

Gambling for Re-election

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Abstract

This paper presents novel empirical evidence that gambling style behaviour – which has been documented in many areas of economic decision-making – is important in politics. We show that politicians ‘gamble for re-election’ in the context of a political leader selection. To overcome challenges arising from secret ballots, we exploit unique access to leaked information on MPs’ individual decisions in a de facto vote for the 2021 leadership election of Germany’s centre-right parties. MPs are more likely to vote for a riskier candidate when faced with tougher re-election races in their constituency. Quantitatively, a 10 pp. decrease in the probability to be re-elected is associated with a 2.9 pp. increase in the likelihood to vote for the riskier candidate. These results match the predictions derived from our model of rational risk-taking. Gambling for re-election provides a new explanation for intra-party dissent and rationalises why parties may choose low quality leaders when better ones are available.

JEL-Codes: D720, D810.

Keywords: risk-taking, politicians’ behaviour, political leader selection, intra-party competition.

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1 Introduction

Very few real-world decisions are risk-free. Huge bodies of work have been devoted to better understand how people respond to risk. Within this, there is a well-established intuition that risk-neutral agents sometimes behave as if they are risk-seeking when they do not bear all of the costs of a bad outcome. This behaviour is called ‘gambling for resurrection’, and has been documented in a wide range of settings. But there is a distinct lack of empirical evidence as to whether this intuition holds for political decision-making. Political decisions are high-stakes and risky, the outcomes are often judged discretely – as success or failure, victory or defeat – and have enormous welfare implications.

We provide novel empirical evidence that gambling-style behaviour is present in one of the most important political decisions: choosing political leaders. We do so in the context of the 2021 leadership election by the German centre-right parties. Specifically, we show that members of parliament (MPs) gamble for re-election. That is, MPs are more likely to vote for the risky leadership candidate when facing a lower chance of re-election.

Providing direct evidence of risk-taking behaviour in politics has proved difficult. When politicians’ decisions are observable, analysis can be muddied by strong signalling motives – where politicians make decisions to send a signal to the public rather than make decisions in line with what they would do in private. It is theoretically well established that observability of decisions changes individuals’ behaviour [Levy, 2007, Mattozzi and Nakaguma, 2023] – a finding that has also been empirically documented for important decision-makers (see, e.g., the evidence on Federal Open Market Committee members [Swank et al., 2008, Meade and Stasavage, 2008, Hansen et al., 2018]). Signalling motives and audience costs can therefore obscure the actual preferences of MPs when decisions are observed by voters. When decisions are not observed (‘secret ballots’), data availability issues typically prevent empirical analysis.

Unique access to a leak of internal party voting data from the 2021 leadership election held by Germany’s centre-right parties allows us to overcome these difficulties. We can therefore take a rare peek behind the curtain of the secret ballot and study MPs’ individual behaviour in leadership elections for the first time. While the process of the German centre-right parties choosing their leader does not include a formal vote, in this particular instance, signing a letter supporting one of the two candidates became a *de facto* vote. The existence of this letter became known to the public when it was leaked to a leading German newspaper. But even now, the identities of the signatories are not publicly known. Our empirical analysis is only possible because we have access to the identities of the signatories.

Our main finding is that MPs who (at the time of the leadership election) were predicted as *less* likely to win re-election in the upcoming German national elections were *more* likely to vote for the riskier leadership candidate. This relationship remains robust across a range of empirical specifications and to the inclusion of a wide battery of control variables on MP- and constituency-level as well as state fixed effects. The effect is sizeable: when MPs were 10 percentage points *less* likely to be re-elected, they were 2.9 percentage points *more* likely to vote for the riskier candidate. Notably, we only find this behaviour among MPs who are running for re-election. We are the first to document evidence of this type of risk-taking behaviour in intra-party selections, and in political decision-making more generally.

Our second finding is that ideological alignment with leadership candidates only influences MPs' decisions when they are *not* running for re-election. For MPs seeking re-election, ideological alignment does not play an important role. This is consistent with MPs being primarily – but not solely – re-election motivated.

The link between MPs' re-election prospects in national elections and their choices in the leadership election is in line with our model of rational risk-taking. Our model is a variant of the classic 'gambling for resurrection' models, adapted to the setting of political leader selection. In the model, there are two elections. First, MPs in one party elect a party leader. Second, voters elect MPs in national elections – and the quality of the party leader affects voters' preferences. MPs care about their leader's ideology and about their own re-election in upcoming national elections. Importantly, there is some uncertainty over a potential party leader's quality in the first election that has been resolved by the time of the second election. Voters have more information about the party leader's quality in the second election than MPs did in the first. Specifically, when there is a benefit to being re-elected regardless of the margin of loss/victory, the incentive structure implies that some MPs 'gamble for re-election'. MPs want to choose a higher risk option when their re-election prospects are poor, because there is a discontinuous jump in their payoff at the threshold of winning re-election. Politicians' behaviour is therefore equivalent to 'gambling for resurrection' by managers of firms, an idea first suggested by Jensen and Meckling [1976].

We take several steps to examine the scope for potential confounding. First, we show that our results are not sensitive to a particular specification of the regression model and survive a range of robustness tests. Second, we show that any selection on unobservables relative to selection on observables would have to be substantial to cancel out our results.

Third, we discuss some alternative stories that would generate similar empirical patterns, but would not reflect a causal effect running from MPs' electability to their choices

in a leadership election. To address these possible endogeneity concerns, we conduct two empirical exercises. First, we re-estimate our empirical model using, as an alternative proxy for electability, MPs' pre-determined vote margins in the 2017 national elections as the main independent variable. We obtain qualitatively identical results: MPs with lower vote margins in the previous election were more likely to support the risky candidate. Second, we demonstrate that our results are robust to controlling for voters' preferences over leadership candidates, providing evidence that MPs are mostly influenced by their re-election probabilities rather than merely following their constituents' preferences.

Finally, we address any remaining endogeneity concerns via an established instrumental variables approach. Our instrument is based on CDU *party* vote shares in the 1990 national elections. In the same spirit as Svaleryd and Vlachos [2009] and Solé-Ollé and Viladecans-Marsal [2012], our instrument therefore leverages variation in local electoral competition arising from the persistence in voters' party preferences that is not tied to considerations about individual MPs. Changes in the constituency structure between 1990 and 2021 further reinforce this argument. The instrumental variable results strongly corroborate our OLS results and provide evidence for a causal interpretation of our results.

Our results have two important implications. First, MPs may be willing to choose the worse (in expected value terms) leadership candidate because they are willing to trade off expected quality against riskiness. This is akin to the 'asset substitution problem' in Corporate Finance, but with more severe consequences: even MPs who face good re-election prospects would be willing to choose the worse candidate if that candidate is less risky. This offers a complementary explanation to Carrillo and Mariotti [2001] and Mattozzi and Merlo [2015] as to why political parties sometimes choose mediocre candidates – despite the availability of better ones.

Second, our findings also shed light on how intra-party polarisation can emerge endogenously due to the incentives faced by individual MPs. In contrast, previous explanations are based on the idea that parties benefit from implementing competitive selection processes that involve *some* degree of intra-party polarisation. This is because competition can serve as a signal for the quality of the party platform and boosts candidates' incentives to provide individual effort [Caillaud and Tirole, 2002, Crutzen et al., 2010, 2020]. Our results therefore suggest a new mechanism that can generate within-party disagreements.

Related literature. Our paper’s core contribution is to provide novel empirical evidence of risk-taking behaviour by politicians. We show this in the important setting of a political leadership selection. As such, this paper relates to three strands of literature.

First, there is a vast literature on gambling style behaviour that follows Jensen and Meckling [1976]. This behaviour has been shown to be important in a wide range of contexts, including banking, conflict, and government finance, among others.¹ We provide novel evidence within the realm of political decision-making.

Second, there is a literature on risk-taking in politics, both by politicians and by voters. Within this, Panunzi et al. [2024] and Bernecker et al. [2021] are closest in spirit to our paper. Panunzi et al. [2024] find that, when voters have reference-dependent preferences, those currently experiencing outcomes below their reference point can prefer riskier political parties/policies. This is due to the convexity of preferences below the reference point. They also provide survey evidence in support of this mechanism. In contrast, our paper presents evidence about the behaviour of professional politicians (rather than of voters). Furthermore, our mechanism does not rely on non-standard preferences. Rather, it stems from the inherent win-or-lose nature of elections.

Perhaps closer to our focus, Bernecker et al. [2021] find that US state governors with stronger electoral support are less likely to experiment with (risky) welfare reforms. This is similar in spirit to our headline finding that MPs with strong re-election chances opt for a lower risk leader. Beyond focusing on a different decision, we also have a setting where choices were not meant to be observable, and so decisions are likely freer from signalling motives.

The remainder of this literature is theoretical and largely focused on policy experimentation. Within it, one part considers the role of risk-preferences directly [Rose-Ackerman, 1980, 1991, Buisseret and Van Weelden, 2022], and the other part considers how experimentation allows learning about the efficacy of policies [Majumdar and Mukand, 2004, Callander, 2011, Callander and Harstad, 2015, Grunewald et al., 2020].

Finally, we add to the literature on political selection. The larger part of this strand focuses on how intra-party factors, such as internal resource allocation, ideological cohesion, or nomination systems, influence political selection [Cirone et al., 2021, Hansen, 2022, Fiva et al., 2024, Matakos et al., forthcoming]. Less work is dedicated to the selection of political leaders. Within this, existing work has mostly focused on innate characteristics of candidates

¹See, for example, White [1989], Downs and Rocke [1994], Hellmann et al. [2000], Carrillo and Mariotti [2001], Majumdar and Mukand [2004], Albornoz and Hauk [2014], Ben-David et al. [2019].

[O’Brien, 2015, Yu and Jong-A-Pin, 2020, Jeffery et al., 2018], and on how parties create rules for selecting leaders [Kemahlioglu et al., 2009, Snyder and Ting, 2011]. We examine a novel dimension: the role of risk. We show that risk is an important factor for political selection.

Furthermore, we are the first to present direct evidence on decision-making in political selections based on the actual voting behaviour of MPs. This is typically either prevented by ‘candidate selection being a highly secretive procedure’ [Besley, 2005], involving secret ballots and decisions behind closed doors, or by the signalling motives that accompany publicly observable votes. Our unique data and setting are able to overcome these constraints by allowing us to observe MPs’ decisions despite the secret ballot.

Organisation. The remainder of this paper is organised as follows. Section 2 sets out our theoretical model and establishes key predictions. We describe our data and the setting of our empirical case in Section 3. Section 4 describes our empirical strategy and Section 5 presents the empirical results. Section 6 concludes.

2 Theory

2.1 Model

Agents. There are three types of agents: a unit mass of voters, indexed j , finitely many members of parliament (MPs), $m \in M = \{1, \dots, \mathcal{M}\}$, and two leadership candidates, $\ell \in \{1, 2\}$. There is one MP per constituency (also indexed m), and each voter j is assigned to exactly one constituency.

Elections and strategies. There are two elections that happen sequentially. In the first, all MPs from party X vote for a leadership candidate. In the second, each MP $m \in M$ stands for election in a single constituency, and each voter j votes in her constituency. For clarity, we call the first (intra-party) *leadership election* and the second *national elections*. Abstentions are not allowed, and elections are by majority rule. For simplicity, we assume the national elections involve only two parties, the MPs’ own party, X , and some other party, Y .

Each MP from party X can vote for leadership candidate 1 or 2. So strategies for MPs are $s_m \in \{1, 2\}$ for all m . Similarly, each voter can vote for party X or for party Y. So strategies for voters are $s_j \in \{X, Y\}$. We assume that agents naively vote for their most

preferred choice in both leadership and national elections. This assumes that they never play a weakly dominated strategy.

Endowments and information. Each MP is endowed with an *electability*, $Q_m \in \mathbb{R}$, and each leadership candidate is endowed with an electability, $Q_\ell + \nu_\ell$, where $Q_\ell \in \mathbb{R}$ and ν_ℓ is a random draw from a uniform distribution on $[-\frac{1}{2}\lambda_\ell, \frac{1}{2}\lambda_\ell]$ with the Cumulative Distribution Function (CDF) denoted $F_\ell(\cdot)$.² For convenience, let $\lambda_1 = \lambda > 0$ and $\lambda_2 = \lambda + \phi$, and assume that $\phi > 0$. This assumes that candidate 2 is riskier in the sense that her eventual electability is more variable.³ All of Q_m , Q_ℓ , and the uniform structure (λ and ϕ) are common knowledge, but ν_ℓ is only known by voters at the time of the national elections – *not* by MPs when electing a leader.

Each voter j is endowed with a preference for party X, ϵ_j , which is a random draw from a symmetric, mean zero distribution with CDF $G(\cdot)$. The CDF is common knowledge, but the value of ϵ_j is known only to voter j .

Preferences. Voter j in constituency m receives the following utility if the MP from party X wins:

$$u_j = Q_m + Q_\ell + \nu_\ell + \epsilon_j, \tag{1}$$

and we normalise her utility from party Y's MP winning to zero. Notice that we do not specify voters' preferences over election outcomes in other constituencies. This is because they can only vote in their own constituency.

MPs care about their own re-election and the ideology of their leader. Both of these are specific to the individual MP. For convenience, we assume the payoff from re-election does not depend on the identity of the leader. This gives preferences for MP m as:

$$u_m(\ell) = I_{\ell,m} + R_m \cdot Pr(\text{win}|m, \ell), \text{ for } \ell \in \{1, 2\}, \tag{2}$$

where $I_{\ell,m}$ is the MP's ideological alignment with leadership candidate ℓ , $R_m \geq 0$ is the MP's re-election motivation, and $Pr(\text{win}|m, \ell)$ is the probability that she is elected given ℓ is the leader.

²This uniform distribution assumption is standard in probabilistic voting models. See, for example, Grossman and Helpman [1996] or Persson and Tabellini [1999].

³We rule out the less interesting case where both candidates are equally risky, but it is otherwise without loss.

Interpreting parameters. The variable Q_m captures how ‘electable’ MP m is in her constituency. This covers a wide range of factors that affect the MP’s popularity with voters from her constituency, for example; charisma, competence, name recognition, or ability to secure government spending for the constituency. Note that Q_m is specific to an MP-constituency pair, and so reflects how well matched the individual MP is to a particular constituency. Similarly, Q_ℓ and ν_ℓ capture how ‘electable’ leadership candidate ℓ is.⁴ This could include the popularity of her policy platform, perceived competence, charisma, ability to raise campaign funds, etc.

What separates Q_ℓ and ν_ℓ is what is known at the time of the leadership election. Q_ℓ captures factors already known before the leadership election, and ν_ℓ captures things that happen or are learned between the leadership election and the national elections. For example, corrupt business dealings, extramarital affairs, or good crisis management may only come to light with greater scrutiny following the leadership election.

The λ_ℓ ’s capture how uncertain MPs are about candidate ℓ ’s ‘true’ electability at the time of the leadership election. A natural expectation is that an incumbent candidate (if there is one) will be lower risk, as she has already been subject to greater scrutiny by MPs, the media and the voting public. An incumbent will also have shown how well she manages activities at the core of an election campaign, such as speaking in public, interacting with voters, and presenting policy proposals. MPs have had more opportunities to learn about an incumbent’s quality, reducing uncertainty.

The leader’s electability appears in voters’ preferences for two reasons. First, the leader may improve an MP’s re-election campaign in the constituency, for example through a popularity spill-over or raising campaign funding. Then, $Q_\ell + \nu_\ell$ captures a popularity component which arises from the leader’s campaign and benefits or harms all MPs from party X similarly. Second, voters may care directly about the leader of party X becoming head of government. Casting their vote, they take into account that voting for an MP from party X makes it more likely for its leader to become head of government. Here, $Q_\ell + \nu_\ell$ can be interpreted as the utility voters receive from the leader’s policy platform, perceived competence or character attributes.

Applicability. While we will test this model in the context of a specific leadership election among Germany’s centre-right parties, the theory applies to majoritarian voting, closed and open lists, and mixed systems alike. In fact, the key mechanism applies far more widely.

⁴Our assumptions restrict these to factors that affect all constituencies equally. We could relax this, but doing so would make the model less clean without affecting the insights.

Gambling-style behaviour in politics may arise whenever politicians (1) choose between risky options and (2) care about the outcome being on one side of a threshold. This is the same as in the wider gambling-style literature that follows Jensen and Meckling [1976]. Other political contexts where this will apply include, for example, choosing party manifestos, allocating public funds for research or voting on legislation.

Extension: Party list elections. In the model, voters elect a single MP for each constituency. But, in practice, German voters also cast a second vote – choosing a party at the national level. This second vote elects additional MPs from party lists. In the Appendix, we extend our model to include party list elections and to also allow voters to make different choices for their first and second vote. We show that adding these features does not affect qualitative behaviour (see Appendix D).

2.2 Equilibrium and Theoretical Predictions

From their own point of view, voters' decisions are deterministic. Voter j votes for MP m from party X if and only if $u_j > 0$.⁵ Whether an MP wins or loses in the national elections depends on the *median* voter in her constituency – who has $\epsilon_j = 0$ by construction.⁶ So if ν_ℓ was known, then re-election would also be deterministic. But an MP does *not* observe ν_ℓ at the time she chooses her leader. So her *perceived* probability of winning is $F_\ell(Q_m + Q_\ell)$. This is the relevant probability when she is deciding which leadership candidate to support. An MP votes for leadership candidate 2 if and only if $u_m(2) - u_m(1) > 0$. Together these conditions characterise the equilibrium.

Proposition 1. *There exists a unique equilibrium where:*

- (1) $s_j^* = X$ if and only if $u_j > 0$, for all j ,
- (2) $s_m^* = 2$ if and only if $F_2(Q_m + Q_2) - F_1(Q_m + Q_1) > \frac{1}{R_m}(I_{1,m} - I_{2,m})$.

Using the structure provided by the uniform distribution assumption,⁷ we can express the condition for the MPs' choices as follows:

$$s_m^* = 2 \iff \frac{1}{\lambda + \phi}Q_2 - \frac{1}{\lambda}Q_1 - \frac{\phi}{\lambda} \cdot \frac{1}{\lambda + \phi}Q_m > \frac{1}{R_m}(I_{1,m} - I_{2,m}). \quad (3)$$

⁵We assume that voter j votes for party Y when indifferent, but this is clearly not an important restriction.

⁶With infinitely many voters each taking random draws from a symmetric and mean-zero distribution, the median voter will have a value of ϵ arbitrarily close to zero.

⁷The equation in Proposition 1(2) does not rely on the uniform distribution of ν_ℓ . It only requires symmetry and zero mean. But subsequent analysis is much cleaner with this uniform distribution assumption.

Equation (3) shows that each MP has a threshold for voting for candidate 2 in terms of their *own* electability, Q_m . Note, however, that the threshold is specific to a given MP because both the ideological alignment with each leadership candidate and the strength of the re-election motivation differ across MPs. A simple, yet important, implication is that some MPs will support candidate 2, while others will support candidate 1.

The threshold condition illustrates the impact that a candidate's electability has on MPs' decisions: more MPs will vote for candidate ℓ if she becomes more electable (we mean 'more' in the set inclusion sense). This follows directly from Equation (3). In contrast, comparative statics regarding MPs' *own* electability are more nuanced.

Proposition 2. *Suppose that re-election is possible but not guaranteed under either candidate. When MPs become more electable (i.e. Q_m rises for some m), fewer MPs vote for the riskier candidate (candidate 2).*

This prediction is similar in spirit to corporate finance models of 'gambling for resurrection'. Within the confines of our model, MPs care about whether or not they win re-election, but not the vote share conditional on winning. So more variable, but symmetrically distributed, outcomes are good for an MP if she needs a sufficiently large positive shock (i.e. positive realisation of ν_ℓ) to win, but bad if she only needs 'not too large a negative shock' to win. In other words, an MP facing a tough re-election campaign finds higher risk attractive, but one in a commanding position prefers a less risky leadership candidate.

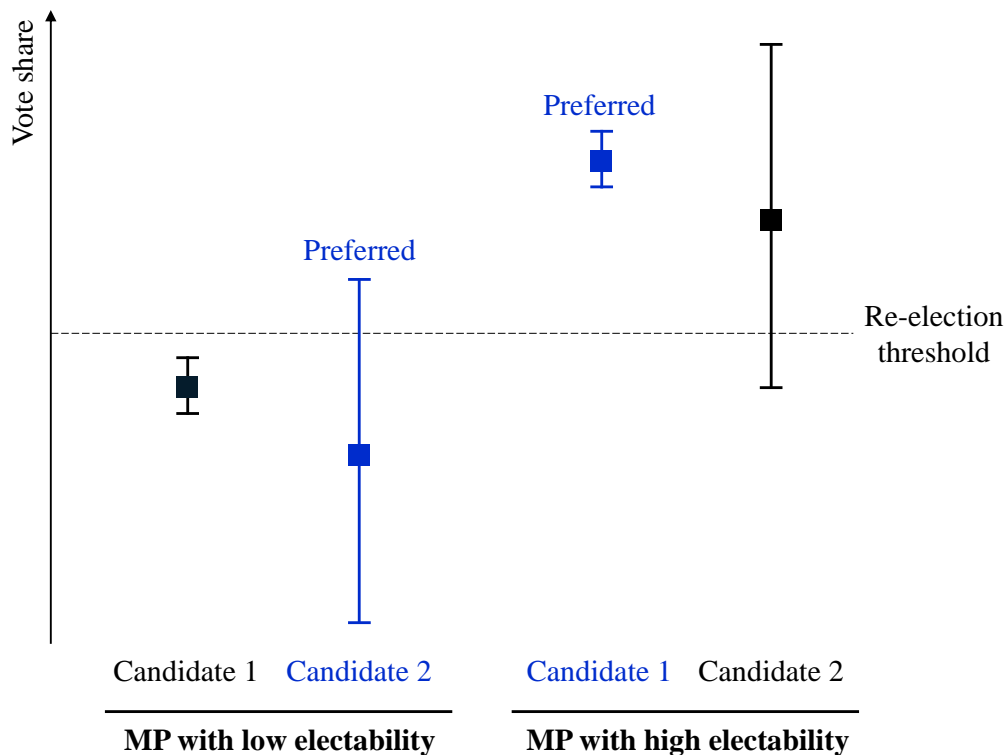
Were there no other differences in the two candidates (i.e. they were equally electable in expectation, $Q_1 = Q_2$, and equally ideologically appealing, $I_{1,m} = I_{2,m}$) then the switching point between preferring more vs less risk would happen exactly at the point where the MP's probability of re-election is 50 percent. When there are other differences between the two leadership candidates, then the switching point for an MP is less clean. But the core intuition remains unchanged. There is a threshold on her re-election probability: below the threshold she prefers the riskier candidate, and above the threshold she prefers the safer candidate.

An implication of Proposition 2 is that even though MPs are risk neutral, they are willing to trade off electability against riskiness. Importantly, the way MPs value risk depends on their own electability (and hence their probability of re-election). All else equal, MPs who have low electability prefer the riskier candidate, while MPs with high electability prefer the 'safer' candidate.

This implies that MPs with low electability may prefer the riskier candidate even when she is *worse* in terms of having lower expected electability than the less risky candidate. This

is because MPs with low electability need a sufficiently large positive draw of ν_ℓ in order to win re-election – and a riskier candidate is by definition more likely to deliver this. The fact that a riskier candidate is also more likely to deliver a large negative draw does not matter to these MPs – as they lose with *any* negative draw, regardless of its size. Figure 1 shows this intuition graphically.

Figure 1: GAMBLING FOR RE-ELECTION BEHAVIOUR BY LOW ELECTABILITY MPS



Notes: The figure illustrates the range of potential vote shares under two leadership candidates for two MPs. The MP on the left has a lower re-election probability Q_m than the MP on the right. The leadership candidates differ both in electability and riskiness. A higher electability is illustrated by the solid square being further to the top and a higher riskiness is illustrated by a larger distance between the solid square and the whiskers. Here, candidate 1 is more electable ($Q_1 > Q_2$) and less risky ($\lambda_1 < \lambda_2$) than candidate 2. The MP with low electability gambles for re-election by choosing candidate 2 who compensates the lower electability with a high riskiness. The case where candidate 1 is less electable and less risky is shown in Appendix Figure B1.

The same gambling for re-election behaviour is possible for high electability MPs, but these MPs would prefer the *safer* candidate – even when that safer candidate is worse (see Appendix Figure B1).

We next consider the impact of MPs’ ideological alignment with the leadership candidates. Intuitively, the result is very straightforward – MPs like to be ideologically aligned with a candidate, and so will be more inclined to vote for a candidate with whom they are more closely aligned.

Proposition 3. *If MPs become more ideologically aligned to candidate ℓ (i.e. $I_{\ell,m}$ rises for some m), more MPs vote for her.*

The intuition that politicians care about ideology is well established within political science. Closely related, the strength of re-election motives affects how much MPs care about ideology.

Proposition 4. *Suppose that some MPs $M' \subset M$ are more ideologically aligned with candidate ℓ . When these MPs care less about re-election (i.e. R_m falls for some $m \in M'$), weakly more MPs vote for candidate ℓ .*

If an MP is more ideologically aligned with candidate 2 (i.e. $I_{2,m} - I_{1,m} > 0$), then she becomes *more* inclined to vote for candidate 2, when she cares *less* about her own re-election (i.e. R_m rises). The intuition is straightforward: weaker re-election motivation makes the ideological differences between the candidates more important. So MPs who were not voting for candidate 2 due to being focused on re-election may switch to candidate 2 because the ideological preferences become relatively more important. The same holds symmetrically for candidate 1. In the most extreme scenario, an MP who has no re-election motivation at all ($R_m=0$) would only make a decision based on ideological alignment.

Propositions 2, 3, and 4 present the three key theoretical predictions that we take to the data: (#1) MPs are more inclined to vote for the riskier candidate when they face a lower probability of being re-elected in the national elections, (#2) MPs are more inclined to vote for the candidate with whom they are more ideologically aligned, and (#3) ideological alignment matters more when MPs are *not* motivated by re-election.

3 Institutional Background and Data

3.1 Setting

Our empirical setting is the April 2021 leadership election of the German centre-right sister parties. Angela Merkel’s decision to step down as Chancellor required the formally independent parties Christian Democratic Union (CDU) and Christian Social Union (CSU) to

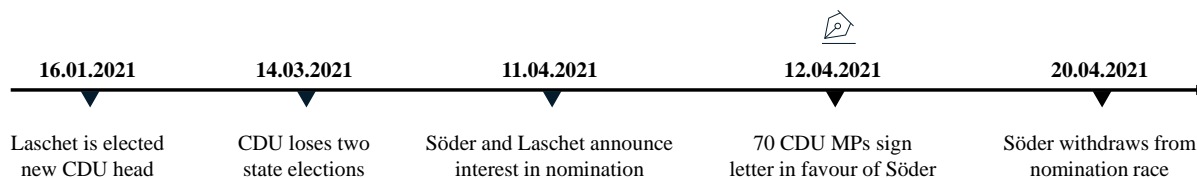
select a joint Chancellor candidate.⁸ Contested by Armin Laschet, Chairman of CDU, and Markus Söder, Chairman of CSU, the leadership election was held in the run-up to German national elections scheduled for 26 September 2021.

Four institutional details are important. First, the leadership election was not for a party leader. The elected candidate would become the German Chancellor (head of government) if CDU/CSU won the upcoming national elections.

Second, there is no predefined process for the leadership election between CDU and CSU.⁹ But we are able to capture a crucial aspect of the decision-making process that acted as a *de facto* vote. Once both party chairmen had announced their interest in the chancellor candidacy, the CDU board unanimously backed its Chairman Armin Laschet. However, on 12 April 2021 (the day before a crucial party meeting), 70 out of 200 CDU MPs had signed an internal letter opposing their own party board. This was seen as an expression of support for a chancellor candidacy of the CSU candidate, Markus Söder (see for example, The Guardian, 2021 and The Pioneer, 2021).

Figure 2 shows a timeline of the key events, and demonstrates the third important institutional feature: the CDU MPs had to decide whether to sign the letter within a very short time-frame, likely constraining any scope for coordination.

Figure 2: TIMELINE OF KEY EVENTS



The final institutional detail is that decisions taken by individual MPs were not observable. The letter was confidential. While it was leaked to the German newspaper FAZ, which reported on the existence of the letter, the identities of the signatories were *never* made public. We were able to obtain the identities directly from the FAZ; a critical step that allows analysis of this leadership election. The confidentiality is important for our analysis.

⁸The CDU and CSU are legally two separate political parties with independent members, decision bodies, and chairmen. However, the parties do not compete in elections as the CSU only runs in the state of Bavaria, while the CDU runs outside of Bavaria. During the national election campaign, both parties unite behind one candidate for chancellor. Their MPs form a joint faction in the German parliament. Hence the two parties *de facto* operate as a single parliamentary party.

⁹The two previous occasions that required a leadership election took place in 1980 and 2002. Such long intervals prevented the establishment of a formal process.

As MPs made their choices unobserved, their vote only impacts the outcome of the contest, and does not serve as a signal to voters.

The letter played a key role. It allowed MPs both to enter the parties' selection process and to express their preferences over the two leadership candidates. Hence, we interpret an MP's decision of whether or not to sign the letter as a *de facto* vote.

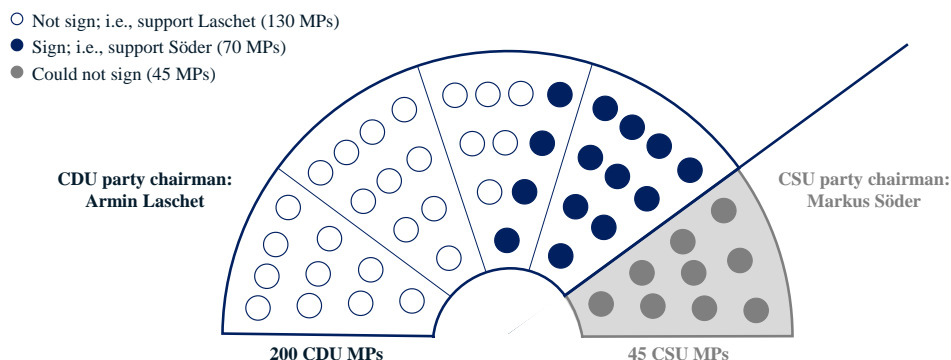
Media outlets conjectured that the signatories were afraid of an impending defeat in their constituency and hoped for an improvement in electoral support following the nomination of Markus Söder [FAZ, 2021]. As Chairman of the larger party, Armin Laschet had generally been considered the natural Chancellor candidate [BBC, 2021]. His position as a quasi-incumbent was weakened because, prior to the leadership election, the CDU had just lost two state elections and performed six percentage points below the 2017 national election result in opinion polls.

Equipped with stronger approval ratings, Markus Söder provided a viable alternative [InfratestDimap, 2021]. However, selecting Söder as the joint Chancellor candidate was associated with higher risk – as is usual for a challenger (see e.g., Panunzi et al., 2024). First, while Markus Söder was polling well in March 2021, the two previous CSU candidates had lost national elections despite initially favourable polls. Second, betraying their own Chairman and selecting a Chancellor candidate from the smaller sister party would have pushed the CDU into deep turmoil, with just a few months to the national elections. This argument demonstrates that voting for the challenger *per se* was a risky gamble as MPs went against their party board – potentially facing political repercussions. Third, the CSU Chairman had a reputation for being a 'political shape-shifter' whose political platform was unpredictable due to frequent flip-flopping [Financial Times, 2021].

A quote by the German newspaper Die Zeit [2021] captures well how the risk component from our theoretical model fits Söder's position in our empirical setting: "*Söder, the favorite in all the polls, who is willing to take risks in terms of content for the future leadership role, is the outsider. Armin Laschet, whom only a few trust with the top office, seems to be relying on reaching his goal without any innovative efforts, solely through the logic of the situation.*"

The 70 CDU MPs who opposed their own party Chairman were a minority. Even combined with the 45 CSU MPs, this group was not large enough to form a majority in the joint faction of 245 MPs (see Figure 3). Once the CDU board had renewed its support for CDU Chairman Armin Laschet on 19 April, his challenger Markus Söder from the CSU had to withdraw from the race.

Figure 3: SUPPORT FOR LEADERSHIP CANDIDATES WITHIN CDU/CSU PARLIAMENTARY FACTION



Notes: Dark blue dots denote MPs who signed the letter (i.e. voted for Söder). White dots denote MPs who did not sign the letter (i.e. voted for Laschet). Gray dots denote CSU MPs who were ineligible to sign the letter. One dot represents 5 MPs.

German national elections in 2021 and risk of defeat for CDU MPs. In German national elections, MPs can get elected through two routes. First, they can win a First-Past-The-Post election in their constituency. In 2021, 299 MPs (out of 736) were elected this way. Second, parties receive non-constituency seats, which are allocated to potential MPs through party lists on the state level.¹⁰ The allocation of these seats follows a complex formula to ensure that each party’s number of MPs is proportional to its vote share, for each of the 16 states. As the formula incorporates various factors which are difficult to forecast, both the size of parliament and the allocation of seats are highly uncertain [Vehrkamp, 2021].

CDU MPs are in general unlikely to get re-elected unless they win their constituency. In the 2017 national elections, 185 out of 200 of CDU MPs (92.5 %) were directly elected in their constituency. In ten out of 15 states, not a single CDU MP entered parliament through state lists – in the 16th state (Bavaria) the CDU does not run. At the time of the leadership election, the CDU was polling six percentage points below the previous election result in 2017, implying that the CDU would potentially lose a substantial share of their parliamentary seats. The 2021 national elections results show that this concern was well founded: the party lost 48 of their initial 200 mandates. Even though one third of CDU MPs in 2021 were elected through state lists (54 out of 152), due to the complex allocation formula, eligibility for those seats could not be predicted around the time of the leadership election – this was not even the case in the weeks before the national elections [Der Spiegel,

¹⁰National parties have state-level parties in all 16 German states. These state parties independently create the lists for MP candidates running in their state.

2021, Johanssen+Kretschmer, 2021]. The state party lists were also compiled between late April and June 2021, *after* the leadership election.¹¹ These features suggest that our model of constituency-based elections in Section 2.1 is a good fit for CDU MPs. The extended model in Appendix D shows that incorporating second votes and party lists MPs does not change our results.

3.2 Data

All CDU MPs – but not CSU MPs – were eligible to sign the letter to the CDU board. We collect a rich dataset covering all 195 CDU MPs with a constituency sitting in the German parliament in April 2021.¹² The dataset is constructed from a wide range of sources. Summary statistics for all variables are shown in Appendix Table C1.

Leadership votes. Our dependent variable – how MPs voted in the leadership election – was obtained from the German newspaper FAZ. This is in the form of the names of the letter’s signatories supporting the candidacy of the CSU Chairman, Markus Söder. There is ample variation in the support for Söder – also across states (see Appendix Figure B2).

Electability. As a proxy for MPs’ ‘electability’, we use re-election probabilities (on a 0-100% scale) calculated by *election.de* as of 9th April 2021 – a few days *before* the letter and *before* Laschet and Söder announced interest in the nomination.¹³ They provide up-to-date information on the current status of the race within the constituency. This measure is highly predictive of actual outcomes: 93% of all constituency results were forecasted correctly for the 2017 national elections, and similar accuracy was achieved for two state elections in March 2021 [Moehl, 2021]. MPs also consult the website. Politicians in one third of constituencies paid for a ‘premium’ version of *election.de* [Lutz, 2021, FAZ, 2021]. Appendix Figure B3 shows how the variable is distributed across MPs.

¹¹Three small states (totalling 16 CDU MPs) are an exception to this. Comparing the 2017 and 2021 state lists, we do not see any effect of whether an MP signed the letter either on her placement nor her movement on the state list. This is as expected because the state lists are compiled by state parties without interference by the national party or its Chairman Armin Laschet.

¹²200 CDU MPs were elected in the 2017 national elections and all were assigned a constituency. Nine MPs resigned from parliament prior to April 2021. Only four of the nine replacements had been assigned a constituency.

¹³The predicted probability for winning the constituency is generated by a data-driven projection model which takes into account among others the candidates in the constituencies, current demoscopic trends, and the likely vote splitting [Moehl, 2021].

Ideology. Various measures for ideology exist at the party level, but measuring ideology at the individual MP level is more difficult and hence much rarer.¹⁴ We use a supervised machine learning model called ‘Wordscores’, which is an established tool in the political science literature for extracting political positions from text data [Laver et al., 2003, Lowe, 2008].¹⁵ The model provides ideology scores based on similarities of texts of interest (‘virgin texts’) with a set of labelled texts (‘reference texts’). Specifically, the method first estimates scores for each word that occurs in the reference texts and secondly employs these to generate a score for each virgin text. We use 2017 manifestos from all major German political parties as our set of reference texts. The labels are expert assessments of each manifesto’s ideological positions, taken from Chapel Hill [Bakker et al., 2019]. Our virgin texts are the parliamentary speeches made by each MP during the 19th parliamentary term (2017–2021). We validate the model’s output in Appendix E.1. For our empirical analysis, we only use the ideology scores for CDU MPs.¹⁶ As ideology scores have no natural units, we normalise the scores to have a mean of zero and a standard deviation of one to aid interpretation.¹⁷

Re-election motivation. We determined whether MPs were seeking re-election based on local newspaper reporting. This process classified 42 MPs (22% of the sample) as either not seeking re-election or having lost their local party’s nomination for re-election before the date of the leadership election. Hence we measure re-election motivations on the extensive margin.

MP-level control variables. We obtained MPs’ socio-economic characteristics, such as gender, education, religious affiliation, tenure, party or government positions from the Federal Returning Officer [2017] and MPs’ personal webpages. We also use confidential information on MPs’ membership in the largest partisan faction ‘Parlamentskreis Mittelstand’ (PKM) to capture potential network effects. Finally, we construct an indicator measuring

¹⁴The DW-NOMINATE scores are an exception, which provide ideology scores for political actors in the US based on roll-call voting [Lewis et al., 2023]. Deviations from the party line occur too rarely in Germany so as to follow their methodology.

¹⁵For a full discussion on the strengths and weaknesses of different text scaling approaches see Grimmer and Stewart [2013] and Egerod and Klemmensen [2020].

¹⁶We transform the raw ideology scores according to the method suggested by Martin and Vanberg [2008].

¹⁷Our theoretical model uses ideological alignment (i.e. a difference in ideology between an MP and a leadership candidate), while our data captures MPs’ ideologies. Under a mild assumption, differences in ideological alignment are linear in MPs’ ideology. So our measure of MPs’ ideology is perfectly correlated with the theoretical object of interest. Appendix E provides a more extensive discussion.

the general tendency of individual MPs to rebel by calculating the share of roll-call votes in which the individual MPs deviated from the party line during the 19th parliamentary term.

Constituency-level control variables. We collect macro-economic variables on MPs’ constituencies, including unemployment, income, and urbanisation. This data comes from the Regional Database Deutschland & Federal Employment Agency [2022]. We also calculate the share of second votes in the previous 2017 national election for the populist right-wing party ‘Alternative für Deutschland’ (AfD) as a proxy for right-wing pressure [Federal Returning Officer, 2017].

4 Empirical Analysis

4.1 Descriptive Analysis

The raw data is suggestive of gambling for re-election behaviour by MPs. Figure 4 shows that MPs who voted for the risky challenger Markus Söder (i.e., who signed the letter) were predicted to be significantly less likely to win re-election than MPs who did not (by a 11 p.p. difference).¹⁸ This pattern cannot be explained by differences in the electability (‘quality’) of the leadership candidates. If MPs were to choose based solely on candidates’ electability, there should be no relationship between MPs’ choice of leadership candidate and their re-election probabilities. Figure 4, in contrast, suggests that risk matters for MPs.

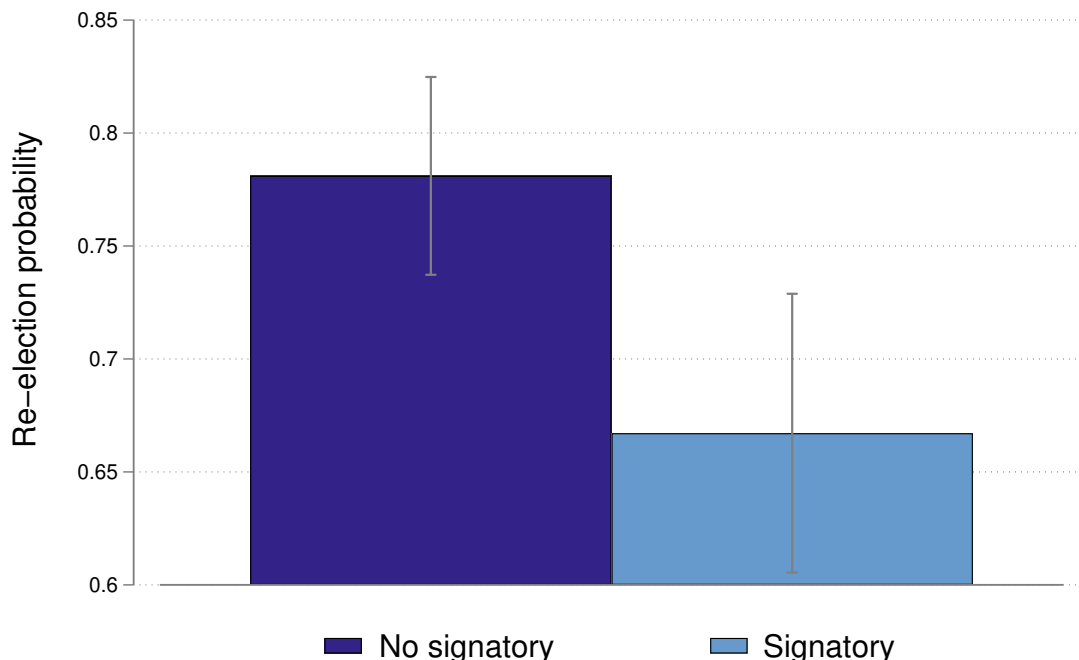
4.2 Econometric Model

Our empirical framework follows the logic of our theoretical set-up very closely. The main variables each capture a key element from the theory model: electability (proxied by re-election probability), ideological alignment (proxied by MPs’ ideological positioning on a left-right scale), and importance of re-election motivation (proxied on the extensive margin by an indicator of whether or not an MP is running for re-election).¹⁹ The equilibrium

¹⁸Appendix Figure B6 demonstrates that MPs’ decisions in the leadership election also relate to *realised* election outcomes. Among those MPs who were seeking re-election, MPs who signed the letter were 25 p.p. (!) less likely to get re-elected than MPs who did not sign the letter. This illustrates that supporting the risky candidate, i.e. gambling, was a rational choice by MPs.

¹⁹Our theoretical model also makes an intuitive prediction regarding the leadership candidates’ electabilities: a candidate with higher electability will attract more votes. We cannot test this prediction empirically because the leadership candidates’ electabilities are fixed across all MPs and therefore do not offer any identifying variation. This also implies that our empirical results cannot be explained by differences in leadership candidates’ electabilities.

Figure 4: RE-ELECTION PROBABILITY AND SUPPORT FOR RISKIER CANDIDATE



Notes: The figure relates the predicted winning likelihoods of MPs to their decision to sign the letter (90% confidence intervals).

characterisation in Section 2.2 shows that the re-election motivation modulates the impact of electability and ideology (it appears multiplicatively, rather than additively; see Equation 3). It is therefore important to interact the re-election motivation with the other two key variables. Our specification allows us to examine how support for the risky candidate (Söder) depends on the factors highlighted by our theoretical model. Specifically, we estimate the following regression model:

$$\begin{aligned}
 Y_m = & \alpha + \beta \text{Poll}_m + \gamma \text{ID}_m + \delta \text{N-run}_m + \zeta (\text{Poll}_m \times \text{N-run}_m) \\
 & + \eta (\text{ID}_m \times \text{N-run}_m) + \mathbf{X}_m\theta + \mathbf{B}_s\mu + \varepsilon_m.
 \end{aligned}
 \tag{4}$$

Y_m denotes whether CDU MP m signed the letter in support of Markus Söder. Poll_m is the predicted probability of a CDU MP m winning her constituency. ID_m captures MPs' ideological leaning on a left-right-scale based on our supervised machine learning model. N-run_m is a dummy that takes the value one for MPs who are not standing for re-election in the September 2021 national elections. The two interaction terms ($\text{Poll}_m \times \text{N-run}_m$ and $\text{ID}_m \times \text{N-run}_m$) are key parts following directly from the theoretical model. They allow

us to test whether the effect of electability and ideology are conditional on the re-election motivation.

Beyond the factors highlighted by our theory model, our empirical specification includes a comprehensive battery of MP-specific and constituency-specific controls in the matrix \mathbf{X}_m . State- and geographic-specific factors are absorbed by state fixed-effects (\mathbf{B}_s).²⁰ This allows us to account for a wide range of other factors that might affect MPs' decisions. We estimate the model by OLS and use standard errors robust to arbitrary heteroskedasticity.

Identification strategy. While we control for a wide range of potential confounders, we cannot definitively rule out that the empirical model suffers from endogeneity issues. Indeed, in Section 5.2, we set out the three most natural alternative stories that would generate the relationship we see in Figure 4, but without low re-election probabilities *causing* MPs to back the riskier candidate. While we show that addressing these alternative stories directly does not alter our results, we also use an established instrumental variable strategy to rule out any remaining endogeneity issues. This allows us to more confidently attach a causal interpretation to our findings.

Specifically, we employ the CDU's constituency-level shares in *second* votes, i.e. the votes cast for the party as a whole rather than an MP personally, in the 1990 national elections (the first after Germany's reunification) as an instrument for MPs' re-election probabilities. The instrument leverages variation in local electoral competition arising from persistence in voters' party preferences, which are not tied to considerations about individual MPs (see, for example, Svaleryd and Vlachos, 2009, Becker et al., 2009, Solé-Ollé and Viladecans-Marsal, 2012 for closely related empirical strategies).

Two convenient features make the instrument plausibly exogenous. First, in the same spirit as Svaleryd and Vlachos [2009], we benefit from the fact that the current constituency structure in Germany is not the same as it was in 1990. Several rezoning reforms changed which municipalities belong to which constituency. For 1990, we geolocate the election results for all 16,110 German municipalities. Accounting for municipality mergers and rezoning reforms, we aggregate the historical municipality election results to the current constituency structure. Since only two MPs in our sample were running in 1990 and since the current

²⁰MP-specific controls include: tenure, education levels, gender, religious affiliation, general rebel tendency, faction membership, and party elite dummy. Constituency-specific controls include; unemployment rate, population density, average private households' income, and AfD second vote share in 2017. Some of the factors absorbed by state fixed effects include; state party ideology, state election schedule, and geographical proximity to the home states of the two leadership candidates (Bavaria and North Rhine-Westphalia).

constituency structure did not exist in 1990, our instrument leverages variation in the level of the current local electoral competition based on voters’ stable ideological considerations.

Second, our instrument exploits the peculiarity of the federal electoral system in Germany that voters cast two votes simultaneously (one for an MP, one for a party). For our instrument, we employ the party preferences expressed in the second vote (see also the discussion in Becker et al., 2009 on why this institutional feature makes the lagged share in second votes a well-suited instrument for local political competition). Both features ensure that the variation created by our instrument is not tied to considerations about individual MPs.

5 Results

5.1 Main Results

Table 1 reports our main regression results. Column (I) is parsimonious and includes only the MPs’ predicted likelihood of winning, the re-election motivation, and the interaction of the two terms. Column (II) adds constituency- and MP-specific controls. Column (III) adds state fixed effects. In column (IV), we include MPs’ ideology. Finally, column (V) adds the interaction term between ideology and the re-election motivation. This yields the full specification from Equation (4).

Gambling for re-election. The theory model’s key prediction is that MPs are more likely to vote for the riskier candidate (in our setting, the challenger Markus Söder) if they themselves are less ‘electable’, i.e. have a lower expected probability of being re-elected (Proposition 2). In our empirical model, this implies a negative coefficient β . Table 1 shows that the data bear out this prediction. Throughout all specifications, the coefficients on the *Poll* variable are negative and statistically significant when MPs stood for re-election. In other words, MPs exhibit ‘gambling for re-election’ style behaviour.

Importantly, our point estimates suggest that this relationship is economically significant. A ten percentage points *decrease* in the predicted re-election probability for an MP is associated with a 2.9 percentage points *increase* in the probability that she supports the risky candidate. The point estimates stay remarkably constant across specifications, supporting the argument that the link between re-election probabilities and MPs’ choices does not depend on control variables. Furthermore, we find this relationship only for MPs seeking re-election (i.e. who are re-election motivated) – exactly as predicted by our model. For MPs

Table 1: PREDICTED WINNING LIKELIHOOD AND CANDIDATE CHOICE —
BASELINE REGRESSION RESULTS

Dependent variable: Support for Söder					
	(I)	(II)	(III)	(IV)	(V)
	Parsimonious	+ Controls	+ State f.e.	+ Ideology	+ Ideology Int.
Poll	-0.285** (0.128)	-0.261* (0.139)	-0.286* (0.168)	-0.288* (0.170)	-0.294* (0.167)
Not-run \times Poll	0.042 (0.290)	0.035 (0.273)	0.150 (0.309)	0.147 (0.308)	0.077 (0.307)
Ideology				0.009 (0.034)	-0.024 (0.036)
Not-run \times Ideology					0.175* (0.098)
Constituency controls	No	Yes	Yes	Yes	Yes
MP controls	No	Yes	Yes	Yes	Yes
State fixed effects	No	No	Yes	Yes	Yes
Observations	195	195	195	195	195
R-squared	0.034	0.244	0.307	0.307	0.322

Notes: The table shows the results from estimating Equation (4). We show results from five specifications. We start with a parsimonious model that examines how MPs' electability (*Poll*), and the interaction of electability with the re-election motive, relate to MPs' leadership choices. We gradually augment this model by introducing MP- and constituency- controls (Column II), state fixed effects (Column III), ideology (Column IV) and the interaction term of ideology with the re-election motive (Column V). All specifications also include the base effect of *Not-run*. MP controls include MPs' tenure, education levels, religious affiliation, general rebel tendencies, gender, PKM faction membership, and a dummy whether an MP has a leading party position (value of one for members of the government and members of the CDU board). Constituency controls include the unemployment rate, households' average income, and the urbanisation rate, and the share of second votes in the previous 2017 national election for the populist right-wing party 'Alternative für Deutschland' (AfD).

not seeking re-election, the marginal effect, i.e. the sum of coefficients of the *Poll* variable and the *Not-run* \times *Poll* interaction, does not turn out to be statistically different from zero ($t = 0.71$ in the most comprehensive specification).

Result #1 *MPs gamble for re-election: A ten percentage points decrease in the predicted re-election probability for an MP is associated with a 2.9 percentage points increase in the probability of supporting the risky candidate.*

Ideology. The second theoretical prediction is that MPs who are more ideologically aligned with a candidate are more likely to vote for that candidate (Proposition 3). In the empirical

application, this corresponds to the prediction that $\gamma > 0$. This is because Markus Söder (the CSU Chairman) is the more right-wing of the two candidates. The CSU is traditionally regarded as more conservative than the CDU, which is also reflected in the Chapel Hill rating [Bakker et al., 2019].

Our empirical results do *not* support this prediction. In both columns (IV) and (V), the point estimates on the *Ideology* variable are not statistically different from zero. Note that these coefficients are a precisely estimated zero and rule out even modest associations of ideology with MPs' choices. This suggests that MPs (at least those seeking re-election) are primarily motivated to choose a leader who will help them win re-election, rather than one who they find ideologically appealing.

Result #2 *For MPs seeking re-election, ideological alignment does not play an important role for their decision-making in a leadership election. This is consistent with MPs being primarily – but not solely – re-election motivated.*

The role of the re-election motive. A third important prediction from our model is that a reduced re-election motive makes ideology relatively more important for MPs' choice of leadership candidate – and consequently reduces the importance of their re-election probability (Proposition 4). In the extreme case, where MPs have no re-election motive at all, it is only ideology that matters. With our data, we test for extensive margin changes — whether or not MPs are seeking re-election at all — instead of 'marginal' changes in the re-election motive.

Within our empirical framework, this amounts to the prediction that for MPs who are not seeking re-election, ideology matters for their choice *and* that their re-election probability does not. In other words, the marginal effect of the *Poll* variable is zero, while the marginal effect of *Ideology* is non-zero. This is exactly what we find in our regression results. Column (V) shows that the coefficient on the interaction term between the re-election motive and MPs' ideology is positive and statistically significant (the marginal effect of ideology for MPs not seeking re-election yields a *t*-statistic of 1.67). Among MPs not seeking re-election, more conservative MPs were more likely (all else equal) to support Markus Söder. This matches our view that Markus Söder is the more conservative of the two candidates. In contrast, our previous finding showed that for those MPs not seeking re-election, the marginal effect of the *Poll* variable is not statistically different from zero. More conservative MPs were thus

more likely to support the more conservative CSU Chairman, but *only* when they were not seeking re-election.

This result is suggestive that our inability to find a relation between ideological alignment and MPs' choices in the full sample of MPs (Result #2) may be because the risk channel dominates the ideology motive, rather than because the ideology motive does not exist at all. It also demonstrates the importance of the interaction between re-election motivation and ideological alignment highlighted by the theoretical model.

Result #3 *Importance of the risk channel: risk preferences of MPs dominate the importance of ideological alignment for MPs selecting a political leader. MPs only care about ideological alignment when not seeking re-election.*

5.1.1 Robustness

Next, we demonstrate that our empirical results survive a wide range of robustness checks. For brevity, data tables are relegated to the Appendix.

Functional form and sample restrictions. Our results are not driven by the use of an OLS model: changing to a Probit Model has no impact on inferences (Appendix Table C2). The results are also not driven by outliers or by the inclusion of state fixed effects – both of which could be a concern given our modest sample size. Jack-knife regressions, which exclude one MP at a time, show that results do not rely on individual MPs (Appendix Figure B7). Inferences do not change when we account for cultural and geographical differences with an East-Germany dummy, rather than full state fixed effects (Appendix Table C3).

Testing our key variables. The polls and ideology variables are the most important in our analysis. Our measure of ideology is derived from MPs' speeches, and so is likely noisy (i.e. it may suffer from measurement error). To address any resulting attenuation bias, we include the standard errors of the ideology variable as an additional control. Inferences stay qualitatively the same (see Appendix Table C4). Even though our polling data is a very accurate predictor of election outcomes (see Section 3.2), the variable might still suffer from measurement error. As we do not observe the exact data generating process, we cannot account for it by bootstrapping our regressor. However, we will show that our results are not driven by this particular choice of proxy, and that we obtain qualitatively identical results when using pre-determined vote margins.

COVID-19. The leadership election took place amid the COVID-19 pandemic. We rule out that geographical differences in the severity of the pandemic situation, and hence poten-

tially different policy preferences of MPs, influence our results. Controlling for constituency-level infection cases (relative to the population), either cumulatively to 12 April 2021 (the day the letter was sent), or just in the seven days prior to 12 April 2021, does not change our results (see Appendix Table C5).

Second route into parliament – the state list. Finally, we show that controlling for whether MPs were placed on the 2017 state lists (*ex-ante*) or the 2021 state lists (*ex-post*) does not change inferences (Appendix Table C6). This is in line with the arguments in Section 3.1.

Selection on unobservables. While we have controlled for a wide range of potential confounders, we cannot completely rule out the possibility that there is some selection on unobservables. We therefore use the Oster [2019] test to estimate how large the selection on unobservables would have to be in order to drive the estimated effects on the *Poll* variable. We find that selection on unobservables would have to be substantial – 1.9 times larger than the selection on controls and state fixed effects – to cancel out our estimated effects.

5.2 Alternative Explanations

The empirical results confirm our model’s predictions about gambling style behaviour. However, a natural concern is that the results might be driven by some other mechanism, which would generate the same empirical patterns, but without re-election chances having a *causal* effect on MPs’ leadership decisions. We consider three leading alternatives and show that addressing them does not alter our results.

Reverse causality: support for Markus Söder *caused* lower poll numbers. A first alternative story is that MPs’ support for Markus Söder entered voters’ preferences directly. That is, voters punished CDU MPs for backing the non-CDU leadership candidate. This would create a negative association between MPs’ choice of leader and their probability of re-election; but one where their choice of leader *causes* their re-election probability.

This possible explanation is immediately weakened by the fact that, (1) the re-election probabilities (the *Poll* variable) are taken from one week *before* MPs voted for the leadership candidate, and (2) MPs’ votes were secret (and in spite of the leak of the letter, are still not publicly available).

An omitted variable: party reliance. A second alternative story is that CDU MPs receive assistance from their party leader, Armin Laschet, and that this assistance drives

both their re-election chances and their inclination to vote for Laschet. Such assistance might take the form of channelling party or donor funds to MPs, more frequent visits by senior politicians to the constituencies, or extra government spending in the constituencies – factors that could make MPs receiving the assistance more electable. Receiving this assistance would also likely make MPs more reliant on Armin Laschet and hence would create a spurious correlation between MPs’ choice of leader and their probability of re-election.

Misspecified preferences. A third alternative story is that MPs do not care about re-election and the ideology of their leader (which are both assumed in our model), but instead follow their constituents’ preferences over the two leadership candidates. If this were the case, then voters’ preferences for a party/MP and for a leadership candidate would generate a corresponding association between MPs’ re-election chances and their choice of leadership candidate.

5.2.1 Assessing the alternative explanations

Reverse causality & omitted variable. The reverse causality and omitted variable stories share a common feature: the potential factor driving the relationship between MPs’ re-election probabilities and leadership decisions could only arise *after* Armin Laschet became Chairman of the CDU (which took place in January 2021). In the party reliance story, MPs could only have reasonably become reliant on Laschet after he became Chairman of the CDU. In the reverse causality story, support for Markus Söder could not have influenced re-election probabilities from before a leadership election between Laschet and Söder was anticipated.

In contrast, our risk model relies on underlying MP ‘electability’, which we assume is stable over time (or at least persistent). Therefore, if our risk model is in fact the correct story, the relationship between polling/voting data and support for Markus Söder should be present when using older polling/voting data as a proxy for ‘electability’.

We therefore re-estimate Equation 4 using MPs’ vote margins in the 2017 national elections as an alternative proxy for electability. The 2017 election took place long before Armin Laschet became Chairman of the CDU and before a contest between Laschet and Söder was foreseeable. Therefore, MPs’ vote margins cannot be driven by MPs’ reliance on Laschet or voters’ preferences for Markus Söder.

We obtain qualitatively identical results when estimating our baseline model with MPs’ vote margins as the main independent variable (see Table 2). MPs with a lower vote margin in

Table 2: VOTE MARGINS AND CANDIDATE CHOICE — REGRESSION RESULTS

Dependent variable: Support for Söder					
	(I)	(II)	(III)	(IV)	(V)
	Parsi.	+ Controls	+ State f.e.	+ Ideology	+ Ideology Int.
Vote margin	-1.287*** (0.402) (0.140)	-0.869* (0.452) (0.133)	-1.109** (0.499) (0.134)	-1.112** (0.501) (0.137)	-1.206** (0.500) (0.134)
Not-run \times Vote margin	0.829 (0.911)	0.628 (0.887)	1.060 (0.947)	1.052 (0.948)	0.930 (0.948)
Ideology				0.007 (0.034)	-0.026 (0.036)
Not-run \times Ideology					0.183* (0.096)
Constituency controls	No	Yes	Yes	Yes	Yes
MP controls	No	Yes	Yes	Yes	Yes
State fixed effects	No	No	Yes	Yes	Yes
Observations	195	195	195	195	195
R-squared	0.051	0.243	0.314	0.314	0.331

Notes: The table shows the results from re-estimating Equation 4 using the 2017 vote margin for CDU MPs as main independent variable. The specifications in Columns (I)-(V) follow the structure in Table 1, and control for the base effect of *Not-run*. MP controls include MPs’ tenure, education levels, religious affiliation, general rebel tendencies, gender, PKM faction membership, and a dummy whether an MP has a leading party position (value of one for members of the government and members of the CDU board). Constituency controls include the unemployment rate, households’ average income, and the urbanisation rate, and the share of second votes in the previous 2017 national election for the populist right-wing party ‘Alternative für Deutschland’ (AfD).

2017 (‘tougher re-election races’) were significantly more likely to support the risky candidate. This shows that the reverse causality and party reliance stories are not driving our qualitative results.

Quantitatively, the estimates imply that MPs with a 1 p.p. lower vote margin in 2017 were 1.2 p.p. more likely to support the risky candidate. In standardised terms, the coefficient on the vote margins is slightly larger than our baseline coefficient on the Polls variable: a one standard deviation increase in the vote margin (predicted winning likelihood) is associated with a 11.1 (9.0) p.p. increase in the likelihood to vote for the riskier candidate.

Misspecified preferences. To address the possibility of misspecified preferences, we disentangle voters’ preferences over leadership candidates from MPs’ preferences. We measure voters’ preferences using high-quality, geo-referenced, and representative household survey

data from Infratest Dimap [2022]. The geo-referencing is critical – it allows us to aggregate these preferences to the constituency level. The data captures two measures of voters’ feelings towards Markus Söder: (1) satisfaction with the quality of his political work (on a 1 to 4 scale), and (2) perceptions of Söder as a suitable Chancellor.²¹ If MPs base their leadership decisions not on own objectives but simply followed their constituents’ preferences, then it should be these measures, and not the *Polls* variable, that have predictive power.

Adding both variables to our empirical model has no impact on our results (see Appendix Table C7). The point estimates on the pre-existing variables remain stable. Furthermore, the coefficients on the voters’ preference variables are close to zero and not statistically significant. We also obtain qualitatively identical results if we include the variables separately, construct the variables using only up-to-date answers from January to April 2021, or construct the variables using only answers from declared CDU-voters. Combined, this presents strong evidence that MPs’ decisions are reflective of risk-taking behaviour and are not merely based on their constituents’ preferences.

5.3 Instrumental Variable Results

While we have demonstrated that it is unlikely that other alternative stories to the gambling for re-election mechanism are driving our empirical results, we cannot fully rule out that there might be some other source of bias. We therefore use an established instrumental variables approach to address ‘residual’ endogeneity concerns. Our instrument is based on CDU party vote shares in the 1990 national elections, creating variation in local electoral competition that is not tied to considerations about individual MPs (see the discussion in Section 4.2). This helps attach a stronger causal interpretation to our results.

Table 3 presents the 2SLS-results for our instrumental variable approach. Panel A shows results when using the *Polls* variable. The first stage results show that our instrument is a relevant and strong predictor for local electoral competition. A one percentage point increase in the CDU’s 1990 vote share at the constituency-level relates to a 1.9 p.p. increase in the predicted (personalised) re-election likelihood for CDU MPs in 2021.

²¹The exact wording of the questions is “*How satisfied are you with Markus Söder’s political work?*” and “*The next general election will take place in September. The CDU/CSU candidates for Chancellor are Markus Söder and Armin Laschet. What do you think: Would Markus Söder be a good candidate for chancellor or not a good candidate for chancellor of the CDU/CSU?*”. We pool all seven waves of the survey containing these two questions (from 2019 to April 2021), yielding 10,913 observations for the first question, and 6,233 observations for the second question. Appendix Figure B8 shows that there is ample variation in both measures across constituencies.

Table 3: ELECTABILITY AND CANDIDATE CHOICE — INSTRUMENTAL VARIABLE REGRESSION RESULTS

Dependent variable: Support for Söder					
	(I) Parsi.	(II) + Controls	(III) + State f.e.	(IV) + Ideology	(V) + Ideology Int.
Panel A: Results using <i>Polls</i> proxy					
<i>First Stage Regression Results</i>					
<i>Vote share</i> ₁₉₉₀	2.014*** (0.323)	1.868*** (0.340)	1.916*** (0.326)	1.910*** (0.322)	1.910*** (0.322)
<i>Second Stage Regression Results</i>					
Poll	-0.719*** (0.256)	-0.619** (0.296)	-1.042*** (0.332)	-1.056*** (0.336)	-1.057*** (0.326)
Ideology				0.018 (0.036)	-0.019 (0.038)
Not-run × Ideology					0.201** (0.093)
Kleibergen-Paap F-statistic	38.8	30.2	34.6	35.2	34.7
Anderson-Rubin p-val	0.00	0.01	0.00	0.00	0.00
Panel B: Results using <i>Vote margins</i> proxy					
<i>First Stage Regression Results</i>					
<i>Vote share</i> ₁₉₉₀	0.933*** (0.075)	0.766*** (0.085)	0.972*** (0.081)	0.973*** (0.081)	0.973*** (0.081)
<i>Second Stage Regression Results</i>					
Vote margin	-1.550*** (0.529)	-1.510** (0.730)	-2.054*** (0.635)	-2.073*** (0.644)	-2.074*** (0.619)
Ideology				0.012 (0.032)	-0.027 (0.034)
Not-run × Ideology					0.207** (0.091)
Kleibergen-Paap F-statistic	156.7	81.7	145.7	143.4	143.0
Anderson-Rubin p-val	0.00	0.03	0.00	0.00	0.00
Constituency controls	No	Yes	Yes	Yes	Yes
MP controls	No	Yes	Yes	Yes	Yes
State fixed effects	No	No	Yes	Yes	Yes
Observations	195	195	195	195	195

Notes: The table shows the instrumental variable results using the CDU’s party vote share in the 1990 national elections as an instrument. Panel A shows results when using the Polls variable as proxy for MPs’ electability, Panel B shows results when using 2017 vote margins as proxy. The specifications in Columns (I)-(V) follow the structure in Table 1, and control for the base effect of *Not-run*. MP controls include MPs’ tenure, education levels, religious affiliation, general rebel tendencies, gender, PKM faction membership, and a dummy whether an MP has a leading party position (value of one for members of the government and members of the CDU board). Constituency controls include the unemployment rate, households’ average income, and the urbanisation rate, and the share of second votes in the previous 2017 national election for the populist right-wing party ‘Alternative für Deutschland’ (AfD).

The second stage results strongly corroborate our OLS results throughout all specifications: MPs with lower electability were more likely to support the riskier candidate, and ideological alignment only matters for MPs who are not seeking re-election. These results are highly statistically significant; also reflected by the low p-values of the Anderson-Rubin test.²²

Panel B shows results when alternatively using MPs' vote margins in the 2017 national elections as proxy for MPs' electability. The results are qualitatively identical across both proxies and provide strong evidence that the relationship between MPs' electability and their risk-taking behaviour is likely causal.

The point estimates obtained via the 2SLS-approach are markedly larger than the OLS estimates.²³ The relative gap in the OLS-IV estimates is larger for the *Polls* variable than for the vote margins. This is consistent with the *Polls* variable being likely more noisily measured than the vote margins.

For both proxies we perform the state-of-the art decomposition proposed by Ishimaru [2024], which decomposes the OLS-IV gap into a covariate weight difference component, a treatment-level weight difference component, and the marginal effect difference component. Appendix Table C8 shows that most of the OLS-IV gap is indeed explained by the marginal effect difference component.

Extended Results: Instrumenting the interaction. Table 3 shows results when we instrument the (potentially endogenous) re-election probabilities with the 1990 vote shares and control for the base effect of the re-election motive (*Not-run*), but do not include the interaction term between the re-election probabilities and the re-election motive – a factor highlighted by our theory model. This is to facilitate exposition and interpretation of the instrumental variable approach. To make our instrumental variable results fully comparable to our OLS approach, we additionally use the CDU's vote shares in 1990 *and* their interaction with the re-election motive as instruments for the re-election probabilities and their interaction with the re-election motive. The qualitative results are unchanged, and the coefficients on the interaction terms confirm that the re-election motive plays an important role in our ideology and risk-taking findings (see Appendix Table C9).

²²The results are not an artefact reflecting our choice of using the 1990 national election results for our instrument. In line with the idea of ideological persistence, we obtain very similar estimates when using the 1994 national election results.

²³Note that this does not contradict the result from our Oster [2019] test, showing that selection on unobservables would need to be large to *cancel out* our estimated effects.

6 Conclusion

Politicians often have to choose between riskier and safer options. And, as in the case of selecting political leaders, the stakes are often high. But insights into risk-taking behaviour in politics are difficult for one of two reasons. First, when behaviour is publicly observable, politicians may be concerned about public perceptions, which can affect their decisions. This makes it difficult to disentangle signalling incentives to voters from inherent risk preferences. Second, when behaviour is not observable, there are clear data availability issues. In the case of selecting political leaders, secret ballots have proved the key barrier – they do not reveal individual decisions. We overcome these issues through unique access to a leak of party-internal data, allowing us to observe MPs’ decisions in a *de facto* vote for the first time.

We set out a theoretical model of rational risk-taking by MPs, and derive predictions on the factors that drive MPs’ decisions in leadership elections. Our main prediction is that MPs ‘gamble for re-election’. That is, they value the degree of uncertainty over the leadership candidates’ electability differently. MPs predicted to fall short of re-election prefer a riskier candidate, while MPs above the margin for re-election prefer a candidate with lower risk. More generally, the situation can make MPs behave *as if* they are risk-averse or risk-loving – even if they have risk-neutral preferences.

We document exactly this ‘gambling for re-election’ behaviour in the leadership competition of the German centre-right parties before the 2021 national elections. We show that – even after accounting for a battery of potential confounders – MPs with a lower predicted re-election probability were more likely to support the riskier candidate. Specifically, a 10 percentage points reduction in the re-election probability is associated with a 2.9 percentage points increase in the likelihood of voting for the riskier candidate. We find this behaviour only for MPs who are running for re-election. We also show evidence that risk preferences dominate ideological alignment when MPs select political leaders. Ideological alignment with leadership candidates only matters for those MPs who are not running for re-election. We obtain these results both in OLS regressions and confirm them via an instrumental variable approach that induces plausibly exogenous variation in MPs’ re-election probabilities.

This gambling-style behaviour by politicians is similar to the behaviour of company managers who make a high-stakes decision in the context of a potential insolvency. Managers might choose riskier, but also objectively worse, investments when facing a potential insolvency because they benefit from the investments’ success but do not bear the costs of failure (‘gambling for resurrection’). From a welfare perspective, such behaviour is worri-

some because managers do not consider the costs of bankruptcy to debt-holders. Similarly, a majority of MPs may prefer a candidate who they all expect to be of lower ‘quality’, as long as that candidate is sufficiently risky, i.e., performing either very poorly or being a political superstar. The consequences are even more severe in the political context: even MPs who are predicted to very likely win re-election may prefer a worse candidate – as long as that candidate comes with sufficiently low risk.

Our results imply that MPs’ individually rational choices could seriously undermine their party’s success. The behaviour also explains why MPs support different candidates – and hence provides a new explanation for the emergence of intra-party polarisation. In the same spirit, many commentators argued that the fierce competition between the two candidates and the subsequent divide within the party were important factors in the CDU/CSU performing poorly in the 2021 national elections.

Finally, our results raise the possibility that political parties select low-quality leaders, as MPs are willing to trade off leaders’ expected quality for riskiness. Understanding the implications this has for policy-making and voters’ welfare remains a promising avenue for future research.

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A Proofs

Proof of Proposition 1. Part (1) Follows trivially from the assumptions of the model.

Part (2) m wins if and only if the *median* voter chooses party X . Because there are a mass of voters, the median voter has $\epsilon_j(\text{median}) = 0$. Therefore $Pr(\text{win}|m, \ell) = Pr(u_j > 0|m, \ell, \epsilon_j = 0)$. Which in turn equals $Pr(Q_m + Q_\ell + \nu_\ell > 0)$. Straightforward algebra yields $Pr(\text{win}|m, \ell) = F_\ell(Q_m + Q_\ell)$.²⁴ Therefore $u_m(\ell) = I_{\ell,m} + R_m \cdot F_\ell(Q_m + Q_\ell)$. By assumption, $s_m^* = 2$ if and only if $u_m(2) > u_m(1)$. Straightforward rearranging then yields the result.²⁵ \square

Equation 3. Assuming interior solutions, $F_2(Q_m + Q_2) = \frac{Q_m + Q_2}{\lambda + \phi} + \frac{1}{2}$ and $F_1(Q_m + Q_1) = \frac{Q_m + Q_1}{\lambda} + \frac{1}{2}$. Substituting these expressions into the equation in Proposition 1 and rearranging immediately yields the result.

Proof of Proposition 2. The assumption that re-election is not guaranteed under either candidate ensures that $0 < F_\ell(Q_m + Q_\ell) < 1$ for $\ell \in \{1, 2\}$. Therefore $\frac{\partial U_m}{\partial Q_m} = R_m \left(\frac{1}{\lambda + \phi} - \frac{1}{\lambda} \right) < 0$. So an increase in Q_m can only induce MPs to switch towards candidate 2. \square

Proof of Proposition 3. Define the *net* utility of voting for candidate 2: $U_m = u_m(2) - u_m(1)$. Trivially m votes for candidate 2 if and only if $U_m > 0$. From Proposition 1, we can write $U_m = R_m(F_2(Q_m + Q_2) - F_1(Q_m + Q_1)) + I_{2,m} - I_{1,m}$. It is also clear that $\frac{\partial U_m}{\partial I_2} > 0$ and $\frac{\partial U_m}{\partial I_1} < 0$. So an increase in I_2 [resp. I_1] can only induce MPs to switch towards [resp. away from] candidate 2. \square

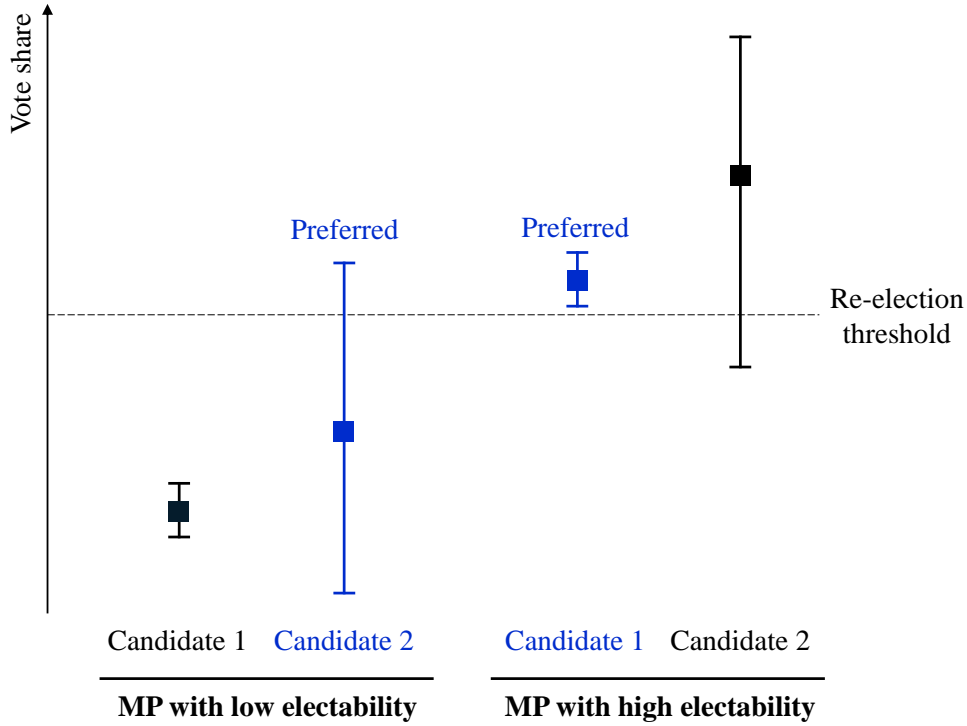
Proof of Proposition 4. From Proposition 1, an MP votes for candidate 2 if and only if in Equation (3) $LHS > RHS$. If MPs $m \in M'$ find candidate 1 more ideologically appealing, then $I_{1,m} - I_{2,m} > 0$. So an increase in R_m decreases RHS of Equation (3). This must weakly increase the number of MPs who vote for candidate 2. Conversely, if MPs $m \in M'$ find candidate 1 more ideologically appealing, then $I_{1,m} - I_{2,m} < 0$. So an increase in R_m increases RHS of Equation (3). This must weakly decrease the number of MPs who vote for candidate 2. \square

²⁴To see this: $Pr(Q_m + Q_\ell + \nu_\ell > 0) = 1 - Pr(\nu_\ell < -Q_m - Q_\ell) = 1 - F_\ell(-Q_m - Q_\ell) = F_\ell(Q_m + Q_\ell)$ using the fact that $F_\ell(-x) = 1 - F_\ell(x)$ by the symmetry of the distribution.

²⁵ $u_m(2) > u_m(1)$ is equivalent to $I_{2,m} + R_m \cdot F_2(Q_m + Q_2) > I_{1,m} + R_m \cdot F_1(Q_m + Q_1)$, which easily rearranges to the result.

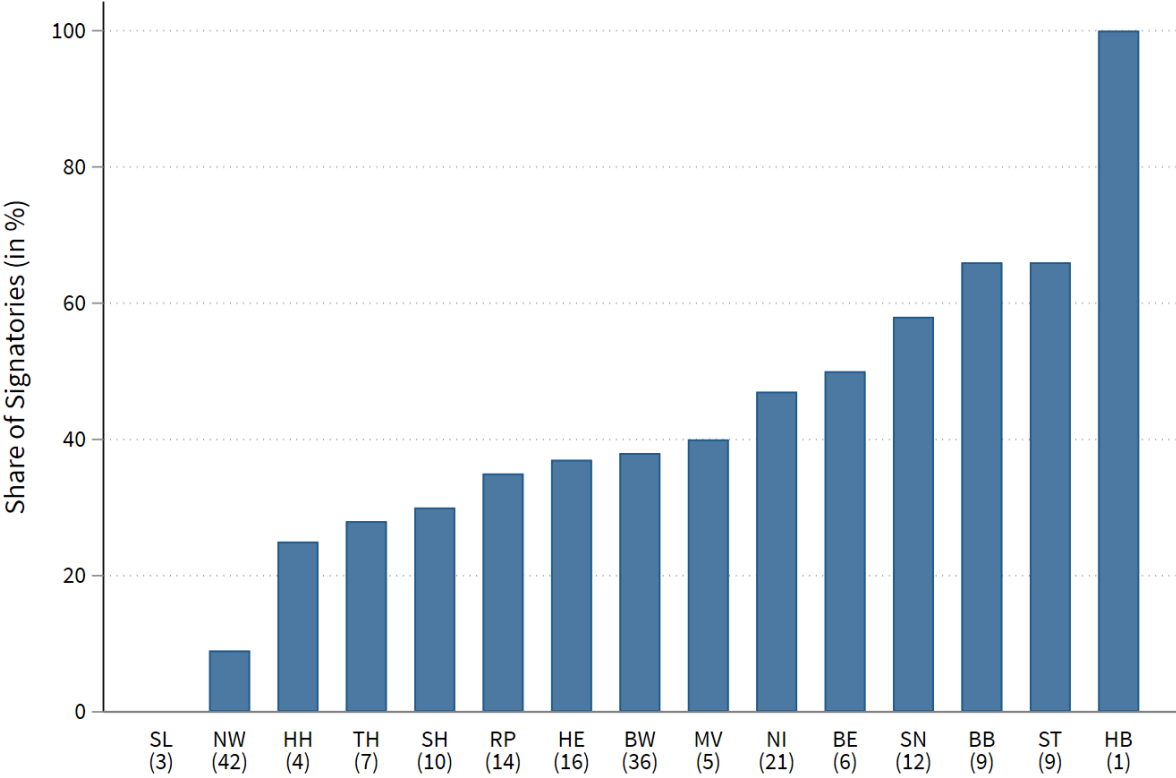
B Supplementary Figures

Figure B1: GAMBLING FOR RE-ELECTION BEHAVIOUR BY HIGH ELECTABILITY MPS



Notes: The figure illustrates for two MPs the range of potential vote shares under two leadership candidates. The MP on the left has a lower re-election probability Q_m than the MP on the right. The leadership candidates differ both in electability and riskiness. A higher electability is illustrated by the solid square being further to the top and a higher riskiness is illustrated by a larger distance between the solid square and the whiskers. Here, candidate 1 is less electable ($Q_1 < Q_2$) and less risky ($\lambda_1 < \lambda_2$) than candidate 2. The MP with high electability gambles for re-election by choosing candidate 1 who compensates the lower electability with lower riskiness. The case where candidate 1 is more electable, but less risky is shown in Figure 1.

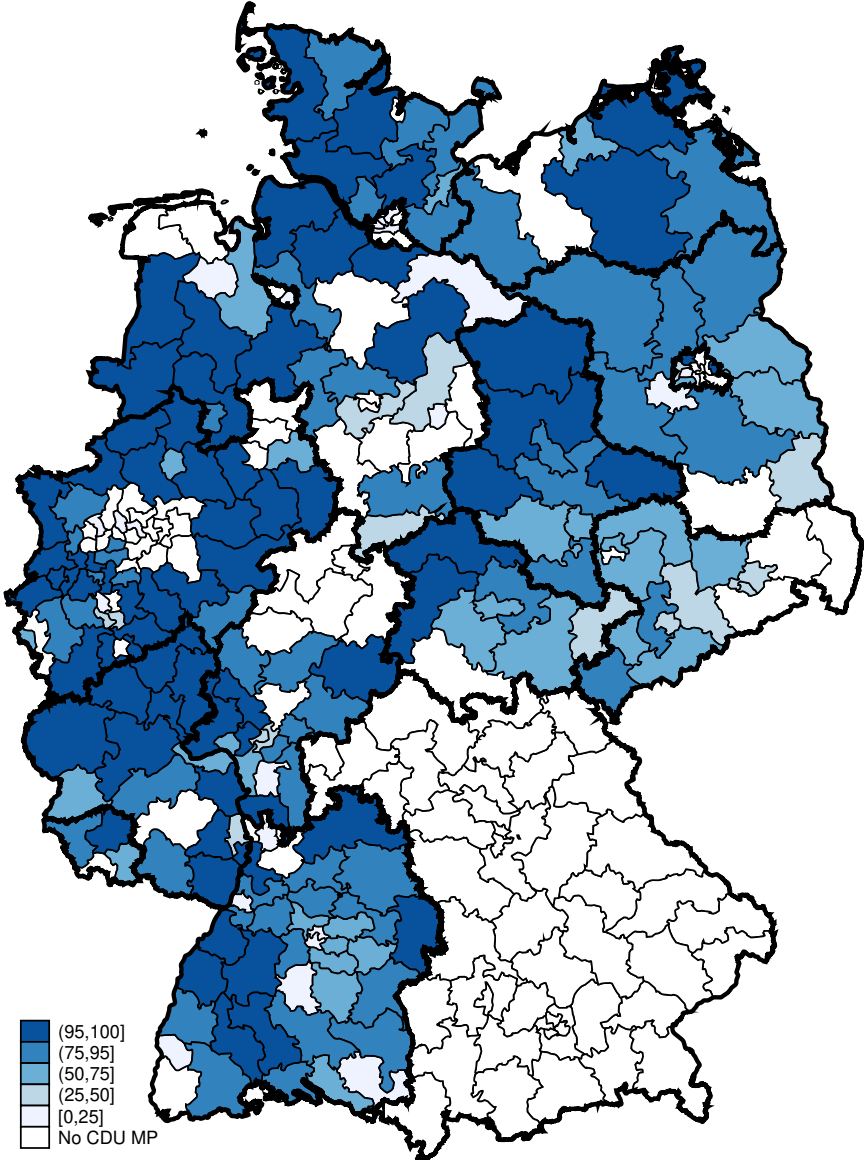
Figure B2: SHARE OF SÖDER SUPPORTERS IN GERMAN STATES



Notes: The figure shows the share of CDU MPs who signed the letter in the 15 German states (excluding Bavaria). The number in parentheses shows the total number of CDU MPs in the states. Data comes from the FAZ.

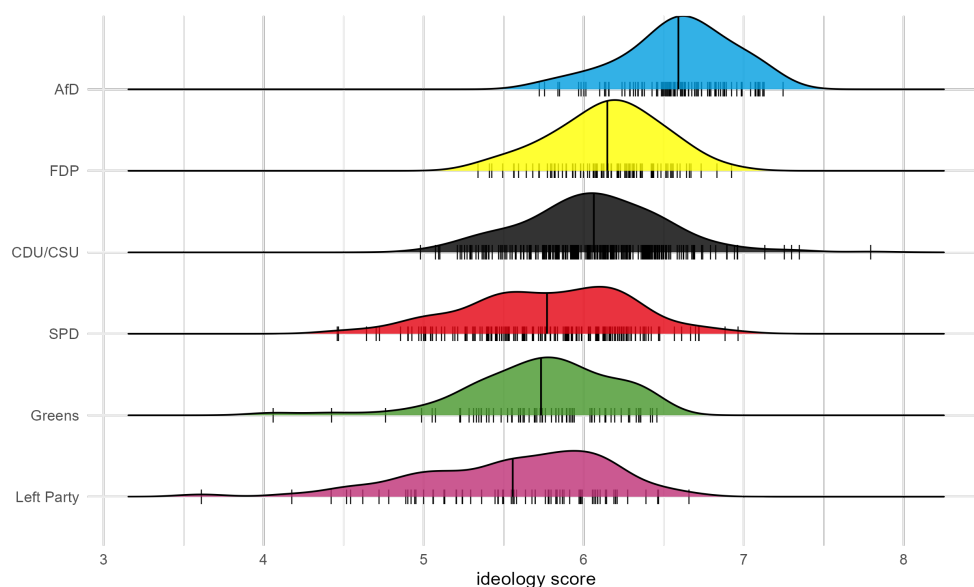
SL: Saarland, NW: North Rhine-Westphalia, HH: Hamburg, TH: Thuringia, SH: Schleswig-Holstein, RP: Rhineland-Palatinate, HE: Hesse, BW: Baden-Württemberg, MV: Mecklenburg-Vorpommern, NI: Lower Saxony, BE: Berlin, SN: Saxony, BB: Brandenburg, ST: Saxony-Anhalt, HB: Bremen.

Figure B3: PREDICTED WINNING PROBABILITIES OF CDU MPS



Notes: The figure shows the predicted CDU winning probabilities for the personalized vote in each constituency from *election.de* on 9th April 2021. Constituencies shaded in white indicate that no elected CDU MP had been running there. CSU MPs (Bavaria) are excluded. The highlighted lines represent state boundaries.

Figure B4: FACE VALIDITY: VISUALISATION OF IDEOLOGY ESTIMATES

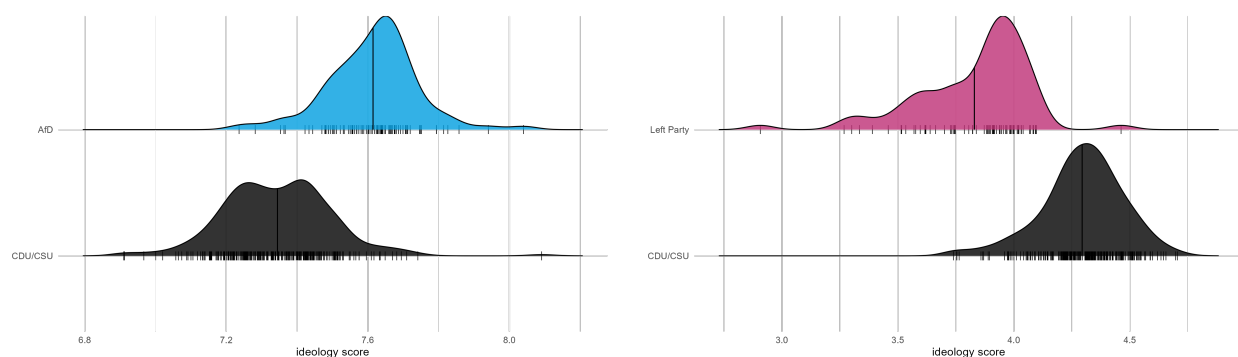


Notes: The figure visualises the raw ideology scores for all MPs in the 19th legislative period derived from our supervised machine learning model. The figure highlights that the model accurately captures ideology across parties. The distributions of left-wing parties (Left party, Greens, SPD) are to the left of the spectrum, while more right-wing parties (CDU/CSU, FDP, AfD) are to the right of the spectrum.

Figure B5: VALIDATION EXERCISE: PARTY PAIRWISE COMPARISONS

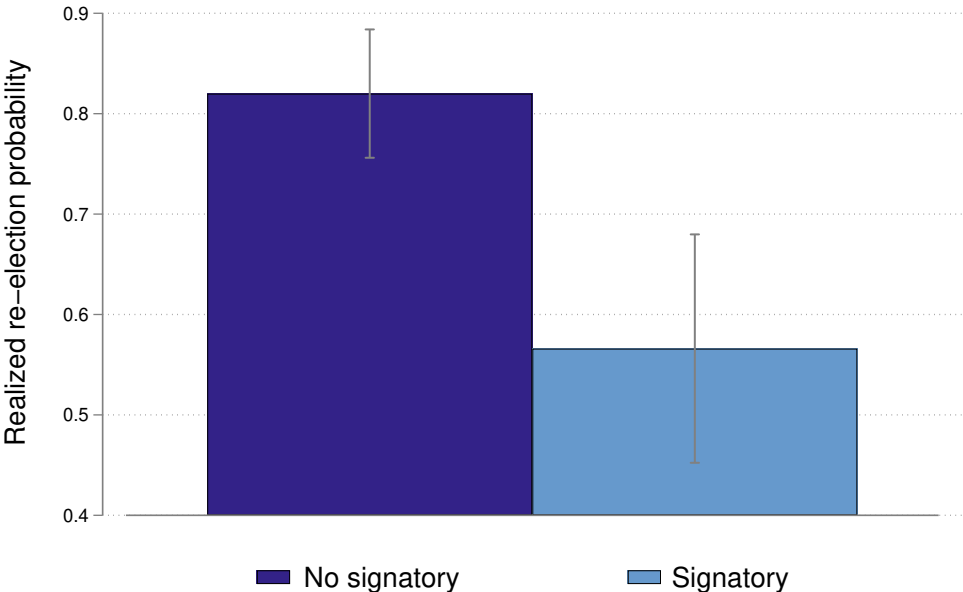
(a) CDU/CSU MPs versus AfD MPs

(b) CDU/CSU MPs versus Left MPs



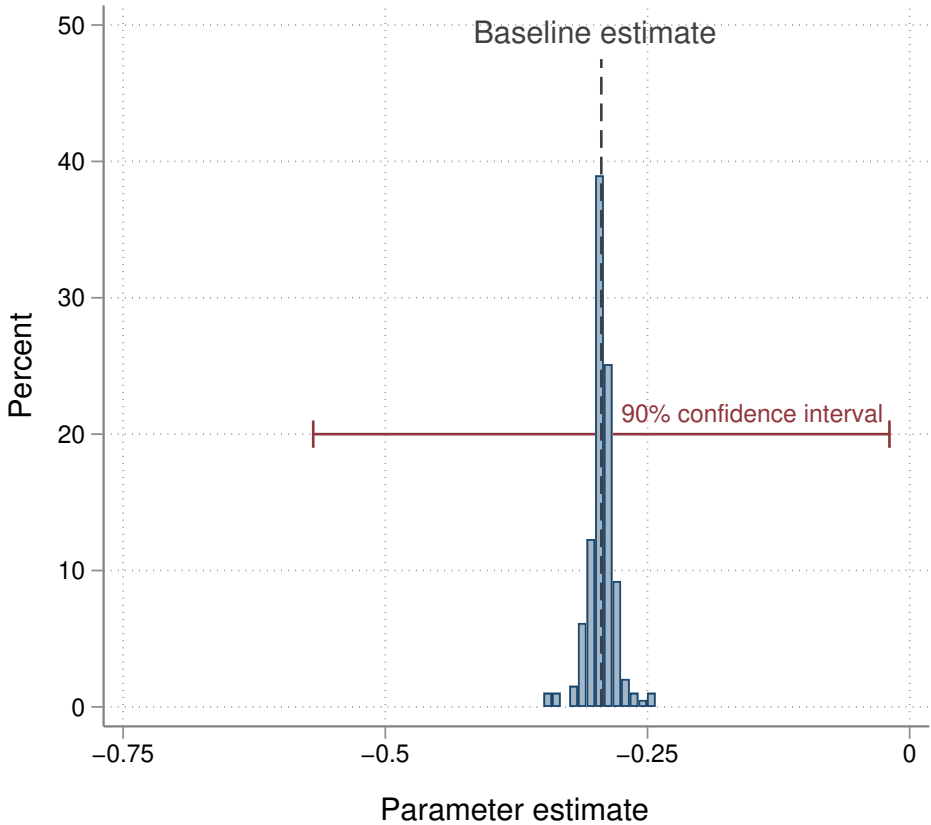
Notes: The figure visualises our validation exercise, in which we restrict the sample in panel (a) to MPs from the CSU/CDU and the Left party and in panel (b) to MPs from the CSU/CDU and the AfD. The resulting distributions show that the model can meaningfully differentiate between MPs from the respective two parties.

Figure B6: REALISED ELECTION OUTCOMES AND SUPPORT FOR RISKIER CANDIDATE



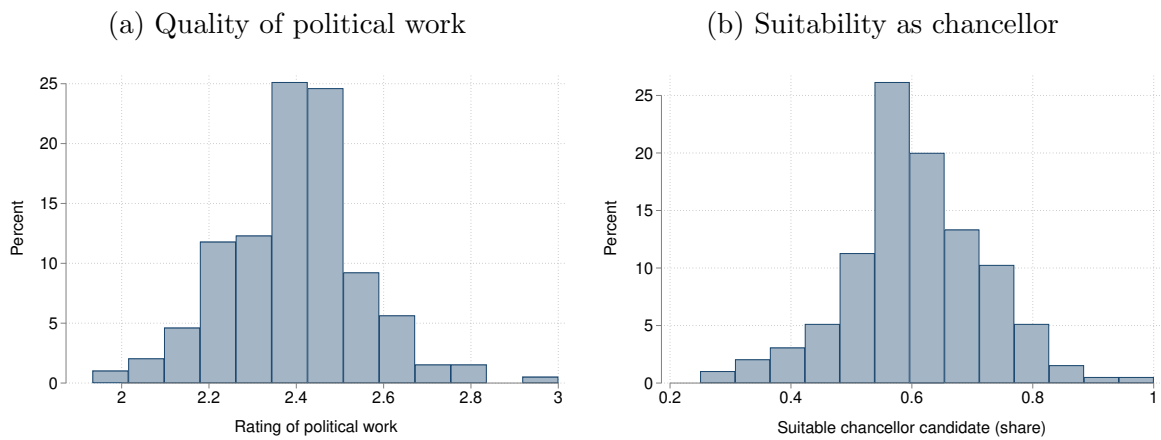
Notes: The figure shows the average likelihood to getting re-elected in the 2021 national elections (ex post) depending on MPs' support for the riskier candidate.

Figure B7: HISTOGRAM OF PARAMETER ESTIMATES USING JACK-KNIFE REGRESSIONS



Notes: The figure shows a histogram of parameter estimates on the *Polls* variable using jack-knife regressions, where we exclude one MP at a time ('leave-one-out'). The dotted vertical line represents our baseline estimate in Table 1, Column (V). All parameter estimates are well within the 90% confidence interval of the baseline estimate.

Figure B8: DISTRIBUTION OF VOTERS' PREFERENCES ACROSS CONSTITUENCIES



Notes: The figure shows distributions of our two measurements of voters' preferences. Subfigure (a) displays the distribution of the average rating of the quality of Markus Söder's political work (on a 1-4 scale). Lower values reflect better ratings. Subfigure (b) displays the distribution of the share of survey participants within a constituency who view Markus Söder as a suitable chancellor candidate.

C Supplementary Tables

Table C1: DESCRIPTIVE STATISTICS

Variable	Observations	Mean	Std. dev.	Min	Max
Signatory	195	0.359	0.481	0	1
Poll	195	0.740	0.306	0	1
Ideology	195	0	1	-2.276	4.102
Not-run	195	0.215	0.412	0	1
Vote margin in 2017	195	0.118	0.092	-0.177	0.373
CDU vote share in 1990 (IV)	195	0.441	0.068	0.251	0.700
<i>MP-level controls:</i>					
Tenure	195	11.581	7.246	1.4	48.4
<i>Education_{low}</i>	195	0.154	0.361	0	1
<i>Education_{high}</i>	195	0.661	0.475	0	1
<i>Education_{PhD}</i>	195	0.185	0.389	0	1
Female	195	0.221	0.416	0	1
Party elite	195	0.164	0.371	0	1
PKM faction member	195	0.662	0.474	0	1
Religious affiliation (1==evangelist)	195	0.452	0.499	0	1
Roll-call vote share against party line (in %)	195	0.843	1.243	0	7.477
<i>Constituency-level controls:</i>					
AfD sec. vote share in 2017	195	0.128	0.058	0.049	0.329
Unemployment rate (in %)	195	6.3	2.0	2.9	15.8
Population density	195	747	1,092	36.8	6,476
Avg. private HHs' income	195	22,654	2,296	16,450	32,099
Political rating	195	2.396	0.160	1.933	3
Chancellor suitability rating (share)	195	0.607	0.115	0.250	1

Notes: The table shows descriptive statistics of the variables used in our empirical analysis. The dummy for the party elite takes the value of one for members of the government (cabinet and parliamentary state secretaries) and for members of the CDU board.

Table C2: PREDICTED WINNING LIKELIHOOD AND CANDIDATE CHOICE — REGRESSION RESULTS ROBUSTNESS: PROBIT MODEL

Dependent variable: Support for Söder					
	(I)	(II)	(III)	(IV)	(V)
	Parsi.	+ Controls	+ State f.e.	+ Ideology	+ Ideology Int.
<i>Panel A: Probit Regression Results</i>					
Poll	-0.760** (0.336)	-1.004** (0.450)	-1.018* (0.547)	-1.019* (0.551)	-1.095** (0.536)
<i>Not-run</i> × <i>Poll</i>	0.132 (0.749)	0.407 (0.877)	1.051 (1.032)	1.045 (1.030)	0.668 (1.031)
Ideology				0.027 (0.134)	-0.159 (0.151)
<i>Not-run</i> × <i>Ideology</i>					0.802* (0.413)
Constituency controls	No	Yes	Yes	Yes	Yes
MP controls	No	Yes	Yes	Yes	Yes
State fixed effects	No	No	Yes	Yes	Yes
Observations	195	195	195	195	195
Pseudo R-squared	0.026	0.228	0.291	0.291	0.313
<i>Panel B: Marginal Effects</i>					
<i>Poll</i> _{Running}	-0.273** (0.115)	-0.283** (0.123)	-0.264* (0.139)	-0.264* (0.140)	-0.280** (0.135)
<i>Poll</i> _{Not running}	-0.237 (0.242)	-0.179 (0.255)	0.009 (0.277)	0.007 (0.277)	-0.106 (0.262)
Ideology				0.007 (0.035)	
<i>Ideology</i> _{Running}					-0.041 (0.038)
<i>Ideology</i> _{Not running}					0.160* (0.087)
Equal. (p-val)	0.75	0.39	0.01	0.01	0.19

Notes: The table shows the results from estimating Equation (4) with a Probit model. The specifications in Columns (I)-(V) follow the structure in Table 1, and control for the base effect of *Not-run*. MP controls include MPs' tenure, education levels, religious affiliation, general rebel tendencies, gender, PKM faction membership, and a dummy whether an MP has a leading party position (value of one for members of the government and members of the CDU board). Constituency controls include the unemployment rate, households' average income, and the urbanisation rate, and the share of second votes in the previous 2017 national election for the populist right-wing party 'Alternative für Deutschland' (AfD). 'Equal. (p-val)' reports p-values on a Wald test for equality of the estimated marginal effect of *Poll*_{Running} and the marginal effect of *Poll*_{Not running}. Robust standard errors (adjusted for arbitrary heteroskedasticity) are reported in parentheses.

Table C3: PREDICTED WINNING LIKELIHOOD AND CANDIDATE CHOICE —
REGRESSION RESULTS – ROBUSTNESS EAST-WEST DUMMY

Dependent variable: Support for Söder					
	(I) Parsi.	(II) + Controls	(III) + State f.e.	(IV) + Ideology	(V) + Ideology Int.
Poll	-0.285** (0.128) (0.229)	-0.261* (0.139) (0.210)	-0.266* (0.139) (0.215)	-0.268* (0.141) (0.214)	-0.273* (0.140) (0.213)
Not-run × Poll	0.042 (0.290)	0.035 (0.273)	0.064 (0.280)	0.063 (0.277)	0.013 (0.270)
Ideology				0.018 (0.031)	-0.010 (0.031)
Not-run × Ideology					0.160 (0.098)
Constituency controls	No	Yes	Yes	Yes	Yes
MP controls	No	Yes	Yes	Yes	Yes
East-Dummy	No	No	Yes	Yes	Yes
Observations	195	195	195	195	195
R-squared	0.034	0.244	0.247	0.249	0.262

Notes: The table shows the results from estimating Equation (4) when, instead of using state fixed effects, we control for geographical and cultural differences via a dummy whether the MPs run in East- or West-Germany. The specifications in Columns (I)-(V) follow the structure in Table 1, and control for the base effect of *Not-run*. MP controls include MPs' tenure, education levels, religious affiliation, general rebel tendencies, gender, PKM faction membership, and a dummy whether an MP has a leading party position (value of one for members of the government and members of the CDU board). Constituency controls include the unemployment rate, households' average income, and the urbanisation rate, and the share of second votes in the previous 2017 national election for the populist right-wing party 'Alternative für Deutschland' (AfD).

Table C4: PREDICTED WINNING LIKELIHOOD AND CANDIDATE CHOICE —
MEASUREMENT ROBUSTNESS

Dependent variable: Support for Söder					
	(I)	(II)	(III)	(IV)	(V)
	Parsimonious	+ Controls	+ State f.e.	+ Ideology	+ Ideology Int.
Poll	-0.280** (0.129)	-0.256* (0.140)	-0.286* (0.169)	-0.286* (0.169)	-0.291* (0.166)
Not-run \times Poll	0.039 (0.286)	0.041 (0.272)	0.162 (0.309)	0.163 (0.310)	0.094 (0.309)
Ideology				-0.002 (0.038)	-0.039 (0.039)
Not-run \times Ideology					0.185* (0.098)
Constituency controls	No	Yes	Yes	Yes	Yes
MP controls	No	Yes	Yes	Yes	Yes
State fixed effects	No	No	Yes	Yes	Yes
Observations	195	195	195	195	195
R-squared	0.039	0.247	0.310	0.310	0.327

Notes: The table shows the results from estimating Equation (4) when we additionally include the standard deviation of our ideology measurement. The specifications in Columns (I)-(V) follow the structure in Table 1, and control for the base effect of *Not-run*. MP controls include MPs' tenure, education levels, religious affiliation, general rebel tendencies, gender, PKM faction membership, and a dummy whether an MP has a leading party position (value of one for members of the government and members of the CDU board). Constituency controls include the unemployment rate, households' average income, and the urbanisation rate, and the share of second votes in the previous 2017 national election for the populist right-wing party 'Alternative für Deutschland' (AfD).

Table C5: PREDICTED WINNING LIKELIHOOD AND CANDIDATE CHOICE —
ROBUSTNESS COVID-19

Dependent variable: Support for Söder					
	(I) Parsimonious	(II) + Controls	(III) + State f.e.	(IV) + Ideology	(V) + Ideology Int.
Poll	-0.275** (0.131)	-0.281** (0.138)	-0.293* (0.169)	-0.294* (0.171)	-0.299* (0.168)
Not-run × Poll	0.039 (0.290)	0.071 (0.275)	0.169 (0.307)	0.165 (0.306)	0.093 (0.305)
Ideology				0.008 (0.034)	-0.024 (0.036)
Not-run × Ideology					0.174* (0.099)
Constituency controls	No	Yes	Yes	Yes	Yes
MP controls	No	Yes	Yes	Yes	Yes
State fixed effects	No	No	Yes	Yes	Yes
Observations	195	195	195	195	195
R-squared	0.037	0.252	0.308	0.308	0.323

Notes: The table shows the results from estimating Equation (4) when we additionally include measurements for the levels of COVID-19 cases in the constituencies. The specifications in Columns (I)-(V) follow the structure in Table 1, and control for the base effect of *Not-run*. MP controls include MPs' tenure, education levels, religious affiliation, general rebel tendencies, gender, PKM faction membership, and a dummy whether an MP has a leading party position (value of one for members of the government and members of the CDU board). Constituency controls include the unemployment rate, households' average income, and the urbanisation rate, and the share of second votes in the previous 2017 national election for the populist right-wing party 'Alternative für Deutschland' (AfD).

Table C6: PREDICTED WINNING LIKELIHOOD AND CANDIDATE CHOICE — REGRESSION RESULTS – ROBUSTNESS STATE LISTS

Dependent variable: Support for Söder					
	(I)	(II)	(III)	(IV)	(V)
	Parsi.	+ Controls	+ State f.e.	+ Ideology	+ Ideology Int.
<i>Panel A: Controlling for 2017 state lists placement</i>					
Poll	-0.285** (0.128)	-0.260* (0.139)	-0.301* (0.166)	-0.302* (0.168)	-0.306* (0.164)
Not-run × Poll	0.042 (0.290)	0.031 (0.272)	0.138 (0.307)	0.135 (0.306)	0.068 (0.305)
Ideology				0.006 (0.035)	-0.025 (0.037)
Not-run × Ideology					0.171* (0.099)
<i>Panel B: Controlling for 2021 state lists placement</i>					
Poll	-0.285** (0.128)	-0.264* (0.140)	-0.285* (0.170)	-0.287* (0.172)	-0.291* (0.168)
Not-run × Poll	0.042 (0.290)	0.031 (0.273)	0.149 (0.309)	0.146 (0.308)	0.073 (0.308)
Ideology				0.009 (0.034)	-0.024 (0.036)
Not-run × Ideology					0.176* (0.098)
Constituency controls	No	Yes	Yes	Yes	Yes
MP controls	No	Yes	Yes	Yes	Yes
List dummy	No	Yes	Yes	Yes	Yes
State fixed effects	No	No	Yes	Yes	Yes
Observations	195	195	195	195	195

Notes: The table shows the results from estimating Equation (4) when additionally controlling for whether MPs were placed on state lists in 2017 (Panel A) or in 2021 (Panel B). The specifications in Columns (I)-(V) follow the structure in Table 1, and control for the base effect of *Not-run*. MP controls include MPs’ tenure, education levels, religious affiliation, general rebel tendencies, gender, PKM faction membership, and a dummy whether an MP has a leading party position (value of one for members of the government and members of the CDU board). Constituency controls include the unemployment rate, households’ average income, and the urbanisation rate, and the share of second votes in the previous 2017 national election for the populist right-wing party ‘Alternative für Deutschland’ (AfD).

Table C7: PREDICTED WINNING LIKELIHOOD AND CANDIDATE CHOICE — ACCOUNTING FOR VOTERS' PREFERENCES

Dependent variable: Support for Söder					
	(I)	(II)	(III)	(IV)	(V)
	Parsim.	+ Controls	+ State f.e.	+ Ideology	+ Ideology Int.
Poll	-0.285** (0.128)	-0.252* (0.142)	-0.291* (0.172)	-0.293* (0.174)	-0.306* (0.171)
Not-run × Poll	0.042 (0.290)	0.033 (0.273)	0.152 (0.313)	0.148 (0.312)	0.080 (0.312)
Ideology				0.010 (0.034)	-0.023 (0.036)
Not-run × Ideology					0.180* (0.099)
Rating Pol. Work		-0.127 (0.197)	-0.013 (0.196)	-0.014 (0.195)	0.033 (0.196)
Suitable Chancellor		-0.059 (0.266)	0.089 (0.286)	0.095 (0.284)	0.164 (0.290)
Constituency controls	No	Yes	Yes	Yes	Yes
MP controls	No	Yes	Yes	Yes	Yes
State fixed effects	No	No	Yes	Yes	Yes
Observations	195	195	195	195	195
R-squared	0.034	0.246	0.307	0.308	0.324

Notes: The table shows the results from estimating Equation (4) when accounting for voters' preferences by including (1) voters' rating of Markus Söder political work (lower values reflect more positive ratings) and (2) the share of voters who consider Markus Söder to be a suitable chancellor candidate. The specifications in Columns (I)-(V) follow the structure in Table 1, and control for the base effect of *Not-run*. MP controls include MPs' tenure, education levels, religious affiliation, general rebel tendencies, gender, PKM faction membership, and a dummy whether an MP has a leading party position (value of one for members of the government and members of the CDU board). Constituency controls include the unemployment rate, households' average income, and the urbanisation rate, and the share of second votes in the previous 2017 national election for the populist right-wing party 'Alternative für Deutschland' (AfD).

Table C8: DECOMPOSITION OF THE IV-OLS GAP

	Coefficients			Decomposition		
	OLS	IV	IV-OLS	Δ_{cw}	Δ_{tw}	Δ_{me}
Polls	-0.284 (0.160)	-1.057 (0.326)	-0.773 (0.313)	0.220 (0.151)	-0.178 (0.137)	-0.815 (0.288)
Vote margins	-1.089 (0.489)	-2.074 (0.619)	-0.985 (0.513)	0.010 (0.281)	0.052 (0.072)	-1.047 (0.480)

Notes: The first column reports the OLS estimate, the second column reports the IV estimate, and the third the OLS-IV gap. The next three columns report the estimates of the covariate weight difference, the treatment-level weight difference, and the marginal effect difference components. By construction, these three components sum to the IV-OLS gap. For computational details on the decomposition see Ishimaru [2024].

Table C9: PREDICTED WINNING LIKELIHOOD AND CANDIDATE CHOICE — EXTENDED INSTRUMENTAL VARIABLE REGRESSION RESULTS

Dependent variable: Support for Söder					
	(I)	(II)	(III)	(IV)	(V)
	Parsi.	+ Controls	+ State f.e.	+ Ideology	+ Ideology Int.
<i>Panel A: First Stage Regression Results (Poll)</i>					
$Vote\ share_{1990}$	1.923*** (0.363)	1.768*** (0.368)	1.862*** (0.336)	1.852*** (0.331)	1.850*** (0.333)
<i>Panel B: First Stage Regression Results (Not-run \times Poll)</i>					
$Not-run \times Vote\ share_{1990}$	2.465*** (0.626)	2.545*** (0.600)	2.211*** (0.535)	2.251*** (0.524)	2.283*** (0.520)
<i>Panel C: Second Stage Regression Results</i>					
Poll	-0.874*** (0.296)	-0.695** (0.309)	-1.146*** (0.345)	-1.157*** (0.348)	-1.162*** (0.343)
Not-run \times Poll	0.759 (0.600)	0.480 (0.552)	1.010 (0.721)	1.031 (0.710)	1.079 (0.697)
Ideology				0.012 (0.037)	-0.018 (0.040)
Not-run \times Ideology					0.158* (0.096)
Constituency controls	No	Yes	Yes	Yes	Yes
MP controls	No	Yes	Yes	Yes	Yes
State fixed effects	No	No	Yes	Yes	Yes
Kleibergen-Paap F-statistic	14.0	12.9	13.7	14.2	14.2
Anderson-Rubin p-val	0.00	0.07	0.00	0.00	0.00
Observations	195	195	195	195	195

Notes: The table shows the instrumental variable results when estimating Equation 4 using the CDU's party vote shares in the 1990 national elections and their interaction with the re-election motive as instruments for the re-election probabilities (Poll, Panel A) and their interaction with the re-election motive (Non-run \times Poll, Panel B). The specifications in Columns (I)-(V) follow the structure in Table 1, and control for the base effect of *Not-run*. MP controls include MPs' tenure, education levels, religious affiliation, general rebel tendencies, gender, PKM faction membership, and a dummy whether an MP has a leading party position (value of one for members of the government and members of the CDU board). Constituency controls include the unemployment rate, households' average income, and the urbanisation rate, and the share of second votes in the previous 2017 national election for the populist right-wing party 'Alternative für Deutschland' (AfD).

D Extension: Party List Elections

An institutional feature of the German electoral system is that voters have two votes. The first vote is to elect an MP in their constituency on a First-Past-The-Post basis. The second vote is for a political party at the national level. These second votes are then used to elect MPs from party lists. In Germany, these lists are created at the state level (so we call them ‘state lists’ in the main text). MPs are chosen so that the proportion of MPs a political party has in parliament is the same as the proportion of second votes it received nationally. With party lists, voters do not choose a specific person: if party X wins n seats through the second vote, then the top n people on its party list are elected as MPs.

We abstract away from state-level party lists and consider a single party list at the national level. We also assume that an MP stands for election *either* in a constituency *or* through the party list. Both are merely simplifications that help to keep the model clean. Allowing both routes simultaneously would make the model more complex without adding insight.²⁶ This extended model incorporates two new features. Voters now have two votes – the first for the constituency’s MP and the second on national party lists. In addition, MPs can either run in a constituency or through a party list. We contend that these features are a useful first-order approximation of the German electoral system.

Agents. There are four types of agents: a unit mass of voters, indexed j , finitely many *First-Past-The-Post* (FPTP) members of parliament (FPTP MPs), $m \in M = \{1, \dots, \mathcal{M}\}$, finitely many *party list* members of parliament (list MPs), $n \in N = \{1, \dots, \mathcal{N}\}$ and two leadership candidates, $\ell \in \{1, 2\}$. There is one FPTP MP per constituency (also indexed m), and each voter j is assigned to exactly one constituency. For clarity, we will use $i \in M \cup N$ to refer to an MP where separating FPTP and list MPs is not necessary.

Elections and strategies. There are two elections that happen sequentially. In the first, all MPs (both FPTP and list) from party X vote for a leadership candidate. We call this the *leadership election*. In the second, each FPTP MP $m \in M$ stands for election in a single constituency, each list MP $n \in N$ stands for election on the party list, and each voter j casts two votes in her constituency. One is for a FPTP MP (which we call a *first vote*) and one for a national party (which we call a *second vote*). Combined, they form *national*

²⁶We will see later in this section that MPs’ behaviour does not depend on whether they stand for election in a constituency or through the party list. This is at least suggestive that their behaviour would not change much if they were to stand through both routes simultaneously.

elections. Abstentions are not allowed, and elections for FPTP MPs are by majority rule. Each national party receives a number of list MPs proportional to the share of second votes it received. List MPs are chosen according to the party list, from the top downwards. For simplicity, assume the national elections involve only two parties, the MPs' own party (X) and some other party (Y). Each MP from party X can vote for leadership candidate 1 or leadership candidate 2. So strategies for MPs are $s_m = \{1, 2\}$ for all m . Similarly, each voter can vote for party X , or for party Y in both the first vote and in the second vote. So strategies for voters are $s_j = \{X, Y\} \times \{X, Y\}$. We assume that agents naively vote for their most preferred choice in both leadership and national elections.²⁷

Endowments and information. Exactly as in Section 2.1 (with all parameters endowed to MPs in Section 2.1 being endowed to both FPTP and list MPs), with the following addition: each list MP is endowed with a position on the party list equal to her index. This party list position then induces a threshold $T_n \in [0, 1)$, such that a list MP n is elected if and only if the vote share of party X is strictly larger than T_n .

Preferences. Voter j in constituency m receives the following utility if the MP from party X wins:

$$u_j = Q_m + Q_\ell + \nu_\ell + \epsilon_j, \quad (\text{D.1})$$

and we normalise her utility from the MP from party Y winning to be zero. The rationale for the appearance of Q_m is as in Section 2.1. Voter j also receives the following utility if party X wins the overall election:

$$u_j^p = Q_\ell + \nu_\ell + \epsilon_j, \quad (\text{D.2})$$

MPs care about their own re-election and the ideology of their leader. Both of these are specific to individual MPs.²⁸ But for convenience, we assume the payoff from re-election does not depend on the identity of the leader. This gives preferences:

$$u_i(\ell) = I_{\ell,i} + R_i \cdot Pr(\text{win}|i, \ell), \quad \text{for } \ell \in \{1, 2\}, \quad (\text{D.3})$$

²⁷As is standard, this assumes that they never play a weakly dominated strategy.

²⁸Note that the electability of individual list MPs does not appear in u_j^p because the voter does not know which MP their vote will help elect.

where R_i is the MP's re-election motivation, $I_{\ell,i}$ the MP's ideological preference for leadership candidate ℓ , and $Pr(\text{win})$ is the probability that she is elected.

D.1 Results

As in the main text, voters' decisions are deterministic from their own point of view. Voter j casts her first vote for party X (i.e. for MP m) if and only if $u_j > 0$. And she casts her second vote for party X if and only if $u_j^p > 0$. An obvious implication is that a voter may cast her two votes for different parties.

Whether or not a FPTP MP m wins or loses in the national elections depends on the *median* voter in her constituency – who has $\epsilon_j = 0$ by construction. For a list MP n the problem turns out to be similar. Whether or not a list MP $n \in N$ wins re-election depends on whether the *fraction* of voters who cast their second vote for party X is greater than T_n . Therefore it is the voter at the T_n -th percentile (rather than at the median) who is critical for the list MP. And recall that the CDF of ϵ , $G(\cdot)$ is common knowledge. So the critical voter for list MP $n \in N$ has $\epsilon_j = G^{-1}(T_n)$.

Therefore if ν_ℓ is known, then re-election is deterministic for both types of MPs (FPTP and list). But remember that an MP does not observe ν_ℓ at the point she chooses her leader. So the *perceived* probability of winning for a FPTP MP is $F_\ell(Q_m + Q_\ell)$. And for a list MP it is $F_\ell(-G^{-1}(T_n) + Q_\ell)$. This is the only difference between the types of MPs. Consequently, they make qualitatively identical decisions – the only difference being that a FPTP MP cares about her own electability, Q_m , while a list MP cares about her election threshold T_n . They play identical roles. The following result formalises this discussion.

Proposition D.1. *There exists a unique equilibrium where:*

- (1) $s_j^* = \{\mathcal{X}(u_j), \mathcal{X}(u_j^p)\}$ where $\mathcal{X}(u) = X$ if $u > 0$ and $\mathcal{X}(u) = Y$ if $u \leq 0$,
- (2) $s_m^* = 2$ if and only if $F_2(Q_m + Q_2) - F_1(Q_m + Q_1) > \frac{1}{R_m}(I_{1,m} - I_{2,m})$,
- (3) $s_n^* = 2$ if and only if $F_2(-G^{-1}(T_n) + Q_2) - F_1(-G^{-1}(T_n) + Q_1) > \frac{1}{R_n}(I_{1,n} - I_{2,n})$.

Proof. **Part (1)** follows trivially from the assumptions of the model. **Part (2)** is identical to Proposition 1. **Part (3)** Party X 's vote share is equal to the probability that a randomly chosen voter j casts her second vote for party X : $\text{Vote share}(X) = Pr(Q_\ell + \nu_\ell + \epsilon_j > 0)$. Straightforward algebra yields $\text{Vote share}(X) = G(Q_\ell + \nu_\ell)$.²⁹ This means that list MP n is elected if and only if $G(Q_\ell + \nu_\ell) > T_n$. So $Pr(\text{win}|n, \ell) = Pr(T_m < G(Q_\ell + \nu_\ell))$, which

²⁹To see this: $Pr(Q_\ell + \nu_\ell + \epsilon_j > 0) = 1 - Pr(\epsilon_j < -Q_\ell - \nu_\ell) = 1 - G(-Q_\ell - \nu_\ell) = G(Q_\ell + \nu_\ell)$, using the fact that $G(-x) = 1 - G(x)$ by the symmetry of the distribution.

rearranges to $Pr(\text{win}|m, \ell) = F_\ell(Q_\ell - G^{-1}(T_n))$. Therefore $u_n(\ell) = I_{n,\ell} + R_n \cdot F_\ell(Q_\ell - G^{-1}(T_n))$. By assumption $s_n^* = 2$ if and only if $u_n(2) > u_n(1)$. Straightforward rearranging then yields the result. \square

The similarity between parts (2) and (3) is immediate. The behaviour of list MPs is identical to that of FPTP MPs except that $-G^{-1}(T_n)$ replaces Q_m . Therefore all subsequent results from Section 2.2 will apply unchanged. The only thing to note is that $G^{-1}(\cdot)$ is an increasing function (so $-G^{-1}(\cdot)$ is a decreasing function), so comparative statics found for Q_m will be flipped when considering T_n . This is intuitive. A higher threshold for election (due to a lower position on the party list) makes an MP harder to elect: in other words, less electable.

E Ideology

E.1 Validation of the ideology scores

We conduct two exercises to validate the ideology scores derived from our text scaling model. First, we estimate the model for all MPs across all parties. The model accurately captures ideology across parties: the score distributions of MPs from left-wing parties (Left party, Greens, and the SPD) are to the left of the spectrum, while the score distributions of MPs from more right-wing parties (CDU/CSU, FDP, and the AfD) are to the right of the spectrum (see Figure B4). Second, we perform pairwise comparisons by including label and reference texts only from the CDU/CSU in combination with the Left party or the AfD (both extremes of the ideological spectrum). Even though we reduce the available information, the model continues to meaningfully differentiate between MPs from the two respective parties (see Figure B5). Further, the correlation of ideology scores for CDU MPs in our baseline model and the pairwise comparisons is strong (0.74 and 0.43). This shows that our model consistently predicts individual ideology scores.

E.2 Ideological alignment: Taking the model to data

The model in Section 2 works with ideological *alignment* between an MP m and a leadership candidate ℓ , $I_{\ell,m}$. It then finds that the *difference* in ideological alignment, $I_{1,m} - I_{2,m}$, is what matters for MPs' voting behaviour. Working directly with ideological alignment, rather than raw ideology of MPs and leadership candidates separately, is more parsimonious and helps us state the theoretical predictions more cleanly. But only raw ideology, *not* ideological alignment, is available in the data.

Here, we show the one-to-one mapping between raw ideology and the difference in ideological alignment. This demonstrates that using a measure of raw ideology (as we do in Section 4) is in fact appropriate given our model.

Let an MP m have a raw ideology \tilde{I}_m , and a candidate ℓ have a raw ideology \hat{I}_ℓ . Then let ideological alignment be defined as $I_{\ell,m} = -(\tilde{I}_m - \hat{I}_\ell)^2$. This gives the difference in ideological alignment as.

$$I_{1,m} - I_{2,m} = -(\tilde{I}_m - \hat{I}_1)^2 + (\tilde{I}_m - \hat{I}_2)^2. \tag{E.1}$$

This shows that the difference in ideological alignment – the object of interest in the theoretical model – is linear in an MP’s raw ideology. To see this, simply notice that

$$\frac{d(I_{1,m} - I_{2,m})}{d\tilde{I}_m} = 2(\hat{I}_1 - \hat{I}_2). \quad (\text{E.2})$$

It is clear that this argument extends to any function $I_{\ell,m} = -h(\tilde{I}_m - \hat{I}_\ell)$ that is strictly convex and symmetric about zero. However, in this more general case the difference in ideological alignment will be strictly increasing in \tilde{I}_m , but not necessarily linear.