

If all votes were recorded*

Philipp Broniecki and Bjørn Høyland

Department of Political Science, University of Oslo

Word Count: 6542

Abstract

Voting records are essential for the study of legislative behavior, but recording of individual-level vote choices is often partial. While roll calls are taken by default on some votes, they need to be requested on others. This partial recording causes a selection problem. We rely on an external shock to the procedure of recording votes which required, for a time, roll calls on votes that would otherwise only be recorded upon request. Using a difference in differences design, we compare roll calls that were always recorded with roll calls that needed to be requested under the regular regime but were recorded during a temporary remote voting regime. Our results show that the requirement to request roll calls makes parliaments appear more competitive and legislators more loyal. Contrary to recent contributions, our findings demonstrate bias in two basic quantities of interest: vote splits and legislator loyalty scores. One reason for this is that when all votes were recorded, political group leaderships are likely to instruct their rank and file to vote a particular way on the votes that were recorded under the remote voting regime but would not have seen a request under the regular regime. Our findings are thus evidence for the use of roll call requests as a disciplining tool.

Introduction

Legislative actors operate in a highly strategic environment. While their key tasks are to adopt policy and hold the executive to account, they can only do this task

*Earlier versions of this paper have been presented at the 18th Biennial International Conference of the European Union Studies Association in Pittsburgh 4 - 6 May 2023 and at 13th EPSA Conference, Glasgow 22 - 24 June 2023. We thank the participants, in particular Nils Ringe, William Daniel, Simon Hix, Sven-Oliver Proksch and Anastasia Ershova for useful comments and suggestions.

for as long as voters are willing to re-elect them (Müller and Strøm, 1999). To be re-electable, legislators must be seen as being on the “right” side of the issue of the day, and stand up for the interest of their constituency while being loyal to their party leadership (McCarty, Poole and Rosenthal, 2006). As legislators take positions in voting, legislative scholars have scrutinized how legislators vote to understand which positions legislators take when torn by competing pressures and when legislative groups decide to compete or to coalesce (Hix, 2002; Kreppel and Hix, 2003; Carey, 2007). Alas, not all votes are recorded in a fashion that allows legislative scholars and other outside observers to scrutinize individual level behavior (Carey, 2009). Moreover, the decision to record a vote or not is itself often taken by the legislative actors (Carrubba et al., 2006; Crisp and Driscoll, 2012). Hence, a careful legislative scholar may be worried about potential selection bias in the resulting voting matrix he is given to study (Hug, 2010).

In this paper, we investigate a time-period when the decision to record votes was taken out of the legislators hands for about two fifths of the legislative term. By comparing changes across roll calls that need to be recorded by procedural requirement with roll calls that needed to be requested except for a limited time, we are able to isolate the effect that the requirement to request a roll call has on observable quantities that legislative scholars typically care about, such as vote-splits and legislators’ loyalty scores.

Specifically, we study voting in the first four years of the 2019 – 2024 European Parliament (EP). In March 2020, the normal functioning of the EP came to a halt as the COVID-pandemic swept across Europe. Confined to their homes, Europe’s directly elected legislators needed to be able to continue parliamentary activities. Essential to the legitimacy of these activities is legislators confidence that the decisions that are taken are based on the majority of the day. To enable Members of the EP (MEPs)

to check that votes were counted and counted correctly, while not being present, all voting decisions were recorded unless a motion for a secret vote was put forward. This remote participation procedure, rule 237c in the Rules of Procedure, allowed the EP to continue its role as a legislature throughout the pandemic. At the same time, remote voting provides a unique chance to study the effect of an “as-if random” change of procedural rules on legislative behavior.

Evidently, more changes occurred during the COVID pandemic than this rule change, and we do not claim otherwise. Instead, we argue that unlike other changes in the procedural rules, the timing and the nature of this rule change is not an institutional strategic choice. By comparing behavior under institutional rules that did not change during remote voting — voting on final passage votes — with behavior where institutional rules did change — voting on all other votes — we are able to isolate the effect of the pandemic that does not vary by vote type. Taking the difference in differences for two quantities of interest: vote splits and legislator loyalty, between the period when the remote participation procedure was in place and when it was not, we are able to estimate the effect of the requirement to request roll calls on these quantities of interest.

We offer two key insights. First, votes that need to be requested by procedural requirement appear more competitive than they would be without the requirement. Put differently, if all votes that require a roll call request were recorded, scholars would end up with a dataset with more consensual votes. Second, the requirement to request roll calls leads to overestimates of legislator loyalty. If all votes were recorded, MEPs loyalty-scores would be lower. The partial recording due to roll call requests overestimates the extent to which all members of a political group vote the same way.

The reason for this is that when a political group considers a vote sufficiently important to request it be recorded, that political group will also prefer one voting

result over another and instruct their members to vote accordingly (Hug, 2016). The votes that normally go unrecorded are votes where political group leaders will not invest resources to ensure that their rank-and-file members toe the party line, if indeed such a line exists on those votes. Moreover, Ainsley et al. (2020) find that the magnitude of the differences in quantities of interests across recorded and non-recorded votes is likely to decrease as the prevalence of roll call votes increases. In this study, we estimate substantial differences between recorded and non-recorded votes during a period where almost half of all votes were recorded. Findings reported from earlier periods, when the prevalence of roll call votes was about one-third (Carrubba et al., 2006), should raise concerns. While our findings contradict recent empirical research, they are in line with the expectation that parties request roll calls to discipline their members (Carrubba, Gabel and Hug, 2008). In sum, these findings highlight the need to ground the data-generating process of observed legislative behavior in clear theoretical micro-foundations.

In the next section, we review the literature on the strategic use of voting procedures in general before focusing on the specific debate on selection bias in European Parliament roll call votes. Next, we present our dataset on voting in the European Parliament. Unlike existing datasets on voting in the EP, we collected data on all votes, not only roll call votes, over multiple years. While the main dataset covers the first four years of the 9th Parliament (July 2019 – December 2023), we also collected the corresponding data for the first four years of the 8th Parliament (July 2014 – December 2018). We use the EP 8 data to conduct placebo-tests to rule out trends within the parliamentary terms that are unrelated to the remote participation procedure. In the third section, we outline the methods employed to calculate our quantities of interest and formulate hypotheses on the impact of the roll call request requirement on these quantities. The fourth section discusses potential threats to our research design and

how we address them. Our findings are detailed in the fifth section. Finally, we conclude with a summary of our results and their implications for the study of legislative behavior.

The Strategic Use of the Voting Procedure

Legislators vote to adopt, amend, or reject policy proposals. The granularity of the recorded information on how legislators' votes are recorded varies across legislatures, over time and by procedure. [Saalfeld \(1995\)](#) distinguishes between closed votes — where only the outcome is recorded, half-open — where the vote-split is recorded, and open — where the individual decision to support, oppose, abstain, or to be absent, is recorded. It is only open votes that can be studied systematically. Information on how individual legislators vote on specific votes is essential for testing theories of legislative behavior ([Krehbiel, 1998](#); [Cox and McCubbins, 2005](#); [Clinton, 2012](#)) and characterizes politics in the US ([McCarty, Poole and Rosenthal, 2006](#)). Comparatively, voting records have been used to test effects of electoral rules on legislative behavior ([Hix, 2004](#); [Carey, 2007](#)), leadership - backbencher relations ([Benedetto and Hix, 2007](#); [Dewan and Spirling, 2011](#)), dimensions of contestation ([Hix and Noury, 2016](#)) and development of parliamentary party organization ([Godbout and Høyland, 2017](#)). With very few exceptions, most studies of roll call voting do not discuss at any great length to what extent the roll call votes are representative of all votes in the legislature. To some scholars, this is a non-issue, as long as the procedural thresholds for requesting roll calls are sufficiently low, or the number of roll calls are sufficiently high ([Hansen and Debus, 2012](#)). Others emphasize the importance of roll call votes, in the sense that at least one party opted for making the request for a roll call ([Sieberer et al., 2020](#)). However, in some parliaments, roll call voting is the default voting rule on

some procedures and stages in the decision-process, but not others (Hug, Wegmann and Wuest, 2015). Moreover, when roll calls may be requested, the reasons for doing so may vary. While some accounts emphasize disciplining (Carrubba, Gabel and Hug, 2008), others highlight the role of signalling (Snyder Jr and Ting, 2005; Finke, 2015; Thierse, 2016). The balance between these two reasons may vary between actors, over time and across parliaments. It is thus not trivial to draw firm inferences from a sample of roll call votes when the sampling process or the population sampled from is not known. In the rare case when the population of votes is known, the empirical evidence shows that there is no reason to believe that roll call votes are in any way representative of all votes cast during the same period (Hug, 2010).

Considering the remote participation regime that the European Parliament (EP) put in place in response to lock-downs during Covid-19 as a natural experiment, we use a difference-in differences design to compare statistics from final passage votes, which are always recorded by default, with statistics from part votes, which were recorded by default under the remote participation regime, but only by request otherwise. This design allows us to estimate the effect of not having to request the recording of a vote. We compare vote splits and legislator loyalty. While these quantities may not be the only quantities researchers care about, it is hard to believe that other quantities would remain unaffected if these quantities are affected.

The former, vote splits, is a direct measure of how competitive politics in the legislature is. A low average vote split, for example, is indicative of a high level of competitiveness as it would only take a handful of votes to change the outcome. In contrast, if the average vote split is high, that is indicative of a consensual legislature, where most votes pass or fail with a large majority on the winning side. In the EP, Hix, Kreppel and Noury (2003) and Hix, Noury and Roland (2005) report that the EP became increasingly competitive as it gained more legislative power, while Kreppel

and Hix (2003) find the neither constructivist nor rational explanations fully account for changing pattern of collusion and competition. Focusing on different stages of the legislative process, and the need to meet various majority requirements, Kreppel (2000, 2002) demonstrates how procedural rules to some degree guide the level of competitiveness (See also Hagemann and Høyland, 2010).

Loyalty to the political group, our second quantity of interest, captures to what extent party groups are capable of acting as cohesive political actors within the legislature (Carey, 2007). This is particularly salient in the EP because it is the only supra-national legislature organized along ideological lines (Høyland, 2016). However, as the elections to the EP are organized at the national level, with national parties competing, voting loyalty to the political group at the European level is not a given (Attina, 1990). Indeed, when national party and European group positions are in conflict, it is not clear why MEPs should follow the political group rather than the national party (Faas, 2003; Hix, 2002; Willumsen, 2023), especially when the selection process is under the control of the national party leadership (Hix, 2004). Studying all roll call votes from 1979 to 2004, Hix, Noury and Roland (2005) found that political group voting loyalty was high, and growing over time. However, Bowler and McElroy (2015) note that the EP held more highly lopsided “hurray” votes. Voting loyalty may also matter for the allocation of spoils in the parliament’s committee system (Yordanova, 2009; Yoshinaka, McElroy and Bowler, 2010; Obholzer, Hurka and Kaeding, 2019; Chiou, Hermansen and Høyland, 2020; Hurka, Haag and Kaplaner, 2023).

The EP is a relevant context for studying bias in roll call voting. It is a legislature that has received a lot of scholarly attention (for a review, see Hix and Høyland, 2013). The problem of potential bias of roll call vote samples has been raised (Carrubba et al., 2006), and disputed (Kaniok and Mocek, 2017; Mühlböck and Yordanova, 2017; Hix, Noury and Roland, 2018). Note, however, that the issue of the representativeness of

roll call votes relative to all votes is an issue of general interest across most political systems (Ainsley et al., 2020). Focusing on the history of the U.S. Congress 1891 – 1994, Clinton and Lapinski (2008) find that most bills were not subjected to a single roll call vote. Egar (2016) shows how strategic roll call requests may be used to make electorally vulnerable members of the majority party appear more partisan and ideologically extreme. Stecker (2010), studying German regional parliaments, demonstrates that roll call requests are related to the electoral system, the extent of polarization, the existence of “outsider” parties, the margin of the government’s majority, and the voting technology.

While roll calls are the only votes legislators can study in any detail, they are not the only votes cast by legislators. In most parliaments, roll call votes are not the standard operating procedure (Hug, Wegmann and Wuest, 2015). An assessment of how particular votes end up as roll call votes should come prior to the assessment of the evidence contained in the roll call vote matrix. Such an assessment may take different forms. For example, Sieberer et al. (2020, 1139) “coded the party requesting the roll call to allow researchers to model this selection process.” Eggers and Spirling (2016) simply state that unrecorded votes are outside the realm of their study, while Godbout and Høyland (2017) report how the characteristics of the roll call votes change in tandem with the evolution of voting unity. Most commonly, the population of roll call votes itself is treated as the object of interest (Kirkland and Slapin, 2018; Poole and Rosenthal, 2007; Hix, Noury and Roland, 2007; Carey, 2009).

To some however, roll calls represent a, potentially biased, sample from the population of all votes. Taking this perspective, Carrubba et al. (2006) coded all votes in the first six months of the 5th European Parliament, the fall of 1999, showing with descriptive statistics that: roll call votes were not representative of the population of all votes; requests were not made in similar proportion across policies or by political

groups; and tended not to be taken on the votes that mattered the most from a policy perspective. Taking issue with the substantive importance of the statistical differences between roll call votes and all other votes, [Kaniok and Mocek \(2017\)](#) replicated the above study, showing that roll call votes in 2013, were similar to all votes that year. Even though statistically significant differences could be detected, the magnitudes of these differences were minuscule.

[Yordanova and Mühlböck \(2015\)](#) use data from the EP to address the effect of party disciplining on cohesion scores. Based on the disciplining logic, one would expect that legislators are more loyal when their parties request roll calls. Therefore, roll-call-based cohesion scores should be upward biased. They use a 2009 rule change that made roll calls on all final legislative votes required and compare party group cohesion of the big center right and center left groups in a matched sample of votes before and after the rule change. They show that cohesion was larger after the reform when roll calls became required and come to the conclusion that, contrary to the disciplining logic, party group cohesion is downward biased or put differently roll call vote samples yield results that make parties appear less cohesive than they really are. [Hix, Noury and Roland \(2018\)](#) investigate the same rule change and with a different estimation strategy do not detect a difference in party cohesion before and after the rule change.

Below, we take the design-logic of [Yordanova and Mühlböck \(2015\)](#) and [Hix, Noury and Roland \(2018\)](#) one step further to estimate the effect that the procedural requirement to request a roll call has on two quantities of interest: vote splits and legislator loyalty. Taking the example of vote splits, we first take the difference in absolute yes and no votes, on mandatory final passage roll call votes during the remote voting procedure and the regular voting procedure. Second and similarly, we take the differences in voting of non-final and non-mandatory roll call votes between the remote and regular voting periods. Third, we assess the difference between those two differences. In the

case of final passage votes, there is no rule change, as roll calls were already mandatory on all final passage votes, while roll calls on part votes, e.g., amendments were only mandatory during the remote participation regime, and had to be requested otherwise. This design allows us to isolate the effect of requesting roll call votes. Other aspects, such as the ease, or difficulty, of coordinating on how to vote should be similar across final and part votes.

An advantage of our design is that it allows us to estimate the effect of a rule change that was not strategic on a much larger sample of votes than was possible in previous studies. Final passage votes make up a small fraction of roll calls (7% of all roll calls in our sample). In addition, final passage votes tend to be less conflictual than part votes because at the final stage, most controversial issues have already been compromised on in part votes; in our sample, the vote split is on average 110 votes larger for final passage votes than for part votes. We describe our data in more detail in the next section.

European Parliament Voting Data

In the EP, voting takes place either by show of hands or electronically via voting boxes placed on the desks in plenary. MEPs authenticate themselves via their ID cards. The term electronic vote, in the EP, refers to votes where aggregate outcomes are reported. Secret votes only report vote outcomes and roll call votes record the vote choice of each individual.

Roll calls are required for all final passage votes. On all other votes, roll calls must be requested by a political group or one twentieth of the EPs component members. Amidst the Covid pandemic, the EP instated a remote voting procedure by email. To ensure that MEPs could verify that their votes were correctly registered, it was agreed

that all votes, unless otherwise specified in the rules of procedure, should be taken by roll call. These changes were formalized in the Rules of Procedure in September 2021 (Rule 237c), where it specified that the remote voting procedure should be technical neutral, but must enable MEPs to verify that their votes are counted as cast.

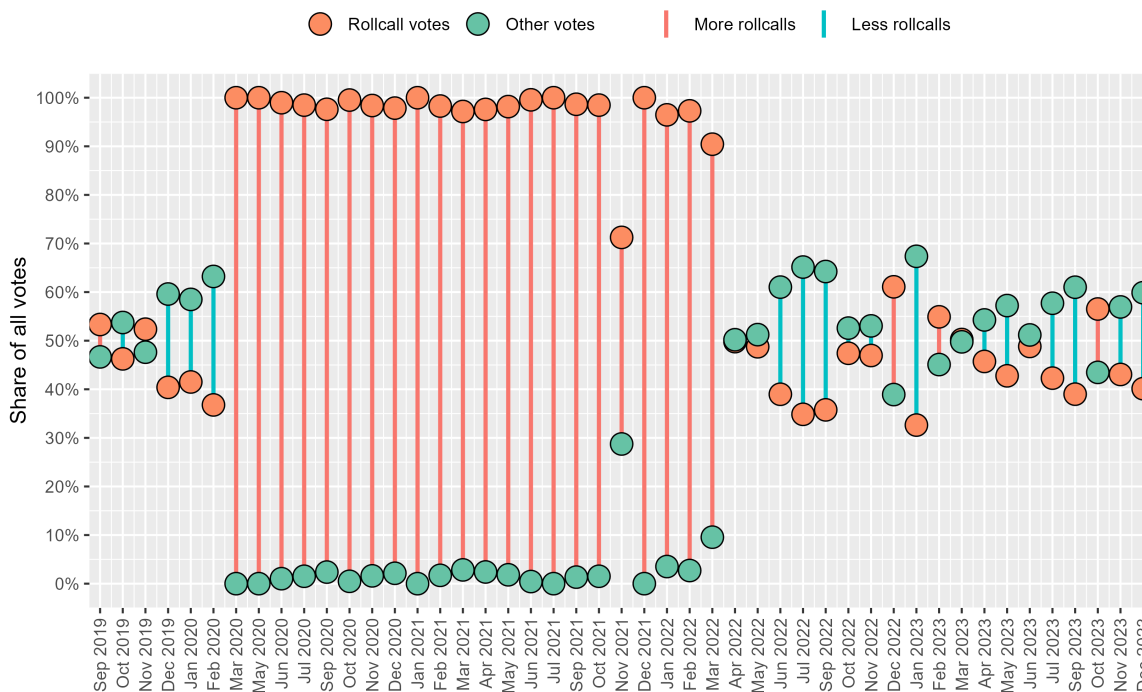
We web-scraped our data from the European Parliament (www.europarl.europa.eu). Specifically, we collected the plenary minutes, the roll call votes results tables and the results of all votes tables from the plenary sessions. Our data differs from conventional data on roll call votes in the European Parliament, because in addition to roll call votes, it also includes other votes that were not taken by roll call. Our data allows us to compare the proportion of roll call votes to all votes taken in plenary.

We validated our data by comparing the roll call votes table with the table that includes all votes. As of 1 January 2024, the roll call votes data contains 17,589 roll calls during the ninth term of the European Parliament.

We are able to match 97% of the roll call votes to the table of all votes. The discrepancy is caused by agenda votes and some special votes that are not recorded in the overall votes table. For example, the roll call taken on 13 December 2022 to terminate EP Vice-President Eva Kaili's term over alleged corruption is not recorded in the all votes table. Despite these differences between the data sources, we were, to re-iterate, able to match 97% of the roll calls including all legislative and all final passage votes which overall gives us confidence in the accuracy of our data. We dropped the votes that were not recorded in both tables from our analysis. Furthermore, we dropped votes with missing references where we could not determine whether the vote was legislative or non-legislative. Finally, we dropped all lapsed votes from the all votes table. Together, the matched roll calls and other votes result in a dataset of 24,554 votes and 17094 roll calls (69.6%).

The Covid pandemic changed voting patterns in the EP as [Figure 1](#) illustrates. The

Figure 1: Share of Rollcall Votes and all Other Votes 2019–2023



share of rollcall votes abruptly increases in May 2020 and remains high until March 2022 after which it returns to pre-crisis levels.

We split our sample into a remote voting regime period which starts in May 2020 and ends in March 2022 and a regular voting regime period which includes the time before and after the remote period. Throughout EP 9 the share of roll calls is 69.6%. This would be a large increase from EP 8 where the share of roll calls was 33.3%¹ However, this masks the differences between the voting regimes. During the remote voting regime, the share of roll calls was 97.6% compared to 44.5% during the regular voting regime.

[Table 1](#) illustrates that the remote voting regime is very different from the regular

¹We collected EP 8 data similar to EP 9 data. The overall number of votes in EP 8 is 30,178. We dropped votes without references as well as lapsed votes.

Table 1: Share of Required & Requested Roll Calls by Voting Regime

<u>Voting Regime</u>	<u>Roll Call</u>	<u>Required</u>	<u>Requested</u>
Regular	44.5%	9.2%	90.8%
Remote	97.6%	5.7%	94.3%
Whole EP 9	69.6%	6.9%	93.1%

voting regime in terms of the share of votes taken by roll call, and in addition, in terms of the share of roll calls that need to be requested under the normal rules of procedure. Required roll calls are all final passage votes based on a report. The label “Requested” describes all other roll calls. The share of required roll calls is higher during the regular voting regime (9.2%) than during the remote voting regime (5.7%). In the next sub-section, we show that for the voting characteristics that we focus on in this paper, the only significant difference is the share of roll-call votes.

Credibility of the Design

In this sub-section, we demonstrate that the key difference between the remote and regular voting regimes is that during the regular regime part votes were not taken by roll call unless explicitly requested. The legislative volume, however, did not change. In addition, the key change is not driven by the legislative cycle as our comparison with the prior parliamentary term illustrates. Finally, a substantial share of the reports that legislators voted on under both the remote and regular voting regimes relates in some way to the Covid-19 pandemic.

Our indicators of legislative volume are the average number of votes and the average number of reports (final passage votes) per month. During all periods, final passage votes were required to be taken by roll call. The monthly percentage of votes that are taken by roll call, therefore, indicates the increase in part votes which needed to be requested during the regular regime but were recorded by default during the remote

	Regular	Remote	Diff.	p-value
Avg. monthly # of votes (EP 9)	497.69	527.91	-30.22	0.76
Avg. monthly # of votes (EP 8)	537.10	614.91	-77.81	0.41
Avg. monthly # of final passage votes (EP 9)	20.46	29.55	-9.08	0.06
Avg. monthly # of final passage votes (EP 8)	14.81	21.32	-6.51	0.20
Avg. monthly share of roll call votes (EP 9)	0.45	0.97	-0.52	0.00
Avg. monthly share of roll call votes (EP 8)	0.35	0.34	0.01	0.56

Table 2: Comparison of monthly number of total votes, final passage votes, and percent of roll calls across periods for EP9 and EP8 (placebo-periods). Boldface indicates significance at the 5-percent level in a two-tailed t-test.

voting regime. It is well-established that the level of legislative activities and behavior may be cyclical (Lindstädt, Slapin and Wielen, 2012). To rule out the legislative cycle as a driver for these trends, we compare our indicators across a regular and a placebo remote regime in the 2014 – 2019 parliament, pretending that the remote participation regime was in place during the same period five years earlier.

Table 2 illustrates that the only significant difference is the difference between the monthly percentage of roll calls in the remote and regular voting regimes during EP 9. The difference is driven by the recording of part votes. This change is substantial, however, the overall volume of legislative output did not change significantly, neither in terms of votes nor in terms of reports. Our comparison across a regular and placebo remote regime in EP 8 illustrates that the difference in roll calls is driven by a change of the voting procedure and not by factors related to the legislative cycle. None of the differences are significant in EP 8.

We treat the remote voting procedure as an external shock that assigned all part votes to be taken by roll call in an as-if random fashion. For our design to be valid, we rely on the assumption that the content of what is being voted on did not change fundamentally. To ensure that this is the case, we identify all votes on reports that are related to the Covid-19 pandemic by relying on three sources. First, we scraped

all procedure references to Covid-19 related files that are referenced in the document “The EU’s response to the Covid-19 pandemic” on the [Legislative Observatory \(2022\)](#). Second, we searched the titles of the roll call votes for the following phrases: “covid”, “pandemic”, “corona”, “virus”, and “sars.” Third, we scraped the “Texts Tabled” documents from the EP website and searched the beginnings of the documents for the same phrases as in the title.²

In the 2019 – 2023 period, 4998 votes (29%) are related to Covid. The share of Covid related reports is 17% under the regular regime and 35% under the remote regime which shows that the pandemic was an important issue in both periods. The difference is, however, significant. Therefore, we show that our findings are robust to removing all Covid related votes ([subsection A.2](#)).

Overall, this comparison shows that the legislative volume did not change during remote voting. Furthermore, the legislative cycle is not a driver of the difference in roll calls. The main difference between the voting regimes is that part votes were taken by roll call during the remote voting regime. The pandemic was an important issue in both regimes but to a larger extent during the remote regime. To account for this difference, we show that our findings hold when we remove Covid related votes.

Quantities of Interest

We analyze our data with respect to two quantities of interest: vote-splits and individual legislator loyalty.

To assess the effect that the procedural requirement to request a roll call has on our quantities of interest, we first need to disentangle it from the effects of the remote

²The layout of the “Texts Tabled” documents varies. Some documents contain an explanatory statement section in the beginning of the document while others start with recitals. We remove blank lines from the documents and search the first 50 lines of text.

participation regime. We proceed in three steps. First, we calculate the difference of our quantity of interest between required and requested roll calls during the regular voting regime. Second, we calculate the corresponding difference during the remote voting regime. Third, we calculate the difference between these two differences, by subtracting the difference under the remote regime from the difference under the regular regime.

A positive difference in differences implies that the requirement to request roll calls biases our quantity of interest upwards. Conversely, a negative difference in differences implies that the requirement to request roll calls biases our quantity of interest downwards.

Vote-splits

Vote-splits or vote margins are the absolute differences between yea and nay votes.

$$x = \frac{\sum_{i=1}^n \|Y_i - N_i\|}{n}$$

where x is the mean absolute difference between yea and nay, n is the number of votes, Y_i is the number of yea votes on vote i and N_i is the number of nay votes on vote i . We sum the absolute differences and divide by the total number of votes n . For vote splits, a smaller number implies more conflict — the outcome was close — whereas a larger number implies more consensus.

We calculate x separately for required and requested roll calls under both regular and remote voting regimes. The differences and the difference in differences are calculated as follows.

$$\delta V_{regular} = x_{required, regular} - x_{requested, regular} \quad (1)$$

$$\delta V_{remote} = x_{required, remote} - x_{requested, remote} \quad (2)$$

$$DiD_V = \delta V_{regular} - \delta V_{remote} \quad (3)$$

Starting with the difference under the regular regime (1), we calculate the difference $\delta V_{regular}$ between required and requested roll calls. Generally, we expect positive results here because required roll calls (final passage votes) tend to be less controversial, i.e., have bigger vote splits than requested roll calls.³ Similarly, for votes under the remote regime (2), we calculate the difference between required and requested roll calls δV_{remote} . To capture the difference between these differences (3), DiD_V we subtract δV_{remote} from $\delta V_{regular}$.

A positive DiD_V implies that the requirement to request roll calls leads to a larger reported difference between final and part votes in a regular sample (the regular voting regime) than we would observe if all votes were recorded (the remote voting regime).

We expect that legislators vote strategically on roll calls. Required roll calls had to be recorded under both the remote and regular regimes. We labelled part votes ‘requested’. Those roll calls usually need to be requested, however, under the remote regime they were also recorded. We expect those part votes to become less competitive under the remote regime, i.e., vote splits become bigger. The expectation for the difference in differences is, therefore, positive. A positive DiD_V means that the requirement to request roll calls results in a sample that makes the EP appear more competitive than it is.

³In our sample, the difference in EP 9 is 110 votes on average. Generally, at the final stage of a proposal, most conflict has been resolved already.

H1: If all votes were recorded, vote-splits would be larger than if roll calls have to be requested.

Legislator Loyalty

Legislator loyalty is a well established measure of legislators' behavior (Rice, 1925). It varies by individual representative and measures the degree to which a legislator votes with her party group over a given period of time. This agreement index (AI) of legislator loyalty is the share of votes in which the legislator voted with the plurality of her party group.

To get an estimate of the effect of requesting roll calls on loyalty, we again calculate the difference in differences in the groups' loyalty scores for subsets of votes generated by the interaction of the regular/remote voting regimes and required/requested (final/part) votes.

$$\delta AI_{i_{reg}} = AI_{i_{freg}} - AI_{i_{preg}}$$

$$\delta AI_{i_{rem}} = AI_{i_{frem}} - AI_{i_{prem}}$$

$$DiD_{AI_i} = \delta AI_{i_{reg}} - \delta AI_{i_{rem}}$$

First, we calculate $\delta AI_{i_{reg}}$ the difference between the required $AI_{i_{freg}}$ and requested $AI_{i_{preg}}$ loyalty scores. Then, we calculate $\delta AI_{i_{rem}}$, the difference between the required $AI_{i_{frem}}$ and requested $AI_{i_{prem}}$ loyalty scores. Then, to get the estimate of the difference in differences of the loyalty score i , DiD_{AI_i} , we subtract the difference between required and requested votes loyalty scores under the remote regime, $\delta AI_{i_{rem}}$ from the difference between the required and requested loyalty scores under the regular regime, $\delta AI_{i_{reg}}$.

A negative DiD_{AI_i} implies that the political groups would appear less cohesive

if all votes were recorded. The procedural requirement to request roll calls means that legislators appear more cohesive than they really are across all votes. Following the disciplining rationale to request roll calls, we expect that this is the case. If roll calls need to be requested, we overestimate loyalty, because group leaderships put less pressure on their rank and file for votes that they would not have deemed important enough to request a roll call on (Hug, 2016). This is different from final passage votes where we can expect a higher degree of loyalty because most issues that divide within groups have been ironed out in previous stages.

H2: If all votes were recorded, political group loyalty would be lower than if roll calls have to be requested.

Results

In the following, we present the results of our analyses with respect to vote splits and legislator loyalty. All models are linear and the interaction term between the indicators *Regular Regime* and *Required Roll Call* are our difference in differences estimates DiD_V and DiD_{AI} . The models on vote splits vary on the vote level while the models on legislator loyalty vary on the level of the individual representative.

Vote splits

Table 3 presents our analysis on vote-splits. Models 1 and 2 are descriptive in purpose. Model 1 shows that roll call votes were more competitive during the regular regime by about 76 votes on average. Model 2 shows that required roll calls were less competitive than requested roll calls by 110 votes on average. Model 3 shows the effect of deducting the difference between required and requested votes under the regular regime from the difference between required and requested votes and the remote voting regime. The

difference in differences is our estimate of the effect that the requirement to request a roll call has on vote-splits — the competitiveness of a vote. Model 4 includes a binary control variable for whether the file was legislative or not.

	Model 1	Model 2	Model 3	Model 4
Intercept	372.41*** (1.71)	339.23*** (1.45)	366.27*** (1.74)	365.50*** (1.91)
Regular Regime	-75.88*** (2.94)		-82.30*** (3.03)	-82.55*** (3.04)
Required Roll Call		110.02*** (5.53)	106.99*** (7.25)	106.99*** (7.25)
Legislative File				2.94 (3.03)
DiD_V			28.95** (10.91)	29.12** (10.92)
R^2	0.04	0.02	0.06	0.06
Adj. R^2	0.04	0.02	0.06	0.06
Num. obs.	17094	17094	17094	17094

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 3: DiD_V is the difference in differences in vote-splits between final and part votes across remote and normal participation regimes. The procedural requirement to request roll calls on part votes biases the difference in differences upwards, making the EP appear more competitive than it is.

The results are in line with **H1** - this holds whether we differentiate between legislative files or not. If all votes were recorded, the average vote split would be about 9 percent, 29 votes, larger. Politics would appear more consensual. The reason is that party leaderships do not need to request roll calls on the more lopsided votes. Studies that do not account for this selection effect, risk painting a picture of politics in the EP that is more competitive than it really is. Next, we look into the implication of roll call requests for legislators' loyalty to their political groups.

Loyalty

Table 4 illustrates our results with respect to legislator loyalty. In Model 1, we control for party group fixed effects and in Model 2, we control for individual MEP fixed effects.⁴ The results are consistently significant and substantive and in line with **H2**. If all votes were recorded, voting loyalty would be about 2 percentage points lower. The effect remains even if we control for differences across individual legislators. Our results show that loyalty scores based on regular roll call vote samples are overestimated.

	Model 1	Model 2
Intercept	0.92*** (0.01)	0.90*** (0.00)
Regular Regime	-0.01 (0.01)	-0.01*** (0.00)
Required Roll Call	0.03** (0.01)	0.03*** (0.00)
DiD_{AI}	-0.02* (0.01)	-0.02*** (0.00)
Party Group Fixed Effects	✓	
Individual MEP Fixed Effects		✓
R ²	0.44	0.84
Adj. R ²	0.44	0.79
Num. obs.	3148	3148

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$. Standard errors clustered by fixed effect.

Table 4: Difference in differences between legislator loyalty scores of final and non-final vote groups across participation regimes. The requirement to request roll calls biases the estimate of loyalty upwards. Loyalty scores based on regular roll call votes are overestimates.

Overall, we found support for both **H1** and **H2**. Regular samples of roll calls in the European Parliament yield biased estimates of how competitive a vote is and how loyal its legislators are to their party groups. An increase of 9 percent in average vote competitiveness and a 2 percentage point reduction in loyalty to the political group are

⁴MEPs are nested within party groups and, therefore, the model which includes individual MEP fixed effects also removes differences between party groups.

substantive effects. Furthermore, these effects occur in a case where 45 percent of all votes were recorded. This is at the higher end of reported roll call vote propensities, and thus biases in other legislatures or time periods may be larger ([Ainsley et al., 2020](#)). In the previous term of the EP, for example, roll call propensity was around one-third.

In consequence, the EP appears more competitive than it is and legislators appear more loyal than they are. Next, we differentiate loyalty scores by legislative and non-legislative votes and summarize additional robustness-checks reported in the appendix.

Loyalty by Legislative and Non-Legislative Votes

In the following, we distinguish legislator loyalty on legislative and non-legislative votes because legislative votes may be more salient for parties and legislators.

In our model on vote splits, we could directly control for whether a vote was on a legislative proposal or not. This is not possible for our models on loyalty where we have to re-estimate the loyalty scores for legislative and non-legislative votes separately and then re-run our analysis.

[Table 5](#) illustrates the results. We find that the results on loyalty are more pronounced for non-legislative than for legislative votes. The general pattern reported in the main text holds across most models. Models 1 and 2 report the difference in differences for legislative files. The effect is not significant in model 1 where we control for party group fixed effects but is significant for model 2 where we control for individual legislator fixed effects. The effect is half the size for legislative files than for non-legislative files and the effect reported in the main analysis. Models 3 and 4 report the difference in differences for non-legislative files. The effect is similar in size and significance as in the main model.

	Model 1	Model 2	Model 3	Model 4
Intercept	0.91*** (0.00)	0.92*** (0.00)	0.93*** (0.01)	0.90*** (0.00)
Regular Regime	0.00 (0.01)	0.00 (0.00)	-0.01 (0.01)	-0.02*** (0.00)
Required Roll Call	0.03* (0.01)	0.03*** (0.00)	0.03*** (0.01)	0.03*** (0.00)
DiD_{AI}	-0.01 (0.01)	-0.01* (0.00)	-0.02* (0.01)	-0.02*** (0.00)
Party Group Fixed Effects	✓		✓	
Individual MEP Fixed Effects		✓		✓
R ²	0.40	0.68	0.45	0.85
Adj. R ²	0.40	0.57	0.45	0.80
Num. obs.	2976	2976	3147	3147

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$. Standard errors clustered by fixed effect.

Table 5: Difference in differences of legislator loyalty scores for legislative files (Models 1 and 2) and non-legislative files (Models 3 and 4).

In the main analysis we found that the effect of the requirement to request roll calls upwards biases estimates of legislator loyalty. This effect is more pronounced for non-legislative than for legislative votes.

Overall, we conclude that analyzes based on regular roll call samples make legislators appear more loyal than they really are. This effect is twice the size for non-legislative than for legislative votes. For legislative votes, the effect may be insignificant.

In the appendix, we evaluate to what extent these findings hold up to closer scrutiny. We first remove all votes that are related to the Covid pandemic from our sample ([subsection A.2](#)). This robustness test demonstrates that our results are not due to a fundamental difference in the content of the votes between the remote and regular voting regimes. Second, we do a placebo-test where we re-run the above analysis on the 2014 – 2019 parliamentary term, pretending that the remote participation regime was in place five years earlier than what was actually the case ([subsection A.3](#)). We thereby show that our results are not driven by the parliamentary cycle that was also

in place the previous term.

Conclusion

Roll call votes are widely used in legislative studies to estimate different quantities of interest such as the competitiveness of a vote (the vote split) and the loyalty of legislators. Vote splits are required, for instance, to identify pivotal actors and to measure the influence of groups such as Euroskeptics on the legislative process. Loyalty scores are often used as a quantity of interest themselves or as a determinant, for example, for the career progression of legislators.

Recent studies suggest that the downstream effects of selection bias in roll calls on these quantities of interest are low. In this paper, we caution against this conclusion. In our analysis of the 9th European Parliament, we demonstrate that roll call based samples overstate the competitiveness of votes and the loyalty of legislators. These findings are in line with the expectation that parties request roll calls to discipline their members. Strategic voting behavior may be expected to bias other quantities of interest besides vote competitiveness and loyalty that are derived from roll calls as well.

We collected data on all votes taken in the EP during 2019 to 2023. During the legislative term amidst the Covid pandemic, the EP instated a remote voting procedure during which almost all votes were taken by roll call even those votes that would normally need to be requested. By employing a difference in differences design, we isolate the effect that the requirement to request roll calls has from the effect of the remote voting regime on vote splits and legislator loyalty.

We carried out several robustness tests. First, we removed all votes that are related to the pandemic to show that our findings are not driven by differences in the contents

of the votes that are taken during the regular and remote voting regimes. Second, we showed that our results are not driven by the parliamentary cycle. Third, we differentiated between legislative and non-legislative votes and found that the results on loyalty are more pronounced for non-legislative than for legislative votes.

Our results demonstrate selection bias in roll call samples where the proportion of recorded votes is not large such as in the European Parliament where less than half of the votes are recorded. Furthermore, they highlight the need to ground the data-generating process of observed legislative behavior in clear theoretical micro-foundations in order to account for strategic behavior that would be induced, for example, if parties request roll calls to discipline their members.

References

- Ainsley, Caitlin, Clifford J. Carrubba, Brian F. Crisp, Betul Damirkaya, Matthew J. Gabel and Dino Hadzic. 2020. "Roll-Call Vote Selection: Implications for the Study of Legislative Politics." *American Political Science Review* 114(3):691 – 706.
- Attina, Fulvio. 1990. "The voting behaviour of the European Parliament members and the problem of the Europarties." *European Journal of Political Research* 18(5):557–579.
- Benedetto, Giacomo and Simon Hix. 2007. "The rejected, the ejected, and the dejected: Explaining government rebels in the 2001-2005 British House of Commons." *Comparative Political Studies* 40(7):755–781.
- Bowler, Shaun and Gail McElroy. 2015. "Political Group Cohesion and 'Hurray' Voting in the European Parliament." *Journal of European Public Policy* 22(9):1355–1365.
- Carey, John. 2009. *Legislative Voting & Accountability*. Cambridge: Cambridge University Press.
- Carey, John M. 2007. "Competing principals, political institutions, and party unity in legislative voting." *American Journal of Political Science* 51(1):92–107.
- Carrubba, Clifford J., Matthew Gabel, Lacey Murrah, Ryan Clough, Elizabeth Montgomery and Rebecca Schambach. 2006. "Off the Record: Unrecorded Legislative Votes, Selection Bias and Roll-Call Vote Analysis." *British Journal of Political Science* 36(4):691 – 704.
- Carrubba, Clifford, Matthew Gabel and Simon Hug. 2008. "Legislative Voting Behavior, Seen and Unseen: A Theory of Roll-Call Vote Selection." *Legislative Studies Quarterly* XXXIII(4):543 – 572.
- Chiou, Fang-Yi, Silje SL Hermansen and Bjørn Høyland. 2020. "Delegation of committee reports in the European Parliament." *European Union Politics* 21(2):233–254.
- Clinton, Joshua D. 2012. "Using roll call estimates to test models of politics." *Annual Review of Political Science* 15:79–99.
- Clinton, Joshua D. and John Lapinski. 2008. "Laws and Roll Calls in the U.S. Congress, 1891 - 1994." *Legislative Studies Quarterly* XXXIII(4):511 – 541.
- Cox, Gary W and Mathew D McCubbins. 2005. *Setting the agenda: Responsible party government in the US House of Representatives*. Cambridge University Press.
- Crisp, Brian F. and Amanda Driscoll. 2012. "The Strategic Use of Legislative Voting Procedures." *Legislative Studies Quarterly* XXXVII(1):67 – 97.

- Dewan, Torun and Arthur Spirling. 2011. "Strategic opposition and government cohesion in Westminster democracies." *American Political Science Review* 105(2):337–358.
- Egar, William T. 2016. "Tarnishing Opponents, Polarizing Congress: The House Minority Party and the Construction of the Roll-Call Record." *Legislative Studies Quarterly* 41(4):935–964.
- Eggers, Andrew C and Arthur Spirling. 2016. "Party cohesion in Westminster systems: inducements, replacement and discipline in the house of commons, 1836–1910." *British Journal of Political Science* 46(3):567–589.
- Faas, Thorsten. 2003. "To defect or not to defect? National, institutional and party group pressures on MEPs and their consequences for party group cohesion in the European Parliament." *European Journal of Political Research* 42(6):841–866.
- Finke, Daniel. 2015. "Why do European political groups call the roll?" *Party Politics* 21(5):750 –762.
- Godbout, Jean-François and Bjørn Høyland. 2017. "Unity in diversity? The development of political parties in the parliament of Canada, 1867 - 2011." *British Journal of Political Science* 47(3):545 – 569.
- Hagemann, Sara and Bjørn Høyland. 2010. "Bicameral Politicsl in the European Union." *Journal of Common Market Studies* 48(4):811 – 833.
- Hansen, Martin Ejnar and Marc Debus. 2012. "The Behaviour of Political Parties and MPs in the Weimar Republic." *Party Politics* 18(5):709 – 726.
- Hix, Simon. 2002. "Parliamentary Behavior with Two Principals: Preferences, Parties, and Voting in the European Parliament." *American Journal of Political Science* 46(3):688 – 698.
- Hix, Simon. 2004. "Electoral Institutions and Legislative Behavior: Explaining Voting Defection in the European Parliament." *World Politics* 56(2):194 – 223.
- Hix, Simon, Abdul G Noury and Gérard Roland. 2007. *Democratic politics in the European Parliament*. Cambridge University Press.
- Hix, Simon and Abdul Noury. 2016. "Government-opposition or left-right? The institutional determinants of voting in legislatures." *Political Science Research and Methods* 4(2):249–273.
- Hix, Simon, Abdul Noury and Gerard Roland. 2005. "Power to the Parties: Cohesion and Competition in the European Parliament, 1979-2001." *British Journal of Political Science* 35(2):209–234.

- Hix, Simon, Abdul Noury and Gerard Roland. 2018. "Is there a selection bias in roll call votes? Evidence from the European Parliament." *Public Choice* 176(1/2):211 – 228.
- Hix, Simon, Amie Kreppel and Abdul Noury. 2003. "The party system in the European Parliament: Collusive or competitive?" *JCMS: Journal of Common Market Studies* 41(2):309–331.
- Hix, Simon and Bjørn Høyland. 2013. "Empowerment of the European Parliament." *Annual Review of Political Science* 16:171 – 189.
- Hug, Simon. 2010. "Selection Effects in Roll Call Votes." *British Journal of Political Science* 40(1):225 – 235.
- Hug, Simon. 2016. "Party pressure in the European Parliament." *European Union Politics* 17(2):201 – 218.
- Hug, Simon, Simone Wegmann and Reto Wuest. 2015. "Parliamentary voting procedures in comparison." *West European politics* 38(5):940–968. ID: unige:41820.
URL: <https://archive-ouverte.unige.ch/unige:41820>
- Hurka, Steffen, Maximilian Haag and Constantin Kaplaner. 2023. "Proposal complexity and report allocation in the European Parliament." *European Union Politics* 24(2):307–326.
- Høyland, Bjørn. 2016. Parliaments. In *The Oxford Handbook of International Organizations*, ed. Jacob Katz Cogan, Ian Hurd and Ian Johnstone. Oxford University Press p. 782–801.
- Kaniok, Petr and Ondrej Mocek. 2017. "Roll Call Votes in the European Parliament: a good sample or a poisoned dead end?" *Parliaments, Estates & Representation* 37(1):75 – 88.
- Kirkland, Justin H and Jonathan B Slapin. 2018. *Roll call rebels: strategic dissent in the United States and United Kingdom*. Cambridge University Press.
- Krehbiel, Keith. 1998. *Pivotal Politics: A Theory of U.S. Lawmaking*. University of Chicago Press.
- Kreppel, Amie. 2000. "Rules, Ideology and Coalition Formation in the European Parliament: Past, Present and Future." *European Union Politics* 1(3):340–362.
- Kreppel, Amie. 2002. "Moving Beyond Procedure: An Empirical Analysis of European Parliament Legislative Influence." *Comparative Political Studies* 35(7):784–813.
- Kreppel, Amie and Simon Hix. 2003. "From "Grand Coalition" To Left-Right Confrontation: Explaining the Shifting Structure of Party Competition in the European Parliament." *Comparative Political Studies* 36(1-2):75–96.

- Legislative Observatory. 2022. “The EU’s response to the Covid-19 pandemic.” Accessed: 2022-01-17.
URL: <https://oeil.secure.europarl.europa.eu/oeil/popups/thematicnote.do?id=2065000&l=en>
- Lindstädt, René, Jonathan B Slapin and Ryan J Vander Wielen. 2012. “Adaptive behaviour in the European Parliament: Learning to balance competing demands.” *European Union Politics* 13(4):465–486.
- McCarty, Nolan, Keith T Poole and Howard Rosenthal. 2006. *Polarized America: The dance of ideology and unequal riches*. mit Press.
- Mühlböck, Monika and Nikoleta Yordanova. 2017. “When legislators choose not to decide: Abstentions in the European Parliament.” *European Union Politics* 18(2):323 – 336.
- Müller, Wolfgang C and Kaare Strøm. 1999. *Policy, office, or votes?: how political parties in Western Europe make hard decisions*. Cambridge University Press.
- Obholzer, Lukas, Steffen Hurka and Michael Kaeding. 2019. “Party group coordinators and rapporteurs: Discretion and agency loss along the European Parliament’s chains of delegation.” *European Union Politics* 20(2):239–260.
- Poole, Keith T and Howard Rosenthal. 2007. “On party polarization in Congress.” *Daedalus* 136(3):104–107.
- Rice, Stuart A. 1925. “The behavior of legislative groups: a method of measurement.” *Political Science Quarterly* 40(1):60–72.
- Saalfeld, Thomas. 1995. “On dogs and whips: Recorded votes.”
- Sieberer, Ulrich, Thomas Saalfeld, Tamaki Ohmura, Henning Bergmann and Stefanie Bailer. 2020. “Roll-Call Votes in the German Bundestag: A New Dataset, 1949–2013.” *British Journal of Political Science* 50.
- Snyder Jr, James M and Michael M Ting. 2005. “Why roll calls? A model of position-taking in legislative voting and elections.” *Journal of Law, Economics, and Organization* 21(1):153–178.
- Stecker, Christian. 2010. “Causes of Roll-Call Supply: Evidence from the German Länder.” *Journal of Legislative Studies* 16(4):438 – 459.
- Thierse, Stefan. 2016. “Going on record: Revisiting the logic of roll-call vote requests in the European Parliament.” *European Union Politics* 17(2):219 – 241.
- Willumsen, David M. 2023. “Policy preferences, unity, and floor dissent in the European Parliament.” *Journal of European Public Policy* 30(10):2010–2030.

- Yordanova, Nikoleta. 2009. "The Rationale behind Committee Assignment in the European Parliament." *European Union Politics* 10(2):253 – 280.
- Yordanova, Nikoleta and Monika Mühlböck. 2015. "Tracing the selection bias in roll call votes: party group cohesion in the European Parliament." *European Political Science Review* 7(3):373 – 399.
- Yoshinaka, Antoine, Gail McElroy and Shaun Bowler. 2010. "The Appointment of Rapporteurs in the European Parliament." *Legislative Studies Quarterly* 35(4):457–486.

A Appendix

In this appendix, we first report summary statistics for our dependent and independent variables. Second, we show that our results hold when we remove all Covid-related votes from our sample. Third, we show results from a placebo-test that increases our confidence that our findings are not driven by the regular legislative cycle.

A.1 Summary Statistics

Table A.1 shows summary statistics for the variables used in our analysis on vote splits. More votes were taken during the remote voting regime (66%). Final passage votes make up only a fraction of all roll calls in the sample. This is meaningful because previous studies could only analyze potential bias in final roll calls (Yordanova and Mühlböck, 2015; Hix, Noury and Roland, 2018). Legislative files make up 29% of all roll calls. The average vote split is 347 votes and the average deviation from the mean is 185 votes.

	Min	25th pctl.	Mean	Median	75th pctl.	Max	SD
Regular	0.00	0.00	0.34	0.00	1.00	1.00	0.47
Required	0.00	0.00	0.07	0.00	0.00	1.00	0.25
Legislative	0.00	0.00	0.29	0.00	1.00	1.00	0.45
Vote Split	0.00	194.00	346.84	369.00	493.00	692.00	185.41

Table A.1: Summary statistics for the variables used in the analysis on vote splits.

Table A.2 shows the summary statistics for the variables used in our analysis of legislator loyalty. The share of individual legislators who voted in the regular regime was slightly higher (54%) than those who voted in the remote regime. The share of legislators who voted on requested and required votes is the same. Party group loyalty is high in the European Parliament, on average 94%. The average deviation from the mean is 7 percentage points.

	Min	25th pctl.	Mean	Median	75th pctl.	Max	SD
Regular	0.00	0.00	0.54	1.00	1.00	1.00	0.50
Required	0.00	0.00	0.50	0.50	1.00	1.00	0.50
Loyalty	0.33	0.92	0.94	0.97	0.99	1.00	0.07

Table A.2: Summary statistics for the variables used in the analysis on legislator loyalty.

A.2 Covid-Related Votes Removed

We treat the remote voting procedure as an external shock that assigned all part votes to be taken by roll call in an as-if random fashion. For our design to be valid, we rely on the assumption that the content of what is being voted on did not change fundamentally.

	Model 1	Model 2	Model 3	Model 4
Intercept	371.76*** (2.13)	332.48*** (1.73)	364.88*** (2.16)	364.76*** (2.47)
Regular Regime	-78.62*** (3.39)		-83.67*** (3.47)	-83.67*** (3.47)
Required Roll Call		119.70*** (6.57)	115.36*** (8.85)	115.37*** (8.85)
DiD_V			25.25* (12.86)	25.24* (12.87)
Legislative File				0.34 (3.45)
R^2	0.04	0.03	0.07	0.07
Adj. R^2	0.04	0.03	0.07	0.07
Num. obs.	12096	12096	12096	12096

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table A.3: DiD_V is the difference in differences in vote-splits between final and part votes across remote and normal participation regimes. The procedural requirement to request roll calls on part votes biases the difference in differences upwards, making the EP appear more competitive than it is.

To account for the argument that the pandemic changed the content of the votes substantially, we first identified and then removed all votes on reports that are related to the Covid-19 pandemic. We did so by relying on three sources. First, we scraped all procedure references to Covid-19 related files that are referenced in the document “The EU’s response to the Covid-19 pandemic” on the [Legislative Observatory \(2022\)](#). Second, we searched the titles of the roll call votes for the following phrases: “covid”, “pandemic”, “corona”, “virus”, and “sars.” In our search, we ignored the case and matched all descriptions that contained these phrases in some form via regular expressions. Third, we scraped the “Texts Tabled” documents from the EP website and searched the beginnings of the documents for the same phrases as in the title. The layout of the documents varies. Some contain an explanatory statement section in the beginning of the document while others start with recitals. We removed blank lines from the documents and searched the first 50 rows of text. The following, are two examples from the “REPORT with recommendations to the Commission on a safety

net to protect the beneficiaries of Union programmes: setting up an MFF contingency plan — A9-0099/2020”:

Q whereas the health crisis resulting from the Covid-19 outbreak and the unprecedented socio-economic impacts on citizens’ lives make an even more compelling case to eliminate any risk of discontinuity or disorderly extension of the current MFF and programmes; whereas it has become increasingly important to guarantee that the Union will be able to carry out its operations and to provide an ambitious crisis response and recovery strategy despite the uncertain date of the entry into force of the new MFF; whereas the Commission should deliver to stakeholders an unequivocal message in that respect;

– revise the rules and objectives governing the relevant expenditure programmes so that they can be temporarily refocused on addressing and mitigating the immediate economic and social consequences of the Covid-19 outbreak and on helping in the recovery;

All in all, we identified 4998 votes (29%) that are related to the Covid-19 pandemic. The share of Covid related reports is 17% under the regular regime and 35% under the remote regime. In the following, we show that our results are robust to removing all Covid related votes.

[Table A.3](#) illustrates the results for split votes. The findings are in line with our main analysis. The difference in differences supports **H1**. Regular roll call samples make the EP appear more competitive than it is.

[Table A.4](#) illustrates the results for legislator loyalty. The findings are in line with our main analysis. The difference in differences is unchanged, supporting **H2**. Regular roll call samples make legislators appear more loyal than they are.

Overall, our results hold when we remove all votes that are related to the Covid-19 pandemic.

	Model 1	Model 2
Intercept	0.92*** (0.01)	0.90*** (0.00)
Regular Regime	-0.01 (0.01)	-0.01*** (0.00)
Required Roll Call	0.03** (0.01)	0.03*** (0.00)
DiD_{AI}	-0.02* (0.01)	-0.02*** (0.00)
Party Group Fixed Effects	✓	
Individual MEP Fixed Effects		✓
R ²	0.43	0.83
Adj. R ²	0.43	0.77
Num. obs.	3152	3152

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$. Standard errors clustered by fixed effect.

Table A.4: Difference in differences between legislator loyalty scores of final and non-final vote groups across participation regimes. The requirement to request roll calls biases the estimate of loyalty upwards. Loyalty scores based on regular roll call votes are overestimates.

A.3 Placebo-test

In this section, we report the results from a series of placebo- and robustness-tests. First, following up on the comparison of the pattern in votes in EP 9 with that of EP 8, we re-run the difference in differences analyzes for EP 8, using the same date-range as for EP9, but 5 years earlier. If we were to find a similar pattern, it would indicate that the differences we find in EP 9 are simply due to the standard parliamentary cycle.

Table A.5 illustrates our results. As in the main section models 1 and 2 are for illustrative purposes only. Model 1 shows that, similar to our EP 9 sample, votes during the placebo remote period were less competitive. The difference is smaller than in EP 9 but nevertheless systematic. According to Model 2, as in EP 9, required roll calls (final passage votes) are less competitive — the vote split is larger — than requested roll calls (roll calls on part votes). The patterns in both Models 1 and 2 are similar to the pattern in our EP 9 sample. However, the difference in differences in Model 3 is not significant. This remains the case, when we control for legislative files in Model 4.

Table A.6 demonstrates the placebo test results for legislator loyalty. The difference in differences is statistically significant. However, the effect is half the size of the effect in the main analysis and has a different sign.

In sum, the placebo tests do not support the notion that the differences that we found between the remote participation regime and the regular participation were

	Model 1	Model 2	Model 3	Model 4
Intercept	334.22*** (2.62)	308.24*** (1.85)	316.90*** (2.78)	316.56*** (2.83)
Regular Regime	-15.28*** (3.52)		-15.54*** (3.73)	-15.67*** (3.88)
Required Roll Call		112.34*** (4.69)	105.94*** (6.88)	101.95*** (7.08)
Legislative File				-1.69 (4.49)
DiD_V			11.29 (9.40)	9.58 (9.76)
R^2	0.00	0.05	0.06	0.05
Adj. R^2	0.00	0.05	0.06	0.05
Num. obs.	10056	10056	10056	9877

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table A.5: DiD_V is the difference in differences in vote-splits between final and part votes across placebo remote and normal participation regimes. As expected, we do not find a significant difference in differences.

	Model 1	Model 2
Intercept	0.87*** (0.00)	0.96*** (0.00)
Regular Regime	-0.01*** (0.00)	-0.01*** (0.00)
Required Roll Call	0.00 (0.00)	0.00*** (0.00)
DiD_{AI}	0.01* (0.00)	0.01*** (0.00)
Party Group Fixed Effects	✓	
Individual MEP Fixed Effects		✓
R^2	0.45	0.93
Adj. R^2	0.45	0.91
Num. obs.	3370	3370

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$. Standard errors clustered by fixed effect.

Table A.6: Difference in differences between legislator loyalty scores between required and requested votes across placebo participation regimes. While the difference in differences is significant, the effect is half the size as in the main analysis and has a different sign.

driven by the normal evolution during the parliamentary term.

Additional References

Hix, Simon, Abdul Noury and Gerard Roland. 2018. “Is there a selection bias in roll call votes? Evidence from the European Parliament.” *Public Choice* 176(1/2):211 – 228.

Legislative Observatory. 2022. “The EU’s response to the Covid-19 pandemic.” Accessed: 2022-01-17.

URL: <https://oeil.secure.europarl.europa.eu/oeil/popups/thematicnote.do?id=2065000&l=en>

Yordanova, Nikoleta and Monika Mühlböck. 2015. “Tracing the selection bias in roll call votes: party group cohesion in the European Parliament.” *European Political Science Review* 7(3):373 – 399.