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Even in the best of both worlds, you can't have it all: How German voters navigate the trilemma of mixed- member proportionality

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Even in the best of both worlds, you can't have it all: How German voters navigate the trilemma of mixed-member proportionality

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Abstract

The fragmentation of the party system has confronted the German mixed-member proportional electoral system with a trilemma. It can only ensure two out of three goals: proportionality, guaranteed representation of district winners, and a fixed and predictable size of the Bundestag. This paper studies how citizens position themselves in this trilemma. Using original survey data, we find that all goals are popular and no combination of goals commands majority support. This suggests that electoral reform is politically difficult not only because of the self-interest of parties but also because of widely perceived trade-offs. At the same time, our findings indicate that voters can be a constructive force for reform. More knowledgeable voters can form coherent and meaningful preferences over electoral rules. Voters are also receptive to the logical constraints of the system: informing respondents about the trilemma trade-offs in an experimental setting makes them more accepting of reform proposals.

1. Introduction

On March 17, 2023, after years of comprehensive discussions, but ultimately unsuccessful reform attempts, the three parties forming the German coalition government—SPD, Bündnis 90/Die Grünen, and FDP—used their parliamentary majority to change Germany’s mixed-member proportional electoral system. The reform strengthens overall proportionality but weakens the district-level majoritarian element. Electoral reform had become necessary because of a massive increase in the size of the German parliament, the Bundestag. After the 2021 federal elections, the German parliament consisted of 736 members, far exceeding its statutory size of 598 members. This increase was an unintended consequence of the workings of Germany’s mixed-member proportional system, which requires a growing number of overhang and compensation seats that have in turn been caused by the growing fragmentation of the German party system.¹

This development highlights a fundamental incompatibility at the heart of mixed-member proportional (MMP) electoral systems. Such systems strive to reconcile (at least) three principles at the same time: The first principle is proportionality in the translation of party votes into seats, since MMP systems are ultimately a type of proportional representation systems. The second principle is district representation, which makes the system a mixed-member system: each district elects a candidate by simple majority rule. The third principle is a fixed and predictable size of the legislature. While this is a more technical goal, legislature size can also be viewed as an institutional feature of electoral systems (Allen and Stoll 2023).²

The value of each of these principles stands on sound theoretical and empirical grounds. Yet, they can only be achieved simultaneously under very specific conditions, namely when the party system has a relatively low degree of fragmentation. This condition was fulfilled in West Germany until reunification and is currently still fulfilled in New Zealand (Shugart and Tan 2016). However, it is not satisfied by the current German party system anymore. Under conditions of increasing party system fragmentation, MMP systems can only guarantee two of the goals, but have to abandon the third: Maintaining proportionality while guaranteeing the membership of district winners necessitates overhang and compensation seats that increase the size of parliament. Holding the size of parliament constant while maintaining proportionality entails that not all district winners actually

¹ Beginning with the 2002 federal elections, the statutory size of the German Bundestag is 598 members. In 2002, the Bundestag had 603 members. By 2013, the number of MPs had increased to 631. In 2017, the Bundestag had 709 members. The parliament elected in 2021 has 736.

² In fact, the right size of the legislature is already a prominent question in the Federalist Papers (No. 55-58).

become members of parliament. On the flip side, holding the size of parliament constant while guaranteeing that every district winner is able to enter the legislature compromises general proportionality. This is the trilemma of mixed-member proportional systems.

How constraining this theoretical trilemma is in practice, depends, however, on whether all the three goals are also empirically important and popular. If this were not the case, there would be no political costs in abandoning one of the goals. This study, thus, puts the three goals under empirical scrutiny and tests whether the proposed trilemma materializes in the preferences of the electorate.

Moreover, we study how voters ultimately navigate the trade-offs involved in reforming MMP systems. A large body of research shows that voters evaluate specific policy proposals differently when these proposals are presented as requiring making a trade-off rather than as an option that is available without constraints (Bremer and Bürgisser 2023; Cavaille et al. 2022). This especially holds for trilemmatic structures, such as the fiscal trilemma of lower taxes, higher spending, and lower deficits (Barnes and Hicks 2023). We go one step further and study how voters deal with trade-offs concerning institutional rules that are at the heart of democratic governance. In addition, whereas existing studies generally show that emphasizing trade-offs *reduces* the support for any single goal, we demonstrate that making trade-offs transparent *increases* the support for any attainable combination of goals.

Empirically, we focus on the reform process of the German electoral system in 2022/2023, which provides us with two advantages: First, we can elicit voters' attitudes in a situation where the topic is relatively salient, making it more plausible that at least some voters have already started to form an opinion on these issues. Second, the status quo election law and the two main reform proposals that were discussed in the reform process—the ultimately accepted proposal to cut overhang seats and the rejected proposal to introduce parallel voting—perfectly align with the theoretical trilemma situation presented above.³ We can thus study voter preferences regarding both, the abstract democratic goals as well as the corresponding actual reform proposals. Existing studies of German voters' preferences about electoral rules tend to investigate abstract concepts like representation and concentration as important goals in isolation, without directly studying the trilemma that any reform has to

³ The status quo preserves district representation and proportionality, but abandons the fixed size of the Bundestag. Cutting overhang seats secures that the size of the parliament does not vary anymore, but does not guarantee that each district winner is allowed to become a member of the Bundestag. Parallel voting, on the other hand, also fixes the size of the Bundestag to 598 members, but does not guarantee proportional representation anymore.

deal with and the preferences over specific reform proposals (Bytzek 2020; Jankowski et al. 2019).

We analyze data from an original survey of 2147 German voters—representative for quotas on age, gender, and education—administered in October 2022 at the height of the reform discussions. The findings from this survey contribute to four important debates in political science. Firstly, electoral reform is typically considered to be a complex and inaccessible topic (Leyenaar and Hazan 2011). This suggests that voters may not have well-defined preferences about different reform options. However, we find that a sizable group of citizens is able to express consistent preferences over abstract principles and specific reform proposals. These respondents—about half of our sample—have a good understanding of the electoral system, care strongly about electoral reform in general, and drive the differences in preferences for the respective reform options that we find in our survey.

Secondly, our study emphasizes the role of trade-offs for the electorate, not only for specific policy decisions (Barnes and Hicks 2023; Bremer and Bürgisser 2023; Garritzmann et al. 2023; Häusermann et al. 2019), but also for institutional design. Concerning people’s preferences over systemic principles, we find that the trilemma of electoral reform is empirically real: all three goals are popular on their own, but no combination of two goals has majority support. Even though voters strongly support reforming the status quo,⁴ no majority for any specific reform emerges. Thus, policymakers’ options are not only restricted on a conceptual level, but also by the preferences of the German electorate.

Thirdly, we find that making trade-offs explicit induces people to be more accepting of difficult choices, in line with recent arguments in the literature (Müller and Séville 2022). Informing respondents about the trilemma before asking them about their approval of reform proposals improves the evaluation of these proposals. In essence, when respondents are made aware of the trade-offs that any electoral law has to deal with, they become more appreciative of proposals that necessarily abandon one of these goals. Policymakers thus have an opportunity to increase the popularity of institutional reforms by explaining the trade-offs they face.

Fourth, with regard to the specific reform that has been enacted, we find that among the different reform proposals, the proposal to cut overhang seats is more popular than the proposal to introduce parallel voting. Yet, the most popular option was initially not backed

⁴ This is in line with a study by the Bertelsmann foundation, which found that 8 out of 10 German voters support an electoral system reform. However, this study did not evaluate specific reform proposals (Bertelsmann Stiftung 2023).

by any of the major political players in German politics as a viable reform: a reduction of the number of districts. Even when being told that this would lead to an increase in the size of districts by about 33%, respondents clearly prefer a reduction from 299 to 225 districts over the status quo and both other reform proposals. The reduction of districts can be read as a “muddling through” option, since it ostensibly does not break with any of the three principles, even if it constrains the quality of district representation and cannot guarantee a fixed and predictable size of the parliament.

This paper proceeds as follows: In the next section, we explain why any attempt to reform the German electoral law is faced with a trilemma in which only two out of three popular goals can be achieved. Afterwards, we describe our survey design and the different reform proposals that were discussed in the political debate. We then present our results, before we conclude with a brief reflection about potential implications of our findings.

2. Background

With the fragmentation of postwar party systems, electoral reform has become a hotly debated topic in many countries. For example, the United Kingdom held a referendum in 2011 in which 32% of voters supported a switch from the traditional first-past-the post (FPTP) system to an alternative vote system (Laycock et al. 2013). Italy introduced a system of parallel voting in 2017 (Masseti and Farinelli 2019). In Canada, replacing FPTP with a more proportional system has been discussed for more than a decade (Milner 2017).

For many years, the German MMP electoral system has been held up as a prime candidate for replacing strained existing systems. Indeed, New Zealand in 1993 voted to replace its FPTP system with a new system that was explicitly modelled on the German system (Denemark 2001). The main promise of this system seemed to be its ability to combine the best of two worlds (Shugart and Wattenberg 2001; Linhart et al. 2019): a very high degree of proportionality with a guaranteed form of district representation.

In recent years, however, Germans themselves have increasingly become uncomfortable with their electoral system, exactly because of the distortions introduced by its attempt to combine proportionality with single-member districts. Despite the growing fragmentation of the party system, the traditional mainstream parties, CDU/CSU and SPD, continued to win almost all single member districts. However, their declining share of the general party vote did not generate enough total seats to cover these district seats. This resulted in a growing number of overhang seats, which increased the size of the Bundestag and distorted its proportionate composition. Because of this distortion, the German constitutional court ruled in 2012 that overhang seats above a certain limit had to be compensated with leveling

seats to preserve proportionality (Bundesverfassungsgericht 2012). This massively accelerated the growth of the Bundestag, which grew to 709 members in 2017 and to 736 in 2021, widely exceeding its statutory size of 598. Before the 2021 election, some forecasts had even predicted a Bundestag with 800 or 900 seats (Vehrkamp 2021).

The growth of the Bundestag brought the question of parliamentary size to the political agenda. While parliament size is often taken as a given—in fact, in most electoral systems it is simply fixed (Gerzso and van de Walle 2022)⁵—it is still an important aspect of electoral rules for two reasons. Firstly, there is an extensive discussion about the optimal size of parliaments, which contends that the quality of democratic representation is affected by the size of the legislature. The basic idea here is that the costs of coordination within the parliament increase with a growing number of MPs, while the costs of coordination with voters decrease with a growing number of MPs. This leads to an optimum size that balances both costs and empirically seems to follow the cubic root (Taagepera 1972) or square root (Auriol and Gary-Bobo 2012) of population size. This implies that a Bundestag with more than 700 MPs is sub-optimally big. In the German political debate, there is widespread concern that an increasing number of MPs may undermine the efficacy of the parliamentary processes (Deutscher Bundestag 2022). In addition, there are more practical concerns. Many critics emphasize the costs of a larger parliament. Others argue that the Bundestag simply does not have enough space for all the additional MPs, their assistants, and the additional administrative staff (Ismar 2021). Beyond these concerns emerged the additional fear that the—increasingly visible—inability of the political actors to stop this process would damage “the reputation of democracy” (Appell deutscher Staatsrechtslehrer 2019).

Secondly, there is a separate issue of having an unstable size of the parliament from election to election, independent of its absolute size. If a parliament hypothetically increases by 25% from one election to the next, and then shrinks again by 20%, this can affect the functionality of parliamentary processes, since party groups have to deal with high volatility in their composition: in one election, they may have to integrate an enormous number of newcomers, while they may lose many important veterans in the next election, even if the party’s vote share does not change. Moreover, assembly size has been linked to many important aspects of representation, such as the representation of minorities and women (Allen and Stoll 2023). While views about the importance of minority representation may differ, it is hard to argue that high volatility induced by the electoral system should be normatively desirable.

⁵ This was not the case in the Weimar Republic, where a party received an additional seat in the Reichstag for each 60,000 votes it received. This is why the Reichstag grew from 459 seats in 1920 to 647 seats in 1933.

In response to these concerns, options for reforming the electoral system have been debated for over a decade. After the federal election of 2021, the Bundestag installed a commission with the mandate to come up with concrete reform proposals. However, all attempts to find a compromise that was palatable to a broad majority in the Bundestag failed. This inability to find a compromise was in many ways an expression of different preferences over the fundamental trilemma. In principle, all parties agreed on the need to reduce the size of the Bundestag. However, there was disagreement about the relative importance of the other two goals. SPD, FDP, the Greens, and Die Linke emphasized proportionality in the translation of votes to seats. CDU/CSU, by contrast, emphasized the representation of district winners (a principle that also suits CDU/CSU for reasons of self-interest, since they usually win a plurality of districts).⁶

In response to the failed quest for a compromise, SPD, FDP, and the Greens pushed through a reform in March 2023. The new electoral system maintains the character of MMP systems, in which voters have two votes: one vote for a district candidate and a second vote for party lists, where the latter ultimately decides the make-up of the Bundestag using proportional representation. Yet, the reform cuts overhang seats. That means that district winners only become members of the Bundestag as long as the number of seats their party is entitled to according to the share of second votes is not exceeded; so-called *Zweitstimmendeckung*. Importantly, the reform fixes the formerly varying size of the German parliament at 630 members.⁷ The coalition parties enacted the new electoral law against the votes of the opposition parties. CDU and CSU, the largest opposition parties, originally proposed a system of parallel voting, in which the two votes are counted separately in order to allocate seats. Under this proposal, 299 members would have entered the Bundestag because they received a plurality of votes in their district and another 299 members would have been allocated using the share of second votes.⁸

While the debate about electoral reform has mainly focused on the legal aspects of the election law and on the preferences of and incentives for different parties, we approach this question from the perspective of voters. Generally, voters' preferences have not been considered in this debate for at least two reasons. First, the literature typically argues that voters have little knowledge of the working of the German electoral system (Jankowski et

⁶ On the general difficulties of balancing district seats and party seats, see (Bochsler 2023).

⁷ In addition, parties that win at least three constituency seats are no longer exempted from the 5% threshold (*Grundmandatsklausel*). This element of the reform does not concern us here.

⁸ The advantages and disadvantages of different reform proposals have been widely discussed, both in the media and in political science in the run-up to the 2023 decision (Decker and Jesse 2020; Sohnius et al. 2022; Weinmann and Grotz 2020; Behnke 2022, 2019; Pappi and Bräuning 2018).

al. 2022; Behnke 2015). Secondly, and as a result of this, electoral reform is considered to be a technical issue that is not very salient in mass politics (Leyenaar and Hazan 2011). Hence, policymakers care little about public preferences when designing electoral reforms.

Nevertheless, focusing on voter preferences for institutional reforms can be justified on normative grounds. In a representative democracy, elections are the main mechanism through which citizens participate in the political process. Hence, the rules that govern the electoral process directly affect how voters can make their interests heard. The legitimacy of the electoral rules thus underpins the input legitimacy of the system, requiring the acceptance of this system by voters (Jankowski et al. 2019).

Furthermore, the current debate about electoral reform in Germany fits into a broader global pattern of the politicization of political institutions. For a long time, there was an implicit agreement among political players in Germany that the rules of the political game should only be changed with the consent of all or most parties, even if the German constitution allows the electoral law to be changed by simple majority. Yet, since all attempts for a consensual reform failed, the coalition pushed through a reform with their own parliamentary majority. However, this might be connected to a deeper problem: Politicizing institutional rules turns party competition within these rules into competition about them, a notion which is already discussed in the German media (Jacobsen 2023). The CDU/CSU already announced that they will change the electoral rules again, once back in power (Funk 2023). In the extreme, politicization may undermine the losers' acceptance of parliamentary democracy if the electoral system is perceived as biased. In our view, this raises the question how voters react to this politicization. Thus, we ask how they navigate the fundamental trilemma of parliamentary size, proportional representation, and district representation in the abstract, and whether they agree or disagree with the most relevant actual reform proposals.

Trilemmatic situations are a familiar type of choice situation that is most often analyzed in political economy. Perhaps the most famous trilemma is the 'impossible trinity' of fixed exchange rates, capital mobility, and autonomous monetary policy (Frieden 1991). Other examples include the trilemma between economic integration, democratic politics, and national sovereignty (Rodrik 2011), the trilemma between public spending, taxes and public deficits (Barnes and Hicks 2023) or the trilemma between full employment, wage equality, and low public spending (Iversen and Wren 1998). Research on how voters handle such trade-offs generally argues that emphasizing trade-offs reduces the support for any single goal (Häusermann et al. 2019; Garritzmann et al. 2023; Häusermann et al. 2022). For example, support for fiscal consolidation declines when it is pointed out that this requires

higher taxes or lower public spending (Bremer and Bürgisser 2023). By contrast, we are interested in the evaluation not of single goals, but of attainable combinations of goals. In this regard, politicians may actually benefit from making trade-offs transparent (Müller and Séville 2022). This would mean that explaining these constraints to voters should lead to a higher degree of acceptance and a greater sense of legitimacy for the proposed reform.

We expect voters to like all three goals: proportionality, district representation, and Bundestag size. However, the literature gives little guidance on the relative ordering of these goals. In particular, we do not know whether the negative reactions to the increased Bundestag size will translate into reform support once the trade-offs inherent in any reform are made transparent. Hence, we do not develop specific hypotheses and approach the survey responses in an exploratory manner.

With respect to the popularity of specific reform proposals, we leverage the fact that the three most relevant proposals seek to deal with the trilemma in one way or another. These proposals are the coalition's proposal of not allocating overhang seats, the CDU/CSU's proposal of parallel voting, and the longstanding proposal to reduce the number of districts, which had been the opposition parties' proposal during the last legislative period (see below for a more detailed description of these proposals). Importantly, the reform proposals of the two main party blocs abandon one of the three principles. Parallel voting gives up on the goal of exact proportionality between parties. Cutting overhang seats gives up on the goal of guaranteed district representation by the district winner. Sticking to the status quo election law would preserve proportionality and district representation but implies giving up on the goal of limited Bundestag size. Cutting the number of district seats is an attempt to avoid the trilemma, since it preserves district representation, even if it reduces the within-district quality of representation and can ultimately not guarantee a fixed size.

Against this background, our survey tries to fulfil four goals. Firstly, we seek to understand whether voters are able to form coherent preferences over electoral reform. Do their preferences over abstract goals correspond to their preferences over specific reforms? Secondly, does the trilemma emerge in people's responses, i.e., do they support all three goals of the systems to a similar extent? Thirdly, which specific reform proposals do voters like best? And finally, how do voters react to making the trade-offs involved explicit? Does explaining these constraints lead to a higher acceptance and a greater sense of legitimacy?

3. Survey Design

To study German voters’ preferences over electoral reform, we ran an online survey in October 2022.⁹ For this survey, the company Bilendi recruited 2147 German citizens between the age of 18 and 74. Within this age range, respondents are representative to the German population on quotas for age, gender, and education. At the beginning of the survey, participants answered a few demographic questions. To gauge people’s knowledge and understanding of the German electoral system, we also asked a battery of four factual questions about the current electoral law (see Appendix A).

The main part of the survey consisted of a total of five different survey arms. The logic of the survey flow is presented in Figure 1. For the treatment groups (groups 1 and 2), the survey started with a description of the three fundamental goals of the electoral system (Figure 1, step 1). Moreover, we asked them to evaluate the importance of each goal. We described the goals as follows:

“One goal is proportional representation. This means that the share of seats that a party gets in the Bundestag should correspond to its share of second votes.

One goal is district representation. This means that a person who wins the most votes in a district is guaranteed a seat in the Bundestag.

One goal is a fixed size of the Bundestag. This means that the number of MPs does not exceed the statutory size of 598.”

For each goal, participants reported the importance using a 7-point scale reaching from “not important at all” to “very important”. After asking about the importance of each goal in isolation, we then confronted respondents with the trilemma situation and asked them to indicate which two of these three goals they would pick. The question read:

“In reality, however, it may be the case that only two of these three goals can be met. Which two goals do you think should be met? Please select exactly two answers.”

⁹ The study has been pre-registered at [anonymized]

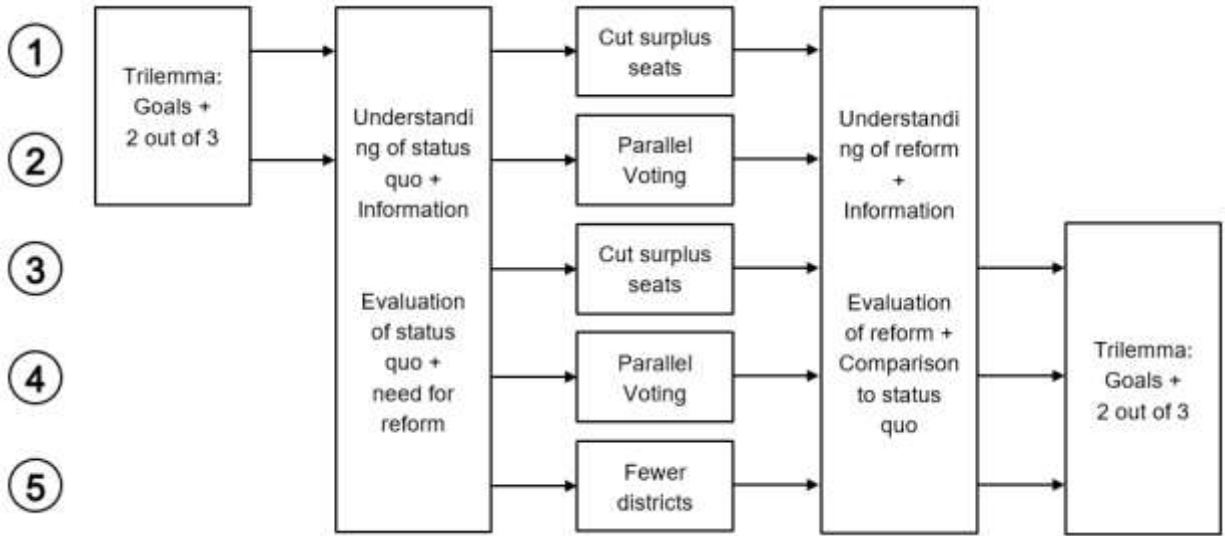


Figure 1: Survey design and treatment groups

Following these evaluations of electoral principles, participants moved to the existing electoral law and concrete reform examples (Figure 1, step 2). Respondents were informed about the details of the current German electoral system. This is also where the survey started for the non-treated groups (groups 3-5). The description of the status quo (see Appendix B) tried to accommodate for the limited knowledge of many voters. In particular, we explained the building blocks of the current system and the mechanism by which the current system leads to the growth in the size of the Bundestag. This means that we should estimate the effect of the trilemma treatment conservatively, since the non-treated group was at least implicitly also informed about the inherent trade-offs of the electoral system.

Afterwards, in order to test for their understanding of the mechanisms of the electoral status quo, we presented them with a fictitious electoral result and asked them to estimate the number of seats that a party would obtain with this result. The question read as follows: “Now assume that a party receives 20% of the second votes, which corresponds to about 120 (out of a total of 598) representatives in the Bundestag. With the first vote, this party wins 140 of 299 constituencies. How many seats will this party probably have in the Bundestag?” After choosing their response in a 6-item multiple-choice question (100, 120, 140, 160, 180, or 200 seats), participants were presented with the correct response (140 seats).

We then asked respondents about their evaluation of the status quo system on a 7-point-scale (from “very bad” to “very good”), as well as about how strongly they perceived the system to need reform (also on a 7-point scale). The question about reform pressure read:

“There are ongoing discussions about reforming the election law in Germany, in order to decrease the size of the Bundestag to its statutory size of 598 members. How important is such a reform to you?”

After evaluating the status quo, we introduced each respondent to one of the three different reform proposals (Figure 1, step 3). Table 1 depicts the three reform proposals aiming for as much comparability as possible in our description. All proposals started with the following introductory sentence:

“At the moment, there are discussions to change the current Bundestag election law. One proposal is as follows:”

The descriptions of all three proposals aimed to make the costs associated with each reform proposal explicit. Cutting overhang seats accepts that not all district winners will receive a seat. Parallel voting accepts (or rather intends) disproportionality in the translation from votes to seats. The reduced number of districts, finally, means a substantial increase in the size of individual districts.

While the cutting overhang seats proposal and the parallel voting proposal were supported by major political groups at the time of our survey, the third option of reducing the number of electoral districts was not. We included this third option, a version of which was brought forward by parts of the opposition in the later reform process, for one main reason: since we fielded the survey when discussions were already ongoing and had been since the 2021 federal elections, simply comparing the two major reform proposals to the status quo ignores that respondents are pre-treated with regard to the latter. Hence, a positive assessment of these reform proposals may rather reflect the aversion against the status quo. How much voters really like these proposals may thus be better discernible from a comparison with a proposal that was not pre-treated to the same extent. While the alternative reform option had not been on the table in the recent reform discussions, it has one important advantage for our purposes: the proposal to decrease the number of districts keeps the structure and mechanics of the status quo electoral law constant, but effectively deals with what respondents see as the most important reform issue, namely reducing the size of the Bundestag. Importantly, fewer districts already were—albeit to a lesser degree (a reduction to 280 districts instead of 225)—part of the electoral law applicable for the 2025 federal elections, before the government enacted a new electoral law in March 2023.

Those groups that had received the trilemma treatment did only see the proposal of cutting overhang seats or parallel voting. The reason is that these proposals clearly fit into the trilemma by fully preserving two goals and abandoning the third. Reducing the number of

districts, by contrast, is a type of compromise, yet with other costs attached to it. For example, it does not allow to fully rule out an increase of the size of the Bundestag. After explaining the specific proposal to the respondents, we again presented them a fictitious result and asked them to estimate the number of seats that a party would obtain with this result (Figure 1, step 4).

As our main outcome variable, we asked about the evaluation of the reform (Figure 1, step 4). This allows us to compare the evaluation of the reform with the evaluation of the status quo on the same scale. Additionally, we asked participants directly whether they preferred the status quo or the reform proposal. Finally, those groups who had not received the trilemma treatment before were asked about their preferences in the trilemma at the end of the survey (Figure 1, step 5).

Table 1: Description of reform proposals

<i>Cut overhang seats</i>	<i>Parallel voting</i>	<i>Fewer Districts</i>
<p>As before, the share of second votes that a party wins determines how many seats that party receives in the Bundestag. A party that wins 20% of the second votes should therefore also receive about 20% of the seats in the Bundestag.</p>	<p>Only half of the seats in the Bundestag (299 out of 598) will be divided among the parties according to the proportion of second votes. The other 299 will be determined exclusively by districts. A party that wins 20% of the second votes thus does not have to receive 20% of the seats in the Bundestag.</p>	<p>As before, the share of second votes that a party wins determines how many seats that party receives in the Bundestag. A party that wins 20% of the second votes should therefore also receive around 20% of the seats in the Bundestag.</p>
<p>As before, the federal territory is divided into 299 electoral districts, in which a candidate is elected with the first vote. However, not every person who wins one of the districts is guaranteed to enter the Bundestag.</p>	<p>As before, the federal territory is divided into 299 electoral districts, in which a candidate is elected with the first vote. Every person who wins one of the districts is guaranteed to enter the Bundestag.</p>	<p>However, the number of electoral districts will be reduced from 299 to 225, in which a candidate will be elected with the first vote, as before. Any person who wins one of the districts is guaranteed to enter the Bundestag.</p>
<p>If a party wins more districts than it is entitled to according to the proportion of second votes, it may not fill these overhang seats. There will no longer be any overhang or compensation seats.</p>	<p>Since the second votes now only determine the other half of the seats, a party always receives one seat for each constituency it wins. There will no longer be any overhang or compensation seats.</p>	<p>The reduction in the number of districts from 299 to 225 makes it extremely unlikely that a party will win more district seats than it is entitled to according to the proportion of second votes. There will no longer be any significant overhang or compensation mandates.</p>
<p>The Bundestag will therefore no longer exceed 598 seats. However, not all candidates who win a district will receive a seat in the Bundestag if their party wins more constituencies than it is entitled to according to second votes.</p>	<p>The Bundestag will therefore no longer exceed 598 seats. However, the share of seats that the party receives in the Bundestag will no longer correspond to its share of the second votes if it wins very many or very few districts.</p>	<p>The Bundestag will therefore probably no longer exceed 598 seats. However, the size of the districts represented by the directly elected members of the Bundestag would increase by an average of one third.</p>

4. Results

In the following, we first assess respondents' understanding of the electoral system. Then, we report how respondents position themselves in the trilemma of MMP systems. In doing so, we also demonstrate that they have meaningful preferences over the electoral principles and their combinations. Third, we study which specific reform proposals respondents like best and how this is conditioned by knowledge levels. Finally, we investigate whether informing respondents about the nature of the reform trade-offs makes them more accepting of specific reform proposals.

4.1 Knowledge about the Status Quo Electoral System and the Understanding of Reform Options

We tested participants' knowledge about the electoral system and its mechanics in two different ways. As described in the design section, respondents first answered a battery of four questions on general features of the status quo of the German electoral system. Participants can be categorized in four different knowledge groups of roughly equal size: About a quarter of respondents selected the right answer on all four questions. Another quarter answered three out of four questions correctly, while the remaining half was evenly split between those who got two, and those who got one or zero questions right (see Figure C-1 in Appendix C). Second, after describing the status quo electoral law, we asked participants to state the correct number of seats in the Bundestag a party would get given a fictitious election result. Around 41% of all respondents produced the correct response. A very good general understanding of the electoral system correlates with the capability to transform vote shares to Bundestag seats as 59% of those who had gotten all four general knowledge questions right indicated the correct number of seats, while only between 33% and 40% in the other knowledge groups succeeded in doing so.

In our survey, we presented participants with reform proposals which were heavily discussed in the political arena and the media at the time of our study. We also described the key aspects of each reform proposal. Yet, the consequences of these reform proposals for the vote-to-seat transformation were not equally well understood for all proposals amongst our participants.¹⁰ After describing the reform proposal, we again asked participants to provide the correct number of seats a party would receive given a fictitious election result. While for the cutting overhang seats proposal (47%) and the fewer district proposal (40%) overall understanding of the mechanics approximates the understanding of the status quo, only 8% of respondents were able to correctly identify the strongly distorting effect of the parallel

¹⁰ We provide results for the untreated groups.

voting proposal. Hence the parallel voting proposal seems not well understood by the electorate and its trade-offs seem not to be very transparent. Even among those with the best understanding of the electoral system, only about 13% understand the consequences of the parallel voting reform proposal.

4.2 Preferences Regarding the Trilemma of MMP Systems

We begin our analysis of voter preferences with the question how respondents navigate the reform trilemma of MMP systems. All three principles of the trilemma were presented to participants who had to pick their two preferred principles. Results of this choice amongst participants who initially received the trilemma information (conditions 1 and 2) are presented in Figure 2. On the one hand, the left panel shows the share of respondents that picked one option when asked to pick two out of three goals.¹¹ As can be seen from the graph, each option was selected by more than half of the respondents, and the error bars are consistently above the majority threshold of 50%. Somewhat surprisingly, proportionality is the least popular of the three options. Still, it is selected by almost sixty percent of respondents. These results demonstrate that all three goals can count on majority support even when participants are forced to trade-off principles against each other.

The same data is organized in a different way in the right panel of Figure 2, which focuses on the combinations of goals that respondents picked. Here, the flipside of the popularity of each single dimension is that no combination of goals commands majority support; error bars do not include 50%. While reducing the size of the Bundestag and preserving district representation is the most popular option, it is only selected by a little more than 40%. Even the least popular option, which would effectively preserve the status quo, is supported by more than a quarter of the respondents. The fact that each goal on its own is popular and receives majority support—equivalent to the fact that no combination of two goals receives majority support—is strong evidence in favor of the notion that the trilemma of mixed-member proportional systems is present among German voters.

¹¹ Because we asked respondents to pick two out of three goals, the cumulative sum of responses adds up to 200%.

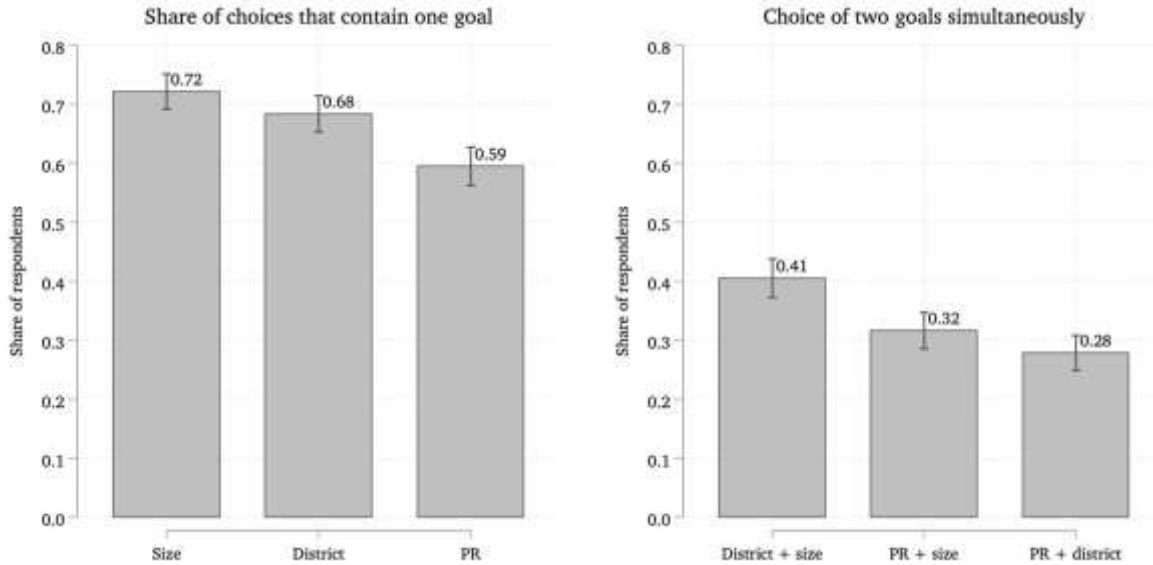


Figure 2: Popularity of goals and choice in trilemma setting, groups 1+2

To further explore whether choices in the trilemma reflect meaningful and coherent preferences over electoral systems, we run plausibility checks on these data in order to see whether respondents understood the logic and the implications of each principle. For one, we asked each respondent in condition 1 and 2 to rate the importance of each goal separately on a scale from 1-7. Respondents that pick a combination of district representation and Bundestag size find proportional representation statistically significantly less important (diff = -.34, $p < .01$) than members of the other two groups. For voters who jointly select proportional representation and size of the Bundestag, district representation is similarly less important (diff = -.67, $p < .01$). And finally, supporters of the status quo—those respondents that choose proportional representation and district representation—do not place much importance on the size of the Bundestag (diff = -1.04, $p < .01$).

Moreover, we find that CDU/CSU voters (5.47; on a 1-7 scale) and SPD voters (5.40) are most supportive of district representation, while supporters of smaller parties were least supportive (FDP voters: 4.84, Die Linke voters 5.00). These are just minor differences, but they are in line with what one would expect, given that these smaller parties hardly win any districts. Hence, we are confident to conclude that the reform trilemma indeed materializes in the preferences of German voters.

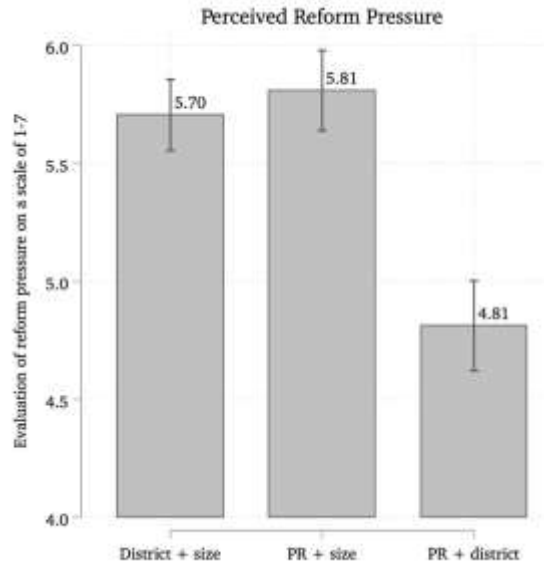


Figure 3: Perceived reform pressure by trilemma choice, groups 1+2

Generally, people’s perceived reform pressure is in line with their preferences over the three fundamental electoral goals. Figure 3 displays the perceived reform pressure by trilemma choice. Respondents who picked proportionality and district representation as their preferred principles—that is, those principles that the status quo election law fulfils— judge the reform pressure at 4.8 on a 7-point scale. Among those whose preferred goals included the Bundestag size, demand for reform is significantly and substantively higher (5.7 and 5.8, respectively, $p < .01$ for both comparisons). This means while all three goals of the electoral system are popular with voters, and no combination of two goals emerges as the obvious reform option, most voters (even those whose goals align with the status quo) find it important to reform the current electoral system.

4.3 Preferences for Electoral Reform Options

To investigate German voters’ specific reform preferences, we now focus on groups 3-5 (see Figure 1 above). These are respondents that we directly exposed to descriptive information about the status quo, asked for their perceived reform pressure, and their attitudes towards reform options before we asked them about trilemma goals afterwards. These respondents are thus untreated with respect to the incompatibility of the three goals MMP systems try to satisfy. Also, these respondents perceive a very high reform pressure on average (5.3). Yet, Figure 4 showcases that there are sizable differences when we take respondents knowledge about the status quo into account.

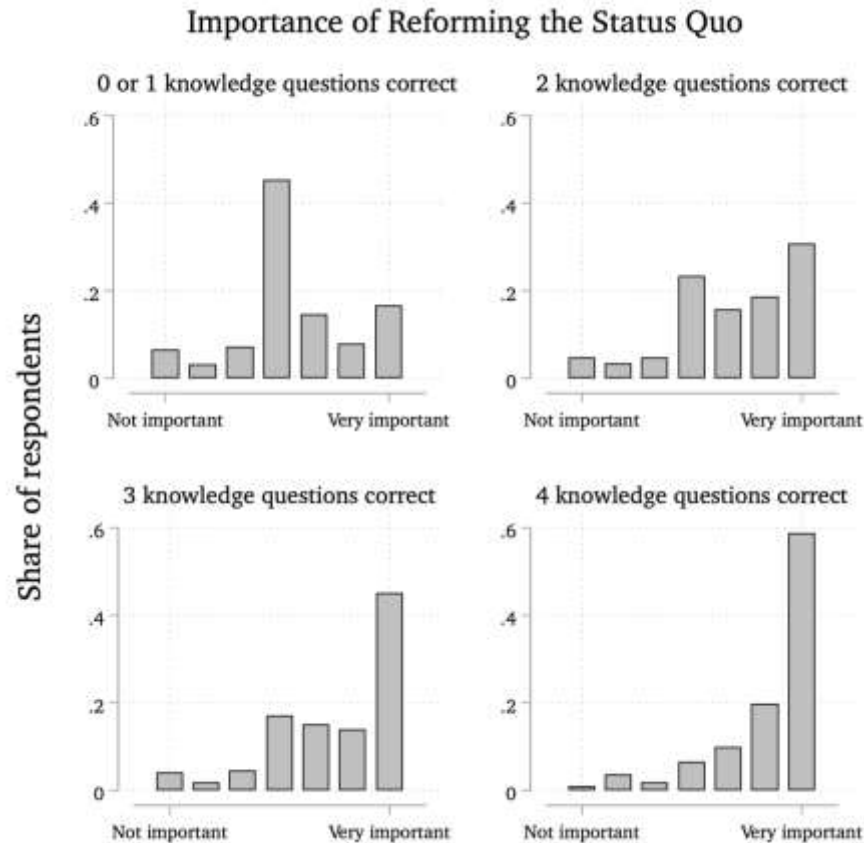


Figure 4: Perceived reform pressure by knowledge, groups 3+4+5

Respondents with the lowest level of pre-existing knowledge—i.e., those that got none or only one out of four knowledge question right—tend to pick the middle category of 4, probably as an equivalent to a “don’t know”-option. In all other groups, a very high need of reform (7 on a scale of 1-7) emerges as the modal answer. This widely shared perception of reform pressure is very much in line with a recent Bertelsmann study (Bertelsmann Stiftung 2023). However, there are important differences between groups. Those with the best understanding of the current system also perceive the highest need of reform.

High support for reform also emerges when we ask about specific reform proposals while pointing out the costs associated with each reform. Figure 5 presents the comparison of the mean evaluations of the status quo and our three proposals in the untreated groups. First, all reform options are more popular than the status quo ($p < .01$ for all comparisons between status quo and each reform proposal). Hence, although the description of each reform proposal also informed respondents about the costs associated with it, they still support any reform.

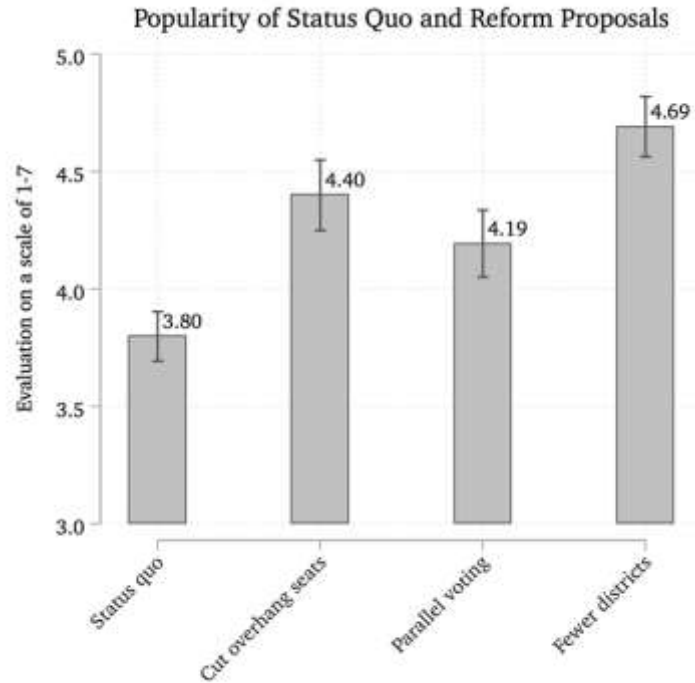


Figure 5: Evaluation of status quo and reform proposals¹²

Second, there are also sizable differences between the different reform options. A reduction in the number of districts turns out to be the most popular reform option and more popular than the proposals of the coalition and of the main opposition party ($p < .01$ for both comparisons). This indicates once more that the trilemma is very much alive in the minds of German voters, because they tend to favor proposals less that make a clear-cut decision to sacrifice one goal. Of these concrete proposals, the proposal of cutting overhang seats is more popular than the proposal of parallel voting ($p < .05$). While average evaluations do not differ that much in absolute terms between the proposals, we find stronger differences if we differentiate respondents again by their level of knowledge.

¹² The status quo sample uses the data from groups 3 and 4 only, to assure consistency with the sample used on the trilemma results below. In group 5, the status quo was evaluated slightly higher at 3.91.

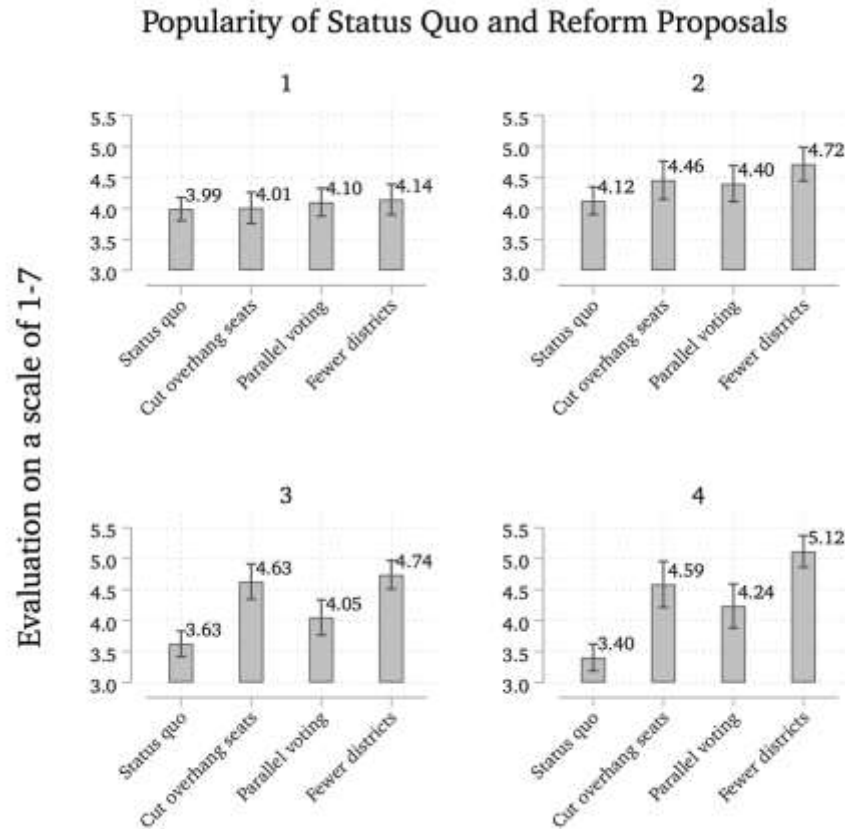


Figure 6: Evaluation of status quo and reform proposals by knowledge¹³

As Figure 6 shows, the differences in support for different reform proposals are driven by more knowledgeable voters. Among respondents with very little knowledge of the current electoral system, there are essentially no differences in the evaluation of the three different reform proposals and the status quo. Furthermore, each electoral system is statistically indistinguishable from the neutral answer category (4 on a 1-7 scale). Differences in the evaluation of the reform proposals only become visible for more knowledgeable voters. Among respondents who are able to correctly answer more than half of the four knowledge questions, the aggregate pattern from above emerges. Again, those with the highest knowledge also show the most pronounced differences in their evaluation of the different models. Yet still, fewer districts turns out to be highest ranked proposal in all groups.

¹³ Status quo: groups 3+4.

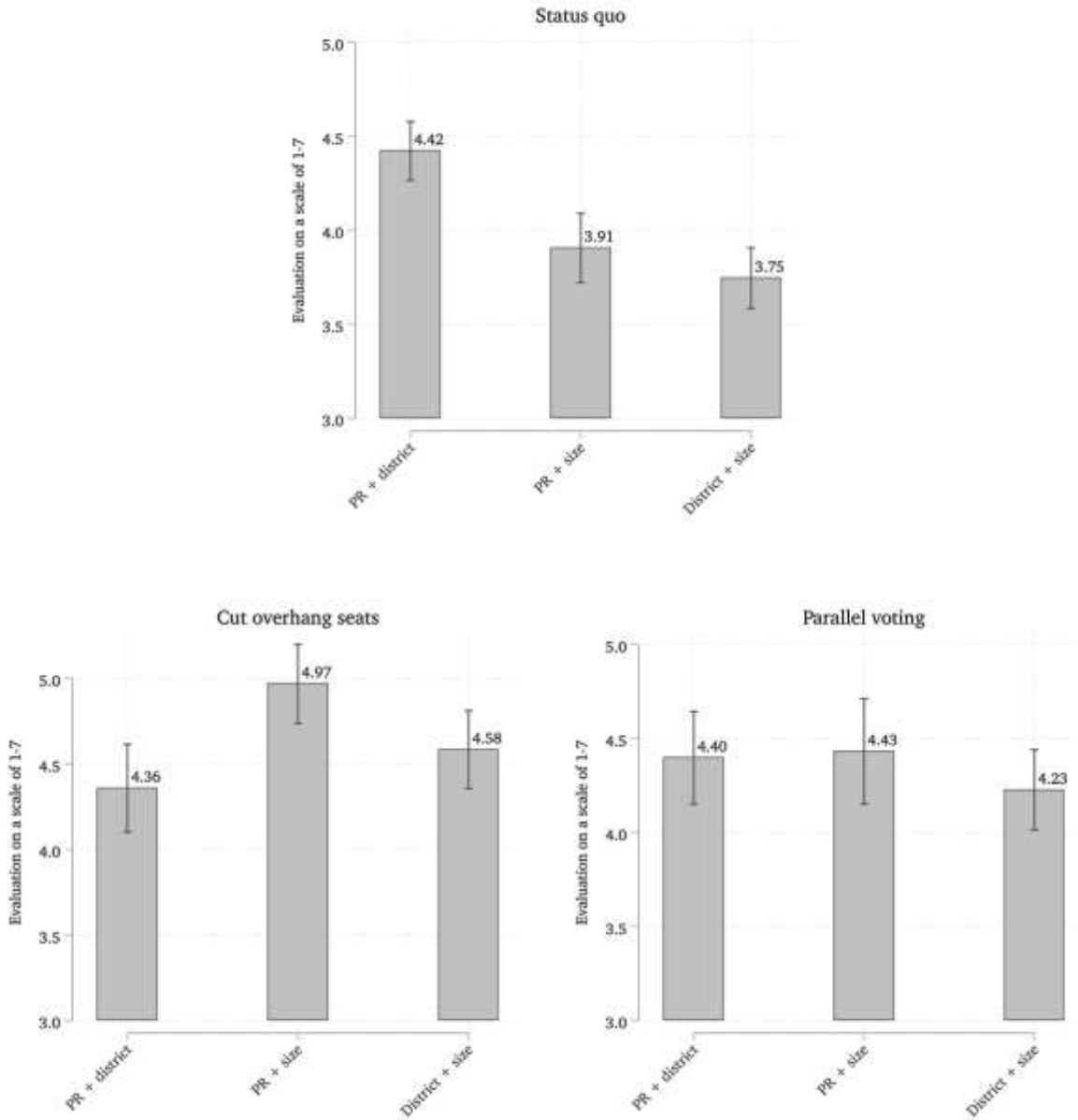


Figure 7: Evaluation of status quo and reform proposals by trilemma choice, groups 1+2

Figure 7 now explicitly connects the trilemma choice of respondents with their evaluation of the status quo and the two reform options.¹⁴ The status quo receives the highest support among respondents that are willing to sacrifice the size of the Bundestag. For both other trilemma choices, the average rating of the status quo is statistically significantly lower ($p < .01$). Hence, the concrete choice of an electoral system corresponds very closely with the

¹⁴ We again analyze data from groups 1 and 2 here, because respondents in both groups first answered the trilemma questions before they evaluated electoral systems (see Figure 1).

abstract goals that people prefer. The same is true for the proposal to cut overhang seats. This proposal maintains proportional representation and fixes the size of parliament; and respondents that pick these abstract goals also evaluate the reform proposal most favorably ($p < .05$ for both comparisons). As for the proposal to introduce parallel voting, we do not find any statistically significant differences between trilemma groups, even though we would have expected that this reform option ranked highest among respondents that are willing to forego proportional representation of parties in the legislature. This may be due to the fact that the general understanding of this proposal was much lower than for the other two proposals.

So far, we have established that the trilemma is real for the German electorate: all three goals are not only normatively desirable, but also empirically popular. This notion is further underlined by the fact that even though most voters strongly support reforming the status quo, there is no majority constituency for any reform that clearly breaks with one of the three goals. Germans evaluate most positively the proposal to reduce the number of districts, which resembles a middle ground in the sense that it reduces the size of the Bundestag but does not conclusively fix it at a certain level.¹⁵ Importantly, peoples' preferences for abstract goals correspond closely with their choice of concrete electoral systems.

4.4 Effect of Trilemma Information on Reform Preferences

Finally, we inquire whether and how telling respondents about the fundamental trilemma affects preferences about the electoral system. To investigate whether the trilemma of MMP systems turns into a constraint for reform by the voters, we leverage the fact that we randomly exposed some respondents to the trilemma information before they evaluated the electoral system, while others received that information only afterwards (see Figure 1). We then test whether there are differences in support for the status quo and the two reform proposals between the treated and the untreated groups.

¹⁵ We also differentiate respondents according to their political preferences, based on how they had voted in the federal election of 2021 (see Figure C-2 in Appendix C). As a result of the smaller number of observations, differences are often not statistically significant. Yet, the ordering of proposals is quite similar across all party electorates, even if there are differences in levels of support. Voters of all six parties have fewer districts as their most preferred option and the status quo as their least preferred options. The voters of four parties also prefer cutting overhang seats to parallel voting. Not even the CDU/CSU's own voters prefer their parties' proposal over the coalition proposal. Voters of the FDP and DIE LINKE prefer parallel voting to the non-allocation of overhang seats but this is, again, not statistically significant.

The top graph in Figure 8 investigates support for the status quo. Acceptance of the status quo increases statistically significantly (from 3.8 to 3.99, $p < .05$) when respondents are being told before their evaluation that it is impossible to achieve all three goals at the same time. Hence, making the trade-off between the different underlying principles explicit affects voters' preferences. The same result emerges for the evaluation of the coalition's proposal to cut overhang seats (see the lower-left graph in Figure 8). When respondents are told that there is an unresolvable trade-off, they rate the coalition proposal significantly higher ($p < .05$). Evaluation of parallel voting also improves, although this effect is not significant ($p = 0.16$; see the lower-right graph in Figure 8). Taken together, we thus find that informing respondents about the trilemma of electoral reform before asking them about their approval of reform proposals improves the evaluation of different electoral laws.

Since the evaluations of both reform proposals improve after the trilemma treatment, the preference order remains unaffected by this treatment. Cutting overhang seats remains the most popular of the three options in both cases. Importantly, the average support for the proposal to cut overhang seats becomes statistically indistinguishable from the average support for the muddling-through proposal of reducing the number of districts ($p = 0.69$). In essence, when respondents are made aware of the trade-offs that any electoral law has to deal with, they become more appreciative of proposals that necessarily abandon one of these goals.

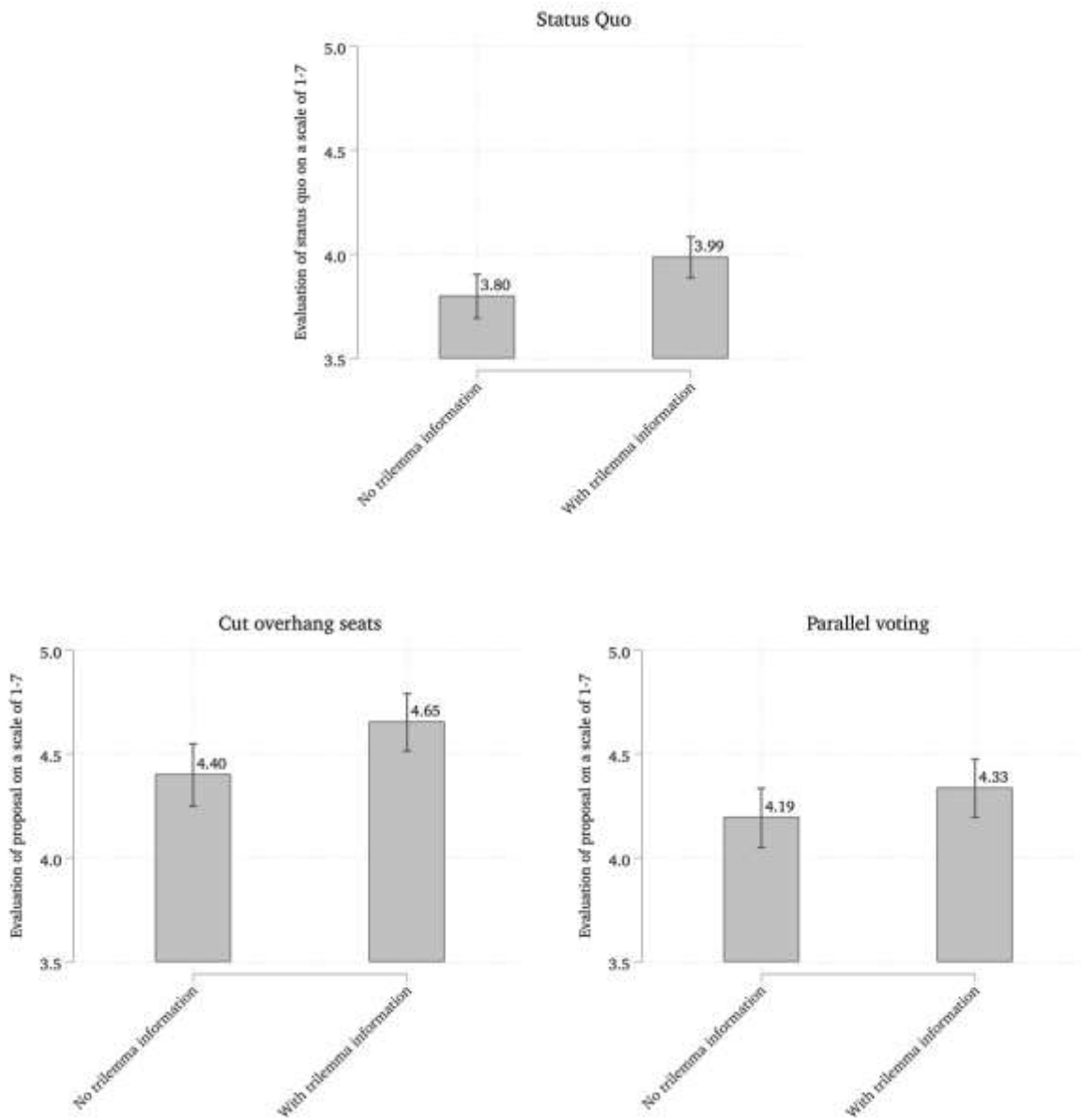


Figure 8: Effect of trilemma treatment on evaluation of status quo and reform proposals, groups 1-4

5. Conclusion

Reforming the German electoral system has proven exceedingly difficult—and it is far from clear that the most recent reform will survive challenges in the constitutional court. The main difficulty has been the self-interest of politicians and political parties, which were concerned about how a reform would impact them and their election prospects. However, our study demonstrates a deeper challenge for any electoral reform, that even an uninterested third party would find difficult to overcome: Any reform attempt is confronted with a trilemma. This trilemma of mixed-member proportional systems is not just a logical constraint, but also perceived by the electorate. While cutting the size of the Bundestag is the most preferred goal—probably due to the increased media attention to this issue since the last federal election—proportionality and district representation are also each supported by a majority of voters. Thus, while German voters perceive a strong need for a reform of the electoral system, no abstract reform proposal commands a majority of supporters.

The trilemma in voters' minds does not emerge from a lack of knowledge or understanding. To the contrary, a subgroup of well-informed voters—those who drive our results—are able to formulate consistent preferences over abstract principles as well as specific reforms. For example, those who care least about district representation are most supportive of the proposal to cut overhang seats. Those who have the strongest preference for fixing the size of the Bundestag in the abstract also perceive the greatest need of reforming the status quo. We thus conclude that there is a non-negligible subset of voters who are well informed about the current electoral rules, have a strong interest in electoral reform, and a clear preference ordering over the different reform options.

Does this mean that prospects for electoral reforms that command majority support in the population are bleak? Not necessarily. While voters' responses demonstrate the relevance of the trilemma, we are still able to identify a most popular reform option, which is a reduction in the size of electoral districts.¹⁶ This result holds for voters of all political stripes. It is mainly driven by the voters who are most knowledgeable about the existing electoral system. More importantly, political elites may actually use the trilemma to their advantage when trying to explain their reform proposals to the public. Pointing out the trilemma to voters improves both their evaluation of the status quo and of specific reform proposals, which

¹⁶ A prominent argument against such a reform is that the necessary enlargement of districts would weaken the links between voters and MPs. As a recent study by Sohnius et al. (2022) demonstrates, however, neither an increase in the number of voters nor an increase in the geographic size of districts leads to lower satisfaction with democracy or lower political efficacy.

implies that voters are able to acknowledge the logical constraints of the system and incorporate them into their assessments.

Our results have repercussions that go beyond electoral rules or even the make-up of democratic institutions more generally, since trilemma situations are a familiar feature of important policy questions. The Unholy Trinity or Mundell-Fleming trilemma, for instance, maintains that any government has to sacrifice one out of three policy goals under conditions of economic openness: fixed exchange rates, autonomous monetary policy, and capital account openness. The common interpretation of such trade-off situations is that unconstrained survey-questions overestimate support for any single policy goal and that pointing out trade-offs reduces stated support (and thus leads to more realistic estimates). While we do not disagree with this assessment, we suggest an additional interpretation: explaining trade-offs may not only lead to a more realistic measure of preferences, but may also affect preferences by increasing the support for attainable combinations of goals. If politicians explain the logical constraints under which they have to operate, they can actually hope to find a sympathetic audience among voters.

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Appendix A

Knowledge questions

To gauge respondents' understanding of the existing electoral rules, we asked about their agreement with the following statements:

- The second vote is more important for the final election outcome than the first vote
- With my second vote I vote for the person that I want to be chancellor
- With my first vote, I can vote for the candidate of a party that I do not support with my second vote
- Every party that can be voted for in the federal election also receives seats in the parliament

Appendix B

Description of status quo

We described the current system as follows:

"The current electoral law for the Bundestag works as follows:

The share of second votes that a party wins determines how many seats that party receives in the Bundestag. A party that wins 20% of the second votes should therefore also receive about 20% of the seats in the Bundestag

The federal territory is divided into 299 electoral districts, in which a candidate is elected with the first vote. Every person who wins one of the constituencies is guaranteed to enter the Bundestag.

Sometimes, a party wins more constituency seats than it is entitled to according to the proportion of second votes. These additional seats are called overhang seats. To ensure that this party's share of seats corresponds to its share of second votes, all other parties receive additional seats in this case, so called overhang seats.

As a consequence of the overhang and compensation seats, however, the Bundestag regularly exceeds the size of 598 MPs. This is why the Bundestag has grown significantly in recent years to its current 736 members."

Appendix C

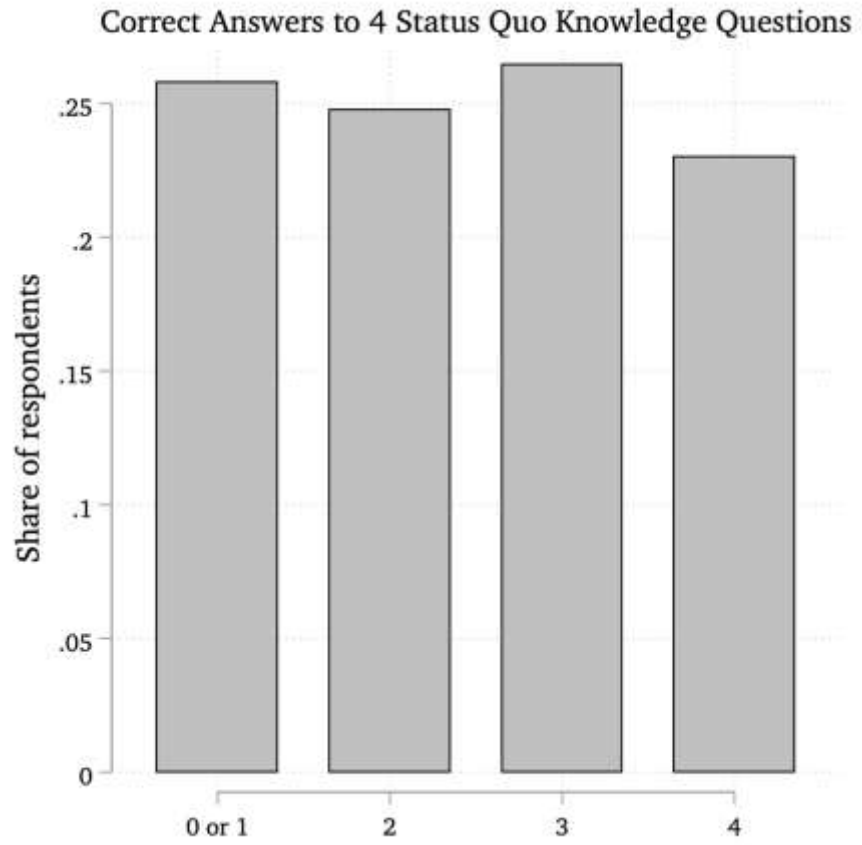


Figure C-1: Distribution of knowledge about status quo

Popularity of Status Quo and Reform Proposals

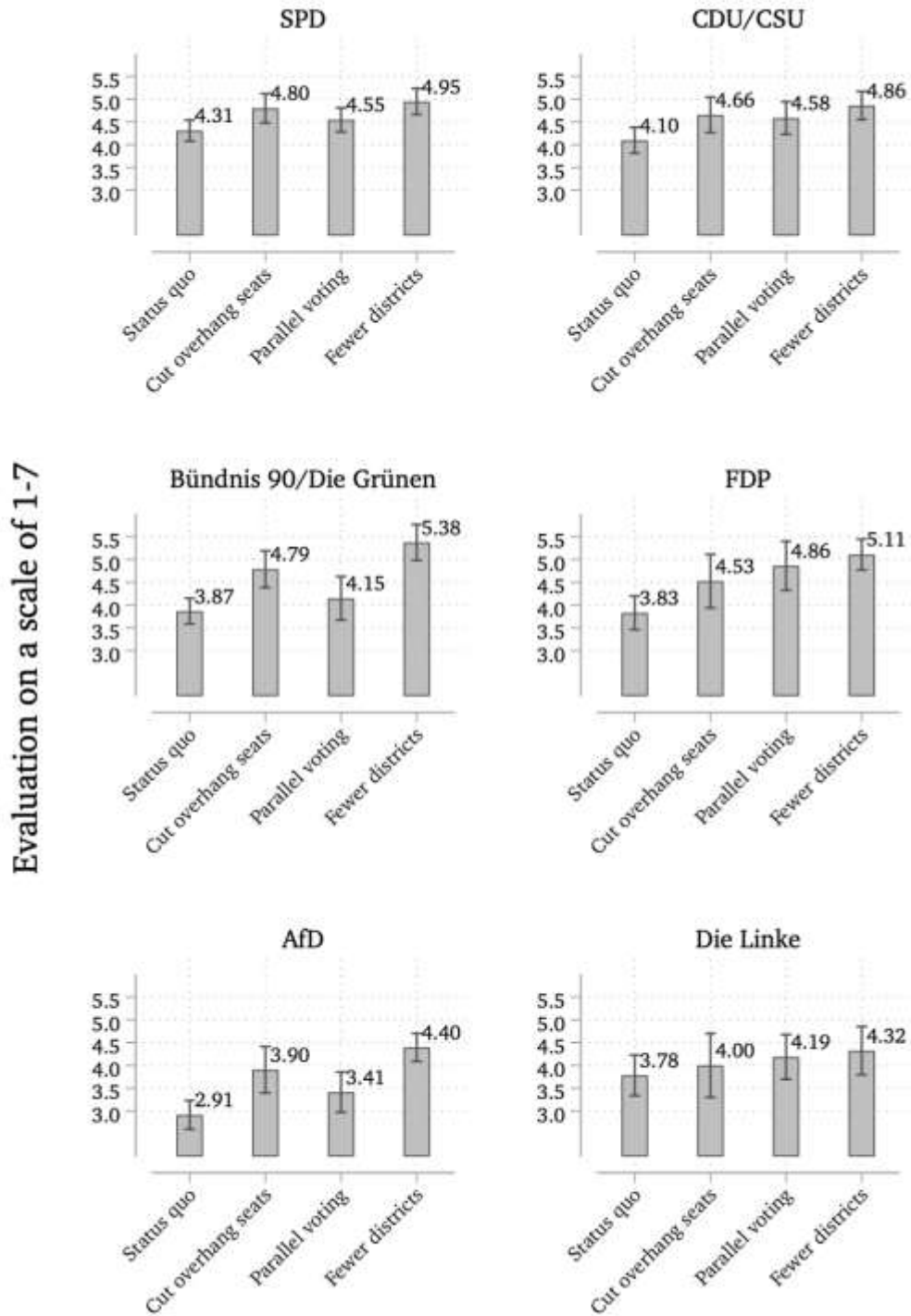


Figure C-2: Evaluation of reform proposals by 2021 party choice, groups 3, 4, 5 (status quo: 3, 4)