’s crucial to recognize the interplay between these variables. A leader with abundant resources might still enforce party discipline in a highly polarized environment, whereas a leader with limited resources may struggle even when ideological alignment within the party is high. These propositions should thus be understood as interacting factors that together shape party cohesion.

2.6.2 Does the leader reduce power inequalities between her members?

A pivotal question addressed in this paper concerns the inequalities in political capital that may exist among MPs. As outlined in the introduction, the distribution of such capital is more than just an internal party matter; it has implications for democratic representation. Specifically, it influences an MP’s individual capacity to represent their constituents and, by extension, affects the aggregate representational capability of the party. While there are four primary avenues for acquiring political capital — inheritance, conversion from other forms of capital, political labor, or accumulation as rent from previously invested capital— each can serve as an exogenous source of inequality. Nonetheless, if a partisan leader has sufficient resources, they possess considerable latitude to shape this distribution within their party.

The model developed in this paper theorizes that leaders have an incentive to promote an egalitarian distribution of political capital. When MPs share similar ideological stances, the marginal utility of distributing partisan capital is maximized for those MPs with less individual capital. As long as MPs fall within the leader’s tolerance interval, minor inequalities generated by ideological differences can be offset. Ultimately, the leader’s optimal strategy leans toward an egalitarian distribution of

both individual and partisan capital. Such a distribution can be achieved even if the leader unevenly allocates partisan capital to correct existing disparities. This preference for an egalitarian distribution not only optimizes representational efficacy but also serves to consolidate the leader's position by minimizing the risk of internal challengers. In a party where everyone has similar amounts of political capital, no one is in a uniquely advantageous position to challenge the leader.

The leader's efficacy in mitigating capital inequalities is enhanced by three factors: (1) an abundant supply of partisan capital, (2) minimal exogenous inequalities between MPs, and (3) low ideological diversity within the party. The leader's task becomes especially complicated when dealing with a powerful extremist within the party. In such instances, the leader may find it necessary to disproportionately allocate resources to this influential outlier to coax them back to the party line. However, this strategy could backfire, exacerbating intra-party inequalities and potentially empowering the extremist to challenge the leader's authority.

2.6.3 Who gets how much partisan capital?

Finally, the model can be utilized to formulate expectations about the amount of capital individually accrued by MPs, bringing two core insights to light.

First, the volume of partisan capital allocated to a given MP is a function of both their political preferences and their individually owned capital. Generally, MPs whose policy preferences align more closely with those of the leader are more likely to be the recipients of larger sums of partisan capital. Conversely, MPs with high levels of individual political capital tend to receive less partisan capital from the leader—unless their policy preferences diverge significantly from those of the leader. Within the bounds of "convincibility," a higher level of individual capital actually enhances the likelihood that the leader will invest considerable partisan capital to align the MP with the party line.

Second, the distribution of partisan capital to a specific MP cannot be fully grasped without considering other MPs' preferences and capital. The share of partisan capital an MPs receives may greatly vary as a function of the broader partisan context. This insight necessitates a holistic approach to understanding intra-party resource allocation, one that moves beyond dyadic relationships between the leader and individual MPs and accounts for the broader trade-offs leaders must make when distributing resources among MPs.

Interestingly, these findings imply the existence of two primary long-term strategies for MPs seeking to accrue individual capital: loyalty and breakaway. A loyalty strategy involves strict adherence to the party line to maximize the acquisition of partisan capital. Alternatively, a breakaway strategy entails amassing significant amounts of individual capital as a form of leverage over the leader. The optimal choice between these strategies is influenced by the variables previously discussed in

this paper: the quantity of partisan capital distributed by the leader and the capital and preferences of other MPs in the party.

2.7 Discussion

This article proposes a novel conceptualization of legislative intra-partisan delegation. It starts with the simple idea that pure spatial models of policy-making cannot account for non-institutional power asymmetries between representatives and introduces nuanced conceptualization of representation that incorporates both the preferences of actors and the political capital they wield.

According to the core thesis, partisan leaders strategically allocate partisan capital to maintain party unity. To capture this dynamic, I adapt spatial models of policy-making into a modified Tullock Contest, emphasizing again the role of political capital. Employing a simplified delegation game that features one leader and two MPs, the model shows that the distribution of partisan capital among MPs is sensitive to initial conditions such as individual preferences and available capital. Key findings include: Powerful extremist MPs significantly impact party dynamics; leaders can mitigate inequality among MPs in the absence of powerful extremists; and the distribution of political capital among MPs has broader implications for citizen representation, potentially exacerbating or ameliorating existing societal inequalities.

The proposed model, while offering novel insights, is not without limitations and suggests several avenues for future research.

Firstly, the model could greatly benefit from endogenizing the leader's tolerance threshold, a critical factor in balancing party unity against ideological divergence. In a polarized setting, a leader may choose to relax this threshold, accepting greater variance in policy positions to maintain party cohesion. This adjustment can particularly help in situations delineated in the appendix, where some MPs are initially non-convincible but become persuadable under a higher tolerance threshold.

Secondly, the model should incorporate the option for MPs to exit the policy-making process, providing a third alternative to voicing dissent or toeing the party line. For example, an MP may choose constituency work over expending political capital on policy-making, a choice that the leader might find more palatable and cost-effective than enforcing strict loyalty.

Thirdly, the model should transition from using discrete sanctions to proportional ones. In practice, it is unlikely that a leader can completely strip an MP of all allocated resources. Sanctions are more realistically implemented in subsequent rounds of resource allocation and should be proportional to the degree of ideological divergence, offering the leader nuanced control mechanisms.

Fourthly, the current model's limitations to two MPs should be addressed in

future iterations. Expanding the model to include more MPs would enable a more comprehensive test of the article's conclusions and notoriously increase the external validity of the results.

Finally, the model should better account for the multi-dimensionality of policy spaces. Instead of a single continuous policy dimension, leaders and MPs in reality negotiate over multiple policy issues simultaneously. The leader's strategic allocation of partisan capital should thus also vary not only among MPs but across different policy domains.