MAIN DOCUMENT

Who wins in coalition negotiations? Detecting language from party manifestos in coalition

agreements

Abstract

Coalition agreements play a crucial role in shaping policy agendas in multiparty governments. Yet, we still know little about which party succeeds in asserting its agenda in these documents. This paper introduces a novel approach to measuring party influence in coalition agreements by leveraging transformer-based language models. By comparing the linguistic similarity between party manifestos and coalition agreements, we estimate the likelihood that each sentence was authored by a given coalition party. These sentence-level predictions are aggregated to the party–issue level, allowing us to measure party assertion across specific policy areas. We apply this method to a new dataset covering 57 coalition agreements across 14 European countries between 1957 and 2014 and link these estimates to party-level and issue-level predictors. Our multilevel analysis shows that traditional predictors of coalition payoffs—such as prime minister status, median party position, and structural bargaining power—are positively associated with textual influence. In contrast, seat share is negatively associated with assertion, while portfolio control and issue-specific salience dynamics show limited explanatory power. These findings challenge conventional assumptions about the role of party size in coalition negotiations and highlight textual imprint as a distinct dimension of coalition bargaining outcomes.

Keywords: coalition agreements; party manifestos; language transfer; comparative study

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Introduction

Coalition agreements are a central feature of policy making in parliamentary democracies. In systems where no single party commands a legislative majority, coalition governments are the norm, and written coalition agreements play a key role in shaping the agenda of the upcoming legislative term. These agreements not only outline shared policy commitments, but also establish procedures for conflict resolution, decision-making, and portfolio allocation. As such, they are more than symbolic documents and function as control devices that structure governance and allow for intra-coalition accountability (Klüver, Bäck, et al., 2023; Krauss, 2018; Krauss & Klüver, 2023; Strøm et al., 2008; Strøm & Müller, 2000).

Thus, growing body of research has examined coalition agreements as tools to manage conflict and ensure coordination among governing parties. Several studies link the length and complexity of these agreements to ideological diversity within the coalition, suggesting that more heterogeneous coalitions require more detailed agreements e.g., (Falcó-Gimeno, 2012; Indridason & Kristinsson, 2013). Others highlight that agreement length also reflects whether parties secured their preferred portfolios. When there is a stronger match between issue priorities and ministerial control, parties have less need to negotiate detailed terms (Krauss & Klüver, 2023). At the same time, high issue tangentiality, meaning that coalition partners care about different issues, can reduce the need for oversight mechanisms altogether (Falcó-Gimeno, 2012). Recent work further suggests that coalition agreements can increase policy productivity by minimizing intra-cabinet conflict, particularly in minimal winning coalitions (Bergman et al., 2024).

While these studies provide important insights into the structure and function of coalition agreements, they tell us little about which party ultimately shapes their content. Existing research on coalition payoffs has focused primarily on portfolio distribution e.g., (Bäck et al., 2009, 2011; Browne & Franklin, 1973; Laver & Shepsle, 1996; Warwick & Druckman, 2006), policy outcomes e.g., (Martin & Vanberg, 2014, 2020; Warwick, 2001), and pledge fulfillment e.g., (Lehmann et al., 2022; Matthieß & Vehrkamp, 2023a, 2023b; Vodová, 2020). These studies highlight the role of party size, prime ministerial status, and bargaining leverage in shaping coalition outcomes e.g., (Gamson, 1961; Kayser & Rehmert, 2023; Warwick & Druckman, 2006). However, most do not analyze the coalition agreement itself as an object of contestation. Only a few studies have examined which party is able to assert its preferences in the coalition text e.g., (Debus, 2008), and we still lack a systematic understanding of whose agenda dominates the written agreement.

To fill this gap, we ask: Which party can assert itself in the coalition agreement? Building on previous research on payoff distribution in coalition governments, we propose a series of hypotheses. We expect that assertion in the coalition agreement is shaped by both institutional and positional factors: party size, prime minister status, experience in government, median position, portfolio jurisdiction, bargaining power, and issue-specific salience dynamics.

To test these hypotheses, we develop a novel method that applies a fine-tuned large language model to predict the authorship of individual sentences in coalition agreements. By comparing the language of election manifestos with the text of coalition agreements, the model assigns each sentence to the most likely coalition party based on linguistic similarity. This allows us to derive a continuous measure of party assertion, indicating the share of text within a specific policy category each party is likely responsible for. This approach enables a more direct and

fine-grained analysis of coalition bargaining outcomes than traditional methods that rely on positional congruence or pledge tracking.

Our paper proceeds as follows. We begin by discussing the role and function of coalition agreements in multiparty governance. We then outline our theoretical framework and hypotheses, which are derived from previous studies examining payoffs in coalition negotiations, before presenting our research design, including the data, the LLM-based method, and our modeling strategy. We follow with the empirical analysis, and conclude by discussing our findings, limitations, and implications for future research.

Our results provide new insights into the determinants of coalition bargaining outcomes. We find that the prime minister party, the median party, and parties with a high bargaining leverage are more likely to assert their language in the coalition agreement, while contrary to expectations, larger parties tend to leave a smaller linguistic imprint. Moreover, we find no evidence that issue salience or tangentiality significantly shape which party's language is reflected in the agreement. These findings suggest that issue-specific salience and tangentiality play a limited role in shaping the content of coalition agreements. Instead, structural and positional sources of power, such as prime minister status, median party position, and bargaining leverage, better explain which party's language is reflected in the agreement, highlighting the importance of strategic power over issue salience in coalition negotiations.

The role and function of coalition agreements

Within multiparty parliamentary democracies, where no single party usually holds a majority multiple parties have to form a coalition government to achieve a parliamentary majority. These coalitions face several challenges in policymaking due to diverging policy preferences among parties. To prevent and mitigate potential conflicts, parties set out more or

less complex coalition agreements. These agreements play a crucial role in setting out policy commitments, portfolio allocation, and procedural rules, serving as more than just symbolic documents but as a basis for accountability among coalition parties (Strøm et al., 2008; Strøm & Müller, 2000). It is therefore that scholars describe these agreements as control devices that stabilize the coalition, manage potential conflicts, and ensure collective decision-making (Krauss, 2018; Krauss & Klüver, 2023). The length of a coalition agreement often indicates conflict potential, with longer agreements more likely in ideologically diverse coalitions (Eichorst, 2014; Indridason, 2011). Similarly, (Krauss & Klüver, 2023) show that shorter agreements signal higher correspondence between parties' issue priorities and preferred portfolios, suggesting that when parties secure their preferred portfolios, they have less incentive to negotiate detailed agreements. However, (Falcó-Gimeno, 2012) emphasizes the importance of preference tangentiality, that is, when parties prioritize different issues, and notes that high tangentiality reduces the need for control mechanisms within the coalition agreement. In other words, when parties care about different issues, there is less incentive to monitor each other in these policy areas. Additionally, (Bergman et al., 2024) find that coalition agreements can enhance policy productivity, particularly in minimal winning cabinets, by limiting intra-cabinet conflicts.

While single majority governments can translate their manifestos directly into a policy agenda, multiparty cabinets consist of at least two parties with (to some extent) divergent policy preferences. In such contexts, the parties must negotiate to find policy compromises. As laid out above, coalition agreements are not merely symbolic but binding documents, ensuring parties can be held accountable for non-compliance. Studies show that on average, policies adopted in coalition agreement are more likely to be passed within the legislative term (Costello &

Thomson, 2008; Mansergh & Thomson, 2007; Schermann & Ennser-Jedenastik, 2014). This

creates strong incentives for parties to secure their preferences in the coalition agreement to

translate their preferences into policy output, demonstrating responsiveness and reliability to

their electorate. This raises the question of what factors influence which party can enforce its

agenda in the coalition agreement. In the next section, we lay out our theoretical argument and

hypotheses based on previous findings in the literature.

Who gets what? Payoffs in coalition negotiations

The question of "who gets what?" in coalition governments has been widely investigated

in the literature. In particular three payoffs have been in the focus of these studies: portfolio

allocation, government policy output, and pledge fulfillment. The first relates to the question

which parties get which and how many portfolios e.g., (Bäck et al., 2009, 2011; Browne &

Franklin, 1973; Laver & Shepsle, 1996; Warwick & Druckman, 2006), the second explores the

question which parties can more strongly influence government policy e.g., (Martin & Vanberg,

2014, 2020; Warwick, 2001) and the third examines which party's pledges are adopted in the

coalition agreement and ultimately fulfilled within the legislative term e.g., (Lehmann et al.,

2022; Matthieß & Vehrkamp, 2023a, 2023b; Vodová, 2020). While the government policy and

pledge fulfillment literature both look at policy payoffs, studies of the latter are more specific,

examining whether a made promise is translated into policy, whereas studies of the former focus

on party positions and how they correlate with policy outcomes.

Although these studies examine different payoffs that result from coalition bargaining,

they take into account similar factors that influence the extent of these payoffs. One of the main

findings of these studies is that parties' seat share determines their payoffs in coalition

governments, whether in terms of portfolios, pledge fulfillment, or policy output. In the portfolio

allocation literature, this principle is known as Gamson's Law (Gamson, 1961), which states that parties receive portfolios proportional to their seat share, a finding supported by numerous studies e.g., (Browne & Feste, 1975; Browne & Franklin, 1973; Schofield & Laver, 1985; Warwick & Druckman, 2006). Similarly, it is often assumed that the prime minister's party (also known as the formateur party), being the largest, receives the most payoffs e.g., (Baron, 1991; Warwick & Druckman, 2006). This is particularly true for government policy output and pledge fulfillment, as the prime minister's party has the strongest agenda-setting power (Strøm et al., 2008; Thies, 2001; Thomson et al., 2017).

However, from the perspective of the veto player approach (Tsebelis, 2002), a party's seat share or its status as the prime minister's party should not (solely) determine its payoffs, as each party within the coalition can veto decisions. This means every coalition partner must agree to each policy compromise in the coalition agreement. Following this perspective, the bargaining leverage of each party becomes more important. Bargaining power is often measured by the number of potential coalitions a party can form apart from the current coalition negotiations. In other words, if a party can credibly threaten to abandon the current coalition negotiations for an alternative coalition, its payoffs should increase (Kayser & Rehmert, 2023). This approach can explain why in some cases junior partners receive greater payoffs in coalition negotiations compared to the prime minister's party. An illustrative example of this is the "two-and-a-half" party system and the pivotal role of the liberal FDP as the "Königsmacher" ("Kingmaker") in Germany between the early 1960s and early 1980s. Despite being the smallest party, the FDP held the balance of power as it was the median party and could decide whether to join a coalition with the centre-right CDU/CSU or the centre-left SPD. This strategic position allowed the FDP to secure significant concessions from its senior coalition partner (Abedi & Siaroff, 2011).

Apart from the pledge fulfillment studies, which trace back which pledges in the coalition agreement come from which election manifesto (Lehmann et al., 2022; Matthieß & Vehrkamp, 2023a, 2023b; Vodová, 2020), studies have mostly neglected the question of which party can assert itself in the coalition agreement (see for exception Debus, 2008). We aim to fill this research gap by investigating what factors explain which party is able to assert itself in the coalition agreement. Specifically, we examine the overlap in language between the election manifestos of the coalition parties and the coalition agreement.

Using the overlap in language between party manifestos and coalition agreements allows for a precise measurement of which party's agenda is being adopted in the coalition agreement. If the agreement bears the signature of one coalition member more than another, this reflects that the party was able to assert its preferences in the agreement. In other words, when the language from a party's manifesto appears in the coalition agreement, it demonstrates that the party has successfully negotiated to have (part of) its agenda adopted into the coalition's policy program. We know that party manifestos are the product of a long intra-party bargaining process that ensures that these documents contain the relevant and significant aspects of the party's policy agenda. In this sense, the party manifesto can be seen as a "blueprint" that reflects the party's issue priorities and policy positions, which the parties intend to translate into policy outputs once in office. The language parties use in their manifestos is therefore not chosen at random but is a reflection of this intra-party bargaining, where a consensus emerges on the party's framing of different issues and preferred policy proposals. A high degree of linguistic overlap between the manifesto and the coalition agreement suggests that the party's blueprint has been successfully translated into the coalition agreement. As coalition negotiations are inherently about bargaining power, the congruence between the language used in the party manifesto and the language used

in the coalition agreement can indicate that a particular party has greater bargaining power compared to the other coalition parties.

Based on the literature on payoff distribution in coalition governments, we propose several hypotheses to assess which factors explain parties' bargaining power and thus, which party is able to assert itself in the coalition agreement by enforcing its language in the coalition agreement. Table 1 summarizes our hypotheses that we draw from previous studies and findings.

First, in line with previous findings, we argue that a party's seat share as well as its status of being the prime minister party effect to what extent it can assert its agenda in the coalition agreement. In other words, we assume that larger parties and the prime minister's party are able to enforce their language more strongly in the coalition agreement, i.e. the overlap between the language used in their manifestos and the language used in the coalition agreement is greater for these parties compared to smaller parties and junior coalition partners. This follows the logic of "Gamson's Law" (Gamson, 1961), which states that the allocation of portfolios is proportional to the parties' seat shares. Additionally, the prime minister's party is usually the largest party, which has the greatest agenda-setting power. It can be expected that larger parties as well as the prime minister party are more likely to be able to enforce their language in the coalition agreement as these parties should have greater bargaining power in the coalition. Similarly, we argue that parties that were part of the previous government are able to leverage this experience and be more likely to secure their preferences in the coalition agreement compared to parties that have no "incumbency advantage".

Second, following the veto player theory (Tsebelis, 2002), we emphasize that bargaining power is not only a function of size, but also of positional advantage in the coalition space. We recognize that each party in a coalition is a veto player that can veto any decision, regardless of

its size or status as prime minister party. Median parties are often in a pivotal position to form coalitions and thus possess strong bargaining leverage e.g., (Strøm, 1990; Tsebelis, 2002). If parties are policy-seeking and political competition is structured along a single dimension, the ideal point of the median legislator cannot be outvoted (Tsebelis, 2002). This gives the median party strong leverage to push through its preferences in coalition agreements

Third, however, we know that the political space in Western Europe has become more complex and multidimensional, making it more difficult to meet the assumptions of the median voter theorem. One solution to this problem was proposed by (Laver & Shepsle, 1996) with the introduction of the "portfolio allocation model". In this model it is assumed that each issue dimension is governed by a specific portfolio, where the minister can independently decide over policies that fall under the jurisdiction of her portfolio. This "ministerial autonomy" means that the policies on the respective issue dimension should be closer to the ideal position of the party that holds the respective ministry e.g., (Martin & Vanberg, 2014). In the context of our study, we assume that parties are more likely to enforce their language in the coalition agreement concerning the issues that fall under the jurisdiction of their ministries.

Fourth, recent studies show that issue salience plays an important role for ministerial autonomy and the control mechanisms that parties install to restrict this autonomy (Falcó-Gimeno, 2012; Klüver & Bäck, 2019). In particular, these studies show that when parties care about different issues, the complexity of the coalition agreement and thus the incentive to control the other parties in these policy areas decreases. We assume that if the salience tangentiality for a particular issue in a coalition is high (i.e., there is a lower overlap in issue salience between the parties), the party for which this issue is of high importance, is more likely to enforce its language concerning this issue in the coalition agreement.

Finally, we draw on coalition bargaining theory to consider a party's structural bargaining power. A party that is part of many potential minimal winning coalitions has more exit options and can credibly threaten to walk away from negotiations. This enhances its leverage over the coalition agreement content (Kayser & Rehmert, 2023).

Based on the literature discussed beforehand, the following hypotheses (see Table 1) were formulated to compare previous comparative research on coalition agreements with the results using this new method.

Table 1

Hypotheses

Variable	Hypothesis
Party Size (Gamson's Law)	H1: The greater the seat share of a party, the more it will assert itself in the coalition agreement.
Prime Minister Party	H2: The prime minister's party is more likely to assert itself in the coalition agreement.
Part of preceding Government	H3: A party that was part of the preceding government is more likely to assert itself in the coalition agreement.
Median Party	H4: The median party is more likely to assert itself in the coalition agreement.
Jurisdiction of ministry	H5: A party is more likely to assert itself on issues in the coalition agreement that fall under the jurisdiction of its ministries.
Salience tangentiality * Issue Salience	H6: The higher the salience tangentiality between the coalition parties on an issue, the more likely it is that the party for which this issue is of high importance can assert itself on this issue in the coalition agreement.
Bargaining Power	H7: The greater the number of possible alternative minimal winning coalitions a party

Variable	Hypothesis
	can be part of, the more it can assert itself in the coalition agreement.

Research Design

Dependent Variable: Party Assertation

Our empirical analysis draws on two core data sources: the COALITIONAGREE dataset (Klüver, Krauss, et al., 2023) and party manifesto data from the Manifesto Project (Lehmann et al., 2024). The COALITIONAGREE dataset provides a comprehensive content analysis of 229 coalition agreements in 24 European countries between 1945 and 2015. For our analysis, we focus on a subset of 57 coalition agreements from 14 European countries between 1957 and 2014, for which manifesto data is available and which form the basis of our model training and prediction.

Following the methodology developed by the Manifesto Project, each coalition agreement was divided into quasi-sentences and coded into one of 56 issue categories. In line with recent extensions to the Manifesto Project coding scheme, the coding scheme was expanded to include 215 subcategories across seven major policy domains, enabling a more granular analysis of issues such as migration, health care, or digital policy. To ensure comparability between the coalition agreement data and the manifesto data, we aggregate all subcategories back to their corresponding main categories. This step harmonizes both datasets at the level of the 56 core issue categories of the Manifesto Project, allowing us to compute comparable measures of issue-level authorship and salience across both sources. We thus, restrict the analysis to substantial issue categories, excluding non-substantive codes such as 000 (no meaningful category applies) and 900 (procedural rules).

To enhance semantic consistency and enable sentence-level modeling we recombine quasi-sentences into full sentences. This preprocessing step allows us to use transformer-based models that operate on natural linguistic units and to retain contextual information necessary for accurate classification.

The dependent variable captures the likelihood that a specific party authored a sentence in a coalition agreement. This is computed using a fine-tuned transformer-based language model that assigns a probability distribution over all parties in a given coalition for each sentence. The model was trained in two stages: (1) learning to associate manifesto texts with their respective parties and (2) classifying coalition agreement sentences by predicting the most likely party author. Each party manifesto was labeled with its respective party, while coalition agreement sentences were initialized with equal probabilities across the coalition parties. The training data was structured for a multi-label classification task, where each sentence can be associated probabilistically with multiple parties.

The training set includes all party manifestos and a subset of coalition agreements, with stratified sampling by cabinet. The model was fine-tuned using a BERT architecture (Devlin et al., 2018; Tay et al., 2022) over 40 epochs with a learning rate of 2e-5 and weight decay of 0.01. It achieved strong performance, with an F1 score of 0.94 and an accuracy of 0.86 on the test set. To further validate the model, we conducted a containment check: a prediction was considered a hit if the predicted party was actually part of the coalition in the given country and year. This sanity check yielded an overall containment accuracy of 0.90 across all European elections.

At inference, we use the trained model to classify every sentence in the coalition agreements, resulting in a probability distribution over coalition parties for each sentence. These sentence-level predictions are then aggregated to the party–issue level (based on categories of the

Manifesto Project), providing our main dependent variable: the average predicted authorship

probability of a party for each policy category in a given coalition agreement.

This aggregation yields our main unit of analysis: the party–issue–cabinet level. That is,

for each party in a coalition, we calculate the average predicted probability that it authored the

text in a specific issue category of the coalition agreement. This measure reflects how strongly a

party's language is present in each policy area and allows us to compare party influence across

topics.

This approach has several advantages over traditional topic overlap methods. Instead of

inferring party influence by comparing the salience of issues in manifestos and coalition texts,

we model authorship directly. As in the German expression "eine Handschrift tragen" ("bear the

signature of", translated by the authors), the model identifies the "signature" of a party's

language based on semantic similarities to manifesto texts. While authorship is, of course, an

imperfect proxy for influence, it provides a novel and direct measure of party involvement in the

drafting of coalition agreements. Rather than replacing salience-based approaches, this method

complements them by offering a more granular view of how parties shape coalition texts at the

sentence level.

Main Independent Variables

To explain variation in the extent to which parties assert themselves in coalition

agreements, we include several explanatory variables derived from existing theories of coalition

politics. Each variable corresponds to a theoretical expectation laid out in hypotheses H1–H7

(see Table 1). To match the different data sources we relied on the Party Facts data set (Döring &

Regel, 2019).

First, we account for party size by including the seat share of each party in parliament, based data from the Manifesto Project. In line with Gamson's Law, larger parties are expected to have greater bargaining power and thus exert more influence over the content of coalition agreements (H1).

Second, we include a dummy variable indicating whether a party holds the prime ministership, coded as 1 for the party providing the prime minister and 0 otherwise. Prime ministerial parties typically play a leading role in setting the agenda and coordinating policy, which should translate into greater authorship in the coalition agreement (H2). Data for this variable is taken from the REPDEM "Party Government in Europe" dataset (Hellström et al., 2024).

Next, we include a dummy variable for whether a party is the median party on the economic left–right dimension. Median parties are often pivotal in coalition formation and are harder to exclude, giving them disproportionate bargaining leverage (H4). This variable is again taken from the REPDEM dataset (Hellström et al., 2024) and coded as 1 for the median party on the economic left-right dimension in a given party system.

We also consider issue-specific institutional power. For each policy category, we include a binary variable indicating whether a party holds the portfolio relevant to that issue. To construct this measure, we match policy categories from the Manifesto Project's coding scheme with ministerial responsibilities using the mapping developed by Costello and Thomson (2008). The expectation is that parties exert greater influence on issues under the jurisdiction of their ministries (H5).

To capture variation in the structure of party preferences across issues, we compute a measure of salience tangentiality for each policy category and cabinet. Following the approach

proposed by Klüver, Bäck, et al. (2023) and Falcó-Gimeno (2012), this measure reflects the

standard deviation of issue salience across all coalition partners. A higher standard deviation

indicates that coalition parties differ in how important a given issue is to them, suggesting

potential conflict over that policy area. When salience tangentiality is high, the party for which

the issue is particularly salient is more likely to assert itself in the coalition agreement. We

therefore include an interaction term between issue salience and salience tangentiality to test

hypothesis H6. The data on issue salience is taken from the Manifesto Project's dataset

(Lehmann et al., 2024).

Finally, we include a measure of bargaining power based on each party's structural

position in the coalition space. Specifically, we compute the proportion of all minimal winning

coalitions in which a party is included—that is, the share of coalition combinations that would

yield a parliamentary majority and contain the party. This reflects how central a party is to

coalition formation and captures its leverage in negotiations. The greater a party's potential to

form alternative majorities, the more influence it should have over coalition outcomes (H7). This

measure is calculated using data on seat distribution from the Manifesto Project (Lehmann et al.,

2024).

Control variables

In addition to our main independent variables, we include several control variables to

account for potential confounding factors that may influence coalition bargaining dynamics.

First, we control for the ideological position of each party using the rile index provided by the

Manifesto Project. This index captures a party's general left–right position based on its election

manifesto and allows us to account for systematic differences in how parties across the

ideological spectrum engage in coalition negotiations. For instance, centrist parties may be more

pragmatic and flexible negotiators, while parties at the ideological extremes may prioritize distinct policy goals or face greater difficulty finding common ground with their coalition partners.

Second, we control for the type of government using a categorical variable that distinguishes between minority governments, surplus coalitions, and minimal winning coalitions (MWCs), based on information from the REPDEM dataset. These government types reflect variation in the number of coalition partners and thus affect the structure of bargaining. In MWCs, the number of parties is just sufficient to secure a majority, which may increase each party's leverage. Surplus coalitions involve more parties than necessary, potentially diluting individual influence and complicating coordination. Minority governments, in contrast, lack a majority and often depend on external support, which may limit the ability of parties to assert their preferences in the coalition agreement.

Third, we account for the ideological range within a coalition. Prior research suggests that ideological distance between parties influences coalition formation (Indridason, 2011; Martin & Stevenson, 2001), stability (Greene, 2017; Saalfeld, 2008; Tsebelis, 2002), and the length and content of coalition agreements (Indridason & Kristinsson, 2013). Ideological heterogeneity increases the likelihood of conflict and makes policy compromise more difficult. We therefore calculate the ideological range of each coalition by subtracting the minimum from the maximum rile score of the coalition parties (based on Manifesto Project data). This measure captures the extent of ideological diversity within the cabinet and serves as a proxy for potential policy conflict.

Finally, we include a dummy variable for Central and Eastern European (CEE) countries to account for potential regional differences in coalition bargaining. The variable is coded 1 for observations from CEE countries and 0 otherwise.

Model Specification

To analyze which factors explain the extent to which parties assert themselves in coalition agreements, we estimate a linear mixed-effects model with random intercepts for parties and cabinets. This approach allows us to account for the nested structure of the data, where observations are clustered within both specific governments and specific parties. The dependent variable is the mean predicted probability that a party authored a given sentence in a coalition agreement, conditional on the policy topic (as defined by the Manifesto Project issue categories).

To capture unobserved heterogeneity at the coalition level, such as the general negotiation context, the political culture of a country, or time-specific shocks, we include a random intercept for each cabinet. Similarly, to control for unobserved party-specific characteristics, we include a random intercept for each party-country combination.

We opted for a random intercept model rather than a fixed-effects specification to retain between-unit variation and to allow generalization beyond the observed cabinets and parties. This is particularly relevant given the comparative nature of our study, which spans multiple countries and time periods. Moreover, the multilevel structure allows us to appropriately model dependence in the data while maintaining a parsimonious specification.

Analysis

Descriptive Analysis

To provide an overview of variation in party assertion across policy areas, coalitions, and countries, we present three descriptive figures.

Figure 1 shows the average party assertion across all issue categories. We observe that assertion levels do not vary substantially by issues. However, issues such as Constitutionalism (Positive), Marxist Analysis and Labour Groups (Negative) exhibit the highest average assertion. In contrast, categories like Anti-Imperialism, Education Limitation and Middle Class and Professional Groups show the lowest average levels of party assertion. These differences in average party assertion can be interpreted in several ways. Higher levels of assertion may indicate that the model was more confident in attributing text to a specific party, while lower levels may reflect greater uncertainty. This variation in model performance across issue areas could stem from several factors. First, parties may express similar positions on certain issues, making it more difficult for the model to identify a clear "winner." Second, some topics may be more strongly contested during coalition negotiations, resulting in language that reflects compromise or ambiguity rather than strong partisan imprint. Third, certain issues may be discussed in more generic or formulaic terms across party manifestos, which again complicates authorship attribution. In sum, lower levels of party assertion may reflect both linguistic convergence and substantive political consensus, while higher assertion could signal clearer partisan ownership or more polarized issue debates.
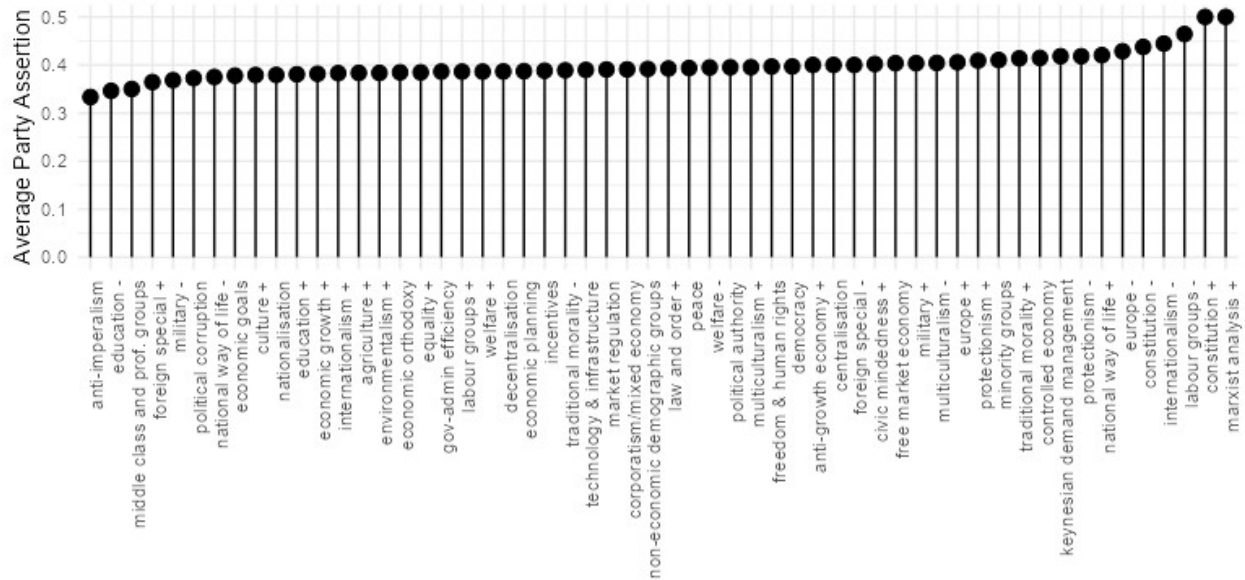
Figure 1

Average Party Assertion by Issue Category

Figure 2 displays the average difference in party assertion across issue categories within

each cabinet. This measure captures the extent to which one party dominates the language on a

given topic, compared to its coalition partners. On average, the differences are moderate, but

some cabinets show very high internal disparities, suggesting unequal influence over the agenda

of the coalition agreement. This variation may indicate divergent bargaining power or

asymmetric prioritization across coalition partners. Lower differences, in turn, can be interpreted

in multiple ways. They may signal a high degree of substantive agreement between coalition

partners, resulting in shared language and balanced representation across topics. Alternatively,

they could reflect minimal overlap due to strong disagreements, where parties settle on vague or

generic formulations to avoid conflict. In this case, the absence of clear partisan imprint might be

less a sign of consensus than of compromise under constraint.

Figure 2

Average Party Assertion Difference by Cabinet
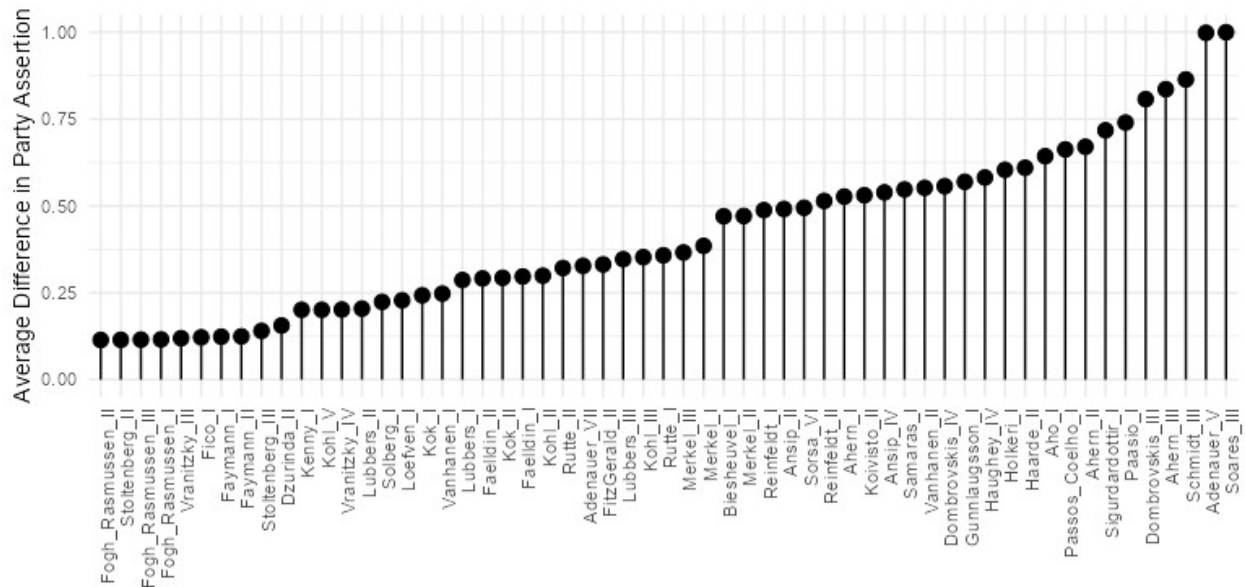
Figure 3 aggregates this difference measure at the country level. Countries such as

Portugal, Ireland, and Latvia display the highest average differences in party assertion,

suggesting that coalition agreements in these contexts tend to reflect stronger dominance by one

coalition party. In contrast, countries such as Slovakia, Austria, and Denmark exhibit much

lower average differences, indicating more balanced influence among parties when drafting the

coalition agreement.

Figure 3

Average Party Assertion Difference by Country
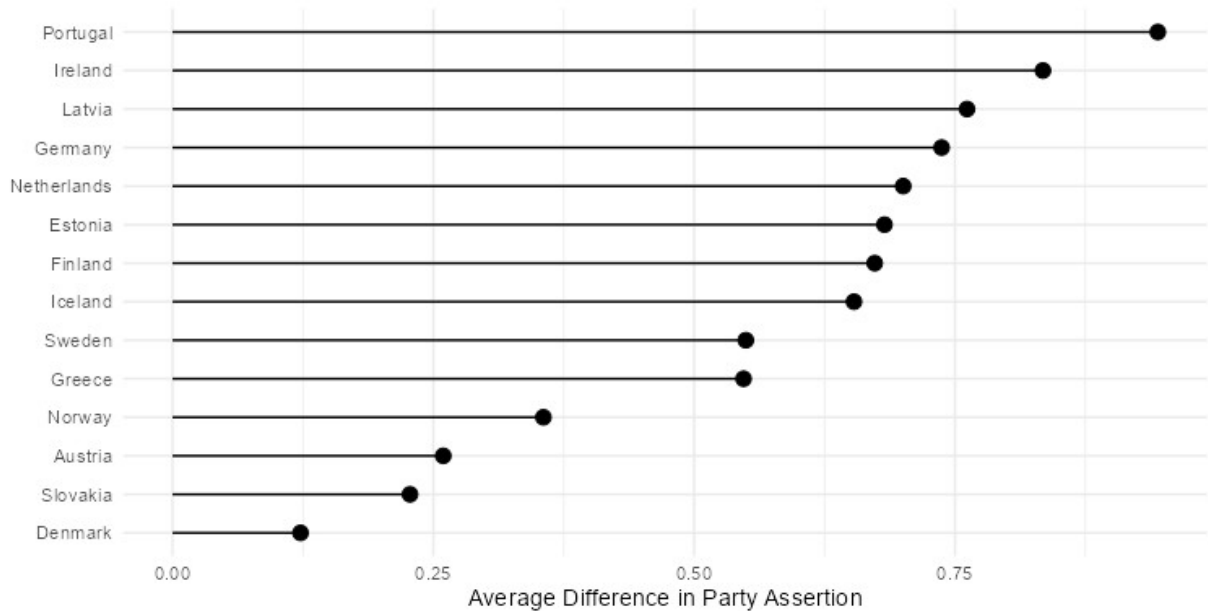
Multivariate Analysis

To examine which parties are able to assert their preferences in coalition agreements, we estimated a multilevel linear model with random intercepts for both cabinets and parties nested in countries. The dependent variable is party assertion, operationalized as the predicted probability that a sentence belonging to a specific policy category in a coalition agreement was authored by a given party. The regression results are presented in Table 2.

Contrary to our theoretical expectation (hypothesis H1), we find that seat share has a statistically significant but negative effect on party assertion in both model specifications. This suggests that smaller parties, rather than larger ones, are more likely to assert their language in coalition agreements. This result stands in contrast to the logic of Gamson's Law (Gamson, 1961), which would predict that larger parties receive greater payoffs. One possible explanation is what the literature has termed a "small party bonus", the tendency for smaller parties to

receive disproportionately large rewards in coalition settings, especially related to ministerial

posts e.g., (Browne & Franklin, 1973; Warwick & Druckman, 2006). Our findings suggest that

this bonus may extend beyond office payoffs to include agenda-setting influence in coalition

agreements. Smaller parties may invest more in asserting their language in the coalition

agreement to compensate for their limited formal power and to signal their relevance within the

coalition.

By contrast, the effect of being the prime minister's party is in line with hypothesis H2,

showing a strong and statistically significant positive association. This finding supports previous

research showing that the formateur has greater agenda-setting power and is often able to shape

the content of the coalition agreement more strongly than its partners e.g., (Baron, 1991;

Warwick & Druckman, 2006). We also find support for hypothesis H3, as parties that were part

of the preceding government are more likely to assert themselves, suggesting an incumbency

advantage in coalition negotiations. This aligns with the idea that governing experience enhances

parties' ability to shape the coalition agenda.

Consistent with hypothesis H4, being the median party on the economic left–right

dimension is positively associated with language assertion in coalition agreements. Although the

effect size is moderate, the result supports the theoretical expectation that median parties enjoy a

pivotal position that enhances their bargaining leverage.

Contrary to our expectations, we find no significant effect for portfolio control

(hypothesis H5). Holding the ministry associated with a given policy domain does not

significantly increase the likelihood that a party asserts itself in the coalition agreement on

related topics. This finding supports the view that ministerial control and policy influence in

coalition agreements may not be directly aligned, as coalition partners may negotiate package

deals that decouple portfolio allocation from specific policy concessions (Klüver, Bäck, et al., 2023).

We also do not find support for hypothesis H6, which predicted an interaction effect between issue salience and salience tangentiality. The hypothesis assumed that parties would assert themselves more strongly in coalition agreements on issues that are both highly salient to them and relatively neglected by their coalition partners, that is, when salience is high for one party but low for others (i.e., high tangentiality) (Falcó-Gimeno, 2012; Klüver, Bäck, et al., 2023). However, the interaction term is statistically insignificant, suggesting that even when a party uniquely emphasizes a given issue, this does not systematically increase its preferential imprint in the coalition agreement. This may indicate that language assertion is driven more by structural bargaining dynamics than by issue-specific concern.

Finally, the results offer strong support for hypothesis H7, as bargaining power, operationalized as the proportion of alternative minimal winning coalitions a party could form, is positively and significantly associated with party assertion. This supports the logic of veto player theory and coalition bargaining, in which parties with better exit options can credibly demand more favorable terms (Abedi & Siaroff, 2011; Kayser & Rehmert, 2023).

Among the control variables, no variable reaches statistical significance. We therefore run the model again excluding these variables. The results remain robust and can be found in the Appendix.

Taken together, the findings challenge the conventional assumption that party size is the main driver of coalition payoffs. Instead, they highlight that structural leverage, both formal (prime minister status) and positional (bargaining alternatives, median position), better explains which party's language ends up in the coalition agreement.

Table 2

Multi-Level Random Intercept Model

	Party Assertion
Intercept	0.003
	(0.067)
Seat Share	-0.501***
	(0.105)
Prime Minister Party	0.048***
	(0.010)
Median Party	0.097***
	(0.011)
Portfolio Holder	0.005
	(0.005)
Bargaining Power	0.527***
	(0.073)
Issue Salience	0.001
	(0.001)
Issue Tangentiality	-0.001
	(0.001)
Salience × Tangentiality	0.000
	(0.000)
Part of prev. Government	0.030***
	(0.008)
Left–Right Position	0.000
	(0.000)
Ideological Range (Cabinet)	0.001
	(0.001)

	Party Assertion
Minority Government	0.064
	(0.057)
Surplus Government	-0.035
	(0.061)
Central and Eastern Europe (CEE)	-0.009
	(0.093)
Num.Obs.	4343
R2 Marg.	0.058
R2 Cond.	0.853
AIC	-5496.3
BIC	-5381.5
ICC	0.8
RMSE	0.12

Figure 4

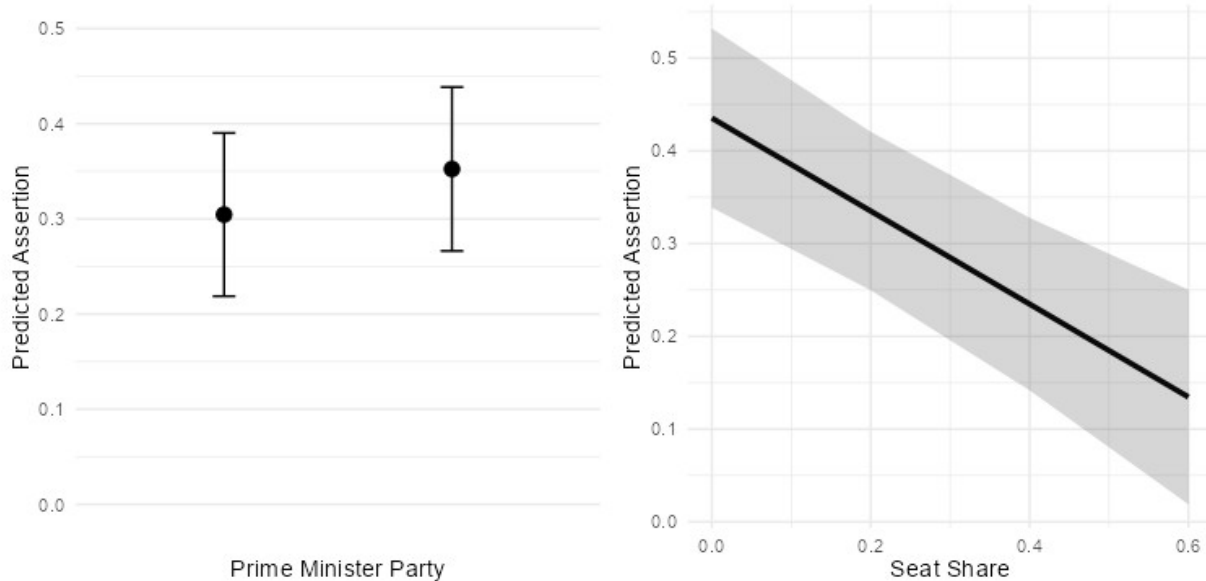*Predicted party assertion by prime minister status and seat share*

Figure 4 visualizes the predicted levels of party assertion in coalition agreements based on prime minister status (left panel) and seat share (right panel).

The left panel shows that, controlling for all other variables, the predicted probability that a party asserts its language in a coalition agreement is 35% for the prime minister's party, compared to 30% for non-prime minister parties. Although the magnitude of the effect is modest, it is substantively meaningful given the competitive nature of coalition bargaining, where small differences in agenda-setting capacity can have important downstream implications for policy direction and public communication. The result suggests that prime ministers' parties are more likely to leave a preferential imprint on the coalition agreement.

The right panel reveals a strong negative relationship between seat share and assertion. Among coalition parties, those with smaller seat shares are significantly more likely to assert their language in the coalition agreement. For example, a party holding 20% of the seats is predicted to assert itself with a probability of 34%, while this probability drops to 23% at a seat share of 40%, and further to 13% at a seat share of 60%. This corresponds to a reduction of more than 60% in predicted assertion, highlighting a substantial effect.

Figure 5

Predicted party assertion by median party status and levels of bargaining power
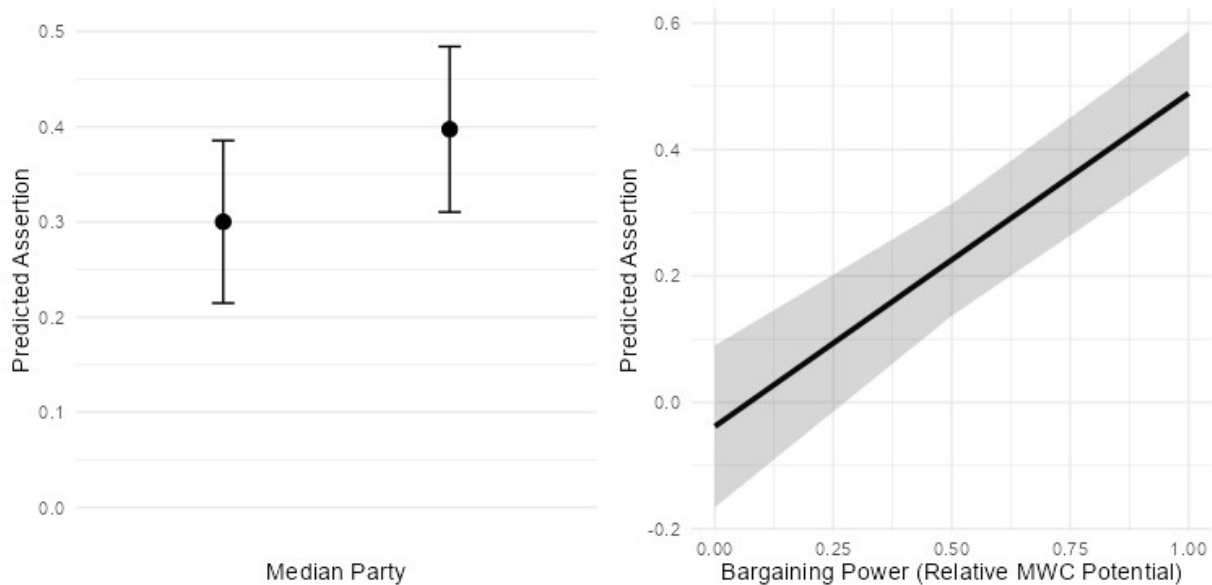
Figure 5 displays predicted levels of party assertion in coalition agreements for median

party status (left panel) and relative bargaining power (right panel).

In the left panel, parties that occupy the median position on the economic left–right

dimension are predicted to assert themselves more strongly in coalition agreements than non-

median parties. The predicted probability of assertion is 40% for median parties, compared to

30% for non-median parties. This ten-percentage-point increase is substantial effect in the

context of coalition bargaining and supports the assumption that the median party plays a pivotal

role in negotiations.

The right panel shows a pronounced positive relationship between bargaining power and

textual assertion. Parties with low bargaining power (0.0) are predicted to assert themselves only

minimally, whereas parties with medium bargaining power (0.5) reach a predicted assertion of

23%, and those with the highest bargaining power (1.0) are predicted to assert themselves at

49%. This more than doubles the predicted influence from medium to high bargaining leverage, underlining the central role of coalition potential in shaping coalition agreements.

Conclusion

This study set out to answer the question: Which party gets to assert itself in coalition agreements? Coalition governments are the norm in parliamentary democracies, and coalition agreements play a key role in shaping the government's policy direction. While previous research has extensively investigated the distribution of portfolios, policy outputs, and pledge fulfillment, much less is known about which party succeeds in translating its agenda into the coalition agreement text itself.

Existing literature has identified several factors that influence coalition payoffs. Most prominently, party size has been found to predict the allocation of ministerial portfolios (Gamson's Law) e.g., (Browne & Feste, 1975; Browne & Franklin, 1973; Schofield & Laver, 1985; Warwick & Druckman, 2006). In addition, prime minister parties are often seen as dominant agenda-setters and thus, receives greater payoffs (Strøm et al., 2008; Thies, 2001; Thomson et al., 2017). However, the literature also emphasizes the role of veto power (Tsebelis, 2002) and structural bargaining advantages, such as being the median party or having many potential coalition alternatives, which allow parties to credibly threaten to exit negotiations if their demands are not met (Kayser & Rehmert, 2023).

To assess which parties are able to assert their language in the coalition agreement, we introduced a novel methodological approach. Relying on a fine-tuned large language model, we predicted which party authored which sentence in a corpus of coalition agreements. This allows us to move beyond previous approaches that relied on matching positions or pledge fulfillment, and instead directly measure the textual imprint each party leaves in the coalition agreement.

Aggregating these predictions, we constructed a continuous measure of party assertion, capturing how strongly a party's language is reflected in the final coalition agreement.

Our findings provide mixed support for conventional theories of coalition payoffs. While the prime minister party and the median party both show a significantly higher probability of asserting their language seat share is negatively associated with party assertion. This surprising result challenges the logic of Gamson's Law and suggests that smaller parties may fight harder to ensure their visibility in the coalition agreement. One possible explanation is the "small party bonus", a term used in the literature to describe the tendency of smaller parties to receive a disproportionately large share of ministerial posts relative to their seat share e.g., (Browne & Franklin, 1973; Warwick & Druckman, 2006). Our findings suggest that this advantage may extend beyond office payoffs to include greater influence over the coalition agreement's language and agenda.

We also find strong support for the bargaining power hypothesis: parties that are part of a higher number of possible minimal winning coalitions are significantly more likely to assert themselves in the coalition agreement. This highlights the importance of structural leverage in coalition bargaining. In contrast, portfolio control and the interaction between issue salience and salience tangentiality do not significantly affect a party's ability to influence the agreement's content, suggesting that office payoffs and issue salience are insufficient to account for variation in agenda control. Rather than reflecting ministerial authority or the salience of certain issues, control over the coalition agreement appears to be more fundamentally shaped by the underlying bargaining structure. This finding supports theoretical perspectives that emphasize the role of bargaining power, particularly a party's leverage derived from its position within the coalition space.

Taken together, these results demonstrate the value of analyzing textual influence as a distinct dimension of coalition payoffs. Our approach complements existing research by capturing a form of bargaining success that is both direct and policy-relevant but often overlooked. It also offers a more granular perspective on intra-coalition dynamics by tracing the linguistic "fingerprints" of individual parties.

Future research can build on our work by further unpacking the mechanisms through which parties assert textual control in coalition agreements. While our study focused on party-level factors, future studies could explore how different institutional settings might mediate the relationship between party characteristics and assertion in coalition agreements. Moreover, future research could examine the distribution of authorship probabilities across coalition partners at the policy-topic level. If parties exhibit similarly high probabilities for specific topics, this could indicate overlapping claims to ownership or salience, potentially increasing conflict during policy formulation, particularly if no party is willing to yield ground. Conversely, such similarity might also signal substantive agreement and low conflict potential. Exploring how these probabilistic patterns relate to policy output, intra-coalition conflict, or overall government stability could offer valuable insights into the functional consequences of textual competition and convergence within coalition agreements.

Finally, while our method provides a novel lens on coalition bargaining, it also comes with limitations. The authorship probabilities are model-based estimates and rely on training data from party manifestos. While we validated the model and achieved high accuracy scores, subtle biases in model prediction or variation in manifesto style may affect results. Moreover, our study demonstrates that preferential textual imprints are a distinct dimension of coalition payoffs. While language assertion can reflect agenda-setting success, it does not fully explain policy

dominance. Parties may achieve discursive visibility in the agreement without securing actual

implementation of their priorities and vice versa. Our results therefore complement, rather than

replace, existing measures such as policy overlap or pledge fulfillment. They offer a new

perspective on how political power is encoded in texts, capturing subtler forms of negotiation

and compromise traditional measures might miss. Despite these limitations, our study advances

the understanding of coalition politics by focusing on the textual aspect of coalition agreements,

an important arena where political preferences are negotiated, compromised, and formalized.

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Appendix

Robustness Checks

Main Model only with Prime Minister Status or Seat Share

　　To further assess the robustness of our findings, we estimated a series of alternative

model specifications. First, we separately estimated the main model while including either only

the prime minister variable or only seat share. This approach allows us to test whether the

negative effect of seat share is confounded by the positive effect of being the prime minister's

party. The results confirm that both variables exert independent effects: while the prime minister

status remains positively associated with party assertion, seat share retains its negative and

statistically significant coefficient. This supports our interpretation that smaller parties assert

themselves more strongly in coalition agreements, independent of whether they hold the prime

ministership.

	Prime Minister	Seat Share
Intercept	-0.072	-0.040
	(0.065)	(0.065)
Seat Share	-0.270**	
	(0.092)	
Prime Minister Party		0.024**
		(0.009)
Median Party	0.115***	0.119***
	(0.010)	(0.010)
Portfolio Holder	0.004	0.004
	(0.005)	(0.005)
Bargaining Power	0.588***	0.420***
	(0.072)	(0.069)

	Prime Minister	Seat Share
Issue Salience	0.001	0.001
	(0.001)	(0.001)
Issue Tangentiality	-0.001	-0.001
	(0.001)	(0.001)
Salience × Tangentiality	0.000	0.000
	(0.000)	(0.000)
Part of prev. Government	0.032***	0.036***
	(0.008)	(0.008)
Left–Right Position	0.001*	0.000
	(0.000)	(0.000)
Ideological Range (Cabinet)	0.001	0.001
	(0.001)	(0.001)
Minority Government	0.078	0.089
	(0.055)	(0.053)
Surplus Government	-0.037	-0.034
	(0.060)	(0.057)
Central and Eastern Europe (CEE)	-0.016	-0.003
	(0.092)	(0.089)
Num.Obs.	4343	4343
R2 Marg.	0.081	0.103
R2 Cond.	0.852	0.848
AIC	-5484.7	-5478.6
BIC	-5376.3	-5370.2
ICC	0.8	0.8
RMSE	0.12	0.12

Main Model without non-significant coefficients

Second, we estimated a reduced version of the main model, including only variables that reached statistical significance in the full specification. The key results remain robust: seat share remains negatively associated with party assertion, while prime minister status, median party status, bargaining power, and incumbency retain their positive effects. This reinforces the conclusion that structural factors, rather than issue-specific salience or ministerial control, best explain variation in coalition language influence.

	Without non-significant coefficients
Intercept	0.011
	(0.055)
Seat Share	-0.245**
	(0.082)
Prime Minister Party	0.045***
	(0.010)
Median Party	0.104***
	(0.010)
Bargaining Power	0.473***
	(0.069)
Part of prev. Government	0.033***
	(0.008)
Num.Obs.	4883
R2 Marg.	0.069
R2 Cond.	0.845
AIC	-6501.3
BIC	-6442.9
ICC	0.8

	Without non-significant coefficients
RMSE	0.12

Main Model with Number of Coalition Parties

Third, we included the number of coalition parties instead of government type as an additional control variable to test whether party assertion is shaped by the size of the coalition. The results show that the number of coalition parties is negatively associated with assertion, suggesting that parties face greater difficulty asserting themselves in larger, more fragmented coalitions. Importantly, the core findings regarding seat share, prime minister status, and bargaining power remain unchanged.

	With no. of coalition parties
Intercept	0.174
	(0.094)
Seat Share	-0.264**
	(0.083)
Prime Minister Party	0.047***
	(0.010)
Median Party	0.104***
	(0.010)
Portfolio Holder	0.005
	(0.005)
Bargaining Power	0.456***
	(0.070)
Issue Salience	0.001
	(0.001)
Issue Tangentiality	-0.001
	(0.001)

	With no. of coalition parties
Salience × Tangentiality	0.000
	(0.000)
Part of prev. Government	0.034***
	(0.008)
Left–Right Position	0.000
	(0.000)
Ideological Range (Cabinet)	0.001
	(0.001)
No. of Coalition Parties	-0.063*
	(0.027)
Central and Eastern Europe (CEE)	0.002
	(0.086)
Num.Obs.	4883
R2 Marg.	0.106
R2 Cond.	0.847
AIC	-6409.2
BIC	-6298.8
ICC	0.8
RMSE	0.12

Main Model as Bayesian Mixed-Effects Model

To assess the robustness of our main results, we estimate a Bayesian mixed-effects model. The model specification mirrors that of the main multilevel linear model but is estimated within a Bayesian framework, allowing for the incorporation of prior distributions and the examination of full posterior distributions for each parameter.

This robustness check is valuable for two main reasons. First, Bayesian models yield credible intervals, which offer a more intuitive interpretation of uncertainty than conventional confidence intervals. Second, comparing the posterior estimates with those from the frequentist model allows us to assess the consistency and stability of our findings.

As shown in Figure A1, the posterior distributions largely confirm the results of the frequentist analysis. The effects of prime minister status, median party position, and bargaining power remain positive and credibly different from zero. The effect of seat share is again negative, while the interaction between issue salience and salience tangentiality remains indistinguishable from zero.

Figure A1

Posterior estimates from Bayesian model