

How do voters react when their party forms a coalition they dislike?

Eric Guntermann, University of California, Berkeley
André Blais, Université de Montréal

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ABSTRACT

While coalitions are conventionally seen as opportunities for parties to realize their policy preferences or to secure their control over political offices, recent studies show that citizens have preferences for coalitions which influence their vote choice. However, these studies do not consider how party and coalition preferences influence each other. This study uses panel data from the German Longitudinal Election Study from the 2009, 2013, and 2017 German elections to determine whether voters punish the party they voted for being in a coalition they dislike or, alternatively, whether they become more supportive of that coalition. It finds weak evidence for the former but strong evidence for the latter.

KEYWORDS

Voting Behaviour; Coalitions; Party Cues; Germany

Coalitions are conventionally seen as an aspect of democratic politics over which citizens have little influence. Coalition arithmetic and elite decisions determine which parties end up in government. In recent years, however, scholars have focused on citizens' preferences for coalitions and shown that such evaluations influence their vote choice (e.g. Bargsted and Kedar 2009; Blais et al. 2006; Gschwend 2007). Relatedly, Debus and Müller (2013) argue that parties consider citizens' coalition preferences when forming governments because they fear being punished for forming coalitions voters dislike.

This raises the question of what shapes coalition preferences. Recent studies (Meffert and Gschwend 2012; Plescia and Aichholzer 2017) have found that coalition preferences are strongly, though imperfectly, explained by party preferences. Nevertheless, the cross-sectional nature of these studies does not allow us to determine the direction of causality between coalition and party preferences. We fill this gap using panel data.

We can disentangle the relationship between these preferences by focusing on situations where citizens dislike the coalition formed by their party. When that happens, there is a conflict between party preferences and coalition preferences. If citizens have preferences that are independent of their party preferences, we would expect them to punish parties for participating in coalitions they dislike. However, if coalition preferences partly reflect partisan loyalties, citizens should support the coalition formed by their preferred party. There is considerable evidence that citizens follow parties on policy issues (e.g., Bullock 2011; Druckman et al. 2013; Lenz 2012) and candidate preferences (Rahn 1993), why would parties not also influence how they feel

about coalitions? An early study by Norpoth (1980) suggested that parties do influence coalition preferences.

We use panel data from the German Longitudinal Election Study (GLES) to assess reactions to coalitions in Germany. We selected Germany because coalitions are regularly formed there and because, since 2009, the GLES has conducted surveys with regular measures of coalition and party preferences. Since 2009, the leader of the Christian Democratic Union (CDU), Angela Merkel, and the CDU's sister party, the Christian Social Union (CSU), formed a centre-right coalition with the Free Democratic Party (FDP) in 2009 as well as two grand coalitions with the Social Democratic Party (SPD) in 2013 and 2017.

We determine whether voters punish their party for participating in a disliked coalition or whether they re-evaluate that coalition more positively. We consider how voters' ex ante coalition ratings lead them to re-evaluate the party they voted for and how their ex ante party preferences lead them to re-evaluate the coalition. We acknowledge that coalition and party preferences are also affected by many other factors.

To assess voters' reactions to coalitions, we use a differences-in-differences design. To determine whether they punish parties for being in disliked coalitions, we compare changes in party evaluations among coalition-party voters who ex ante disliked the coalition more to those who

disliked it less. To ascertain party influence on coalition preferences, we compare changes in coalition ratings among respondents who voted for a coalition party and among those who did not. We more fully explain and justify our research design in the Online Appendix.

We find that citizens only weakly punish their party for participating in a coalition they dislike. Instead, they become more supportive of that coalition. These findings support the traditional view that parties are largely unconstrained by citizens in their decisions to form coalitions.

ANALYSIS AND RESULTS

As explained above, recent studies suggest that voters take their coalition preferences into account when deciding how to vote. Other studies show that many preferences are endogenous to party preferences. We thus have two contrasting hypotheses:

1. When the party they vote for participates in a coalition they dislike, citizens punish that party by rating it less favourably. In other words, the more they dislike the coalition, the more they reduce their support for their party.
2. When the party they vote for participates in a coalition they dislike, citizens rate that coalition more favourably. In other words, coalition-party voters increase their ratings of the coalition more than those who did not vote for a coalition member.

We use GLES Short-Term Campaign Panels from the last three German federal elections: 2009, 2013, and 2017. These panels cover the years of each election and extend to the next election

(except in the 2017 case). For each election, we compare responses in the last wave before the coalition was formed in which respondents were asked to evaluate both parties and coalitions to responses in the first wave after the coalition was formed with the same questions. In 2009 and 2013, the first wave conducted following coalition formation was in the year of the next election, while, in 2017, a wave was conducted shortly after the coalition was formed. These are waves 5 and 9 in 2009, 7 and 12 in 2013, and 8 and 9 in 2017. Table 1 shows the election dates, coalition formation dates, and the survey field dates.

[Table 1 here]

Ideally the time between waves would be short and similar in each election. However, we run separate models for each election and find similar results including in 2017 when the post-coalition wave was right after the government was formed. Thus, our results are not an artefact of survey timing. Moreover, while many events that occur between these waves influence party or coalition ratings, we focus entirely on how prior coalition dislike and vote choice shape reactions to coalitions.

We first consider how respondents who supported each party felt about the coalitions before they were formed. Evaluations were measured on a -5 to +5 scale, where -5 means the respondent has a very negative view and +5 means they have a very positive view. Table 2 shows the mean evaluation of the coalitions that were formed by voters of each their constituent parties. It also shows the proportion of respondents who gave the coalition a negative evaluation. Many German voters were unfavourable towards the coalitions that were formed.¹

[Table 2 here]

Our dependent variables are changes in party and coalition evaluations. Both were asked on the same scale from -5 to +5. We take differences between evaluations before the coalition was formed and after it was formed. To create our independent variable when considering changes in evaluations of parties, we changed the sign of the coalition evaluation variable so that greater dislike for a coalition is represented by more positive values and vice versa. This allows us to observe whether disliking a coalition more leads people to like the party they voted for less.

We stack the three election study datasets. For analyses of changes in party evaluations, we further stack data from supporters of the two parties participating in each coalition. We include dummies to control for the election in both models of changes in coalition and party evaluations (the 2009 election is the reference category). We further include dummies for vote choice in models of changes in party evaluations (CDU/CSU is the reference category). In all regression models, we add standard controls used in the GLES (age, sex, and a dummy for East Germany), although we omit their coefficients to save space.

Table 3 shows the results of these regressions. To assess sanctioning, the first column presents a regression of changes in party ratings among respondents who voted for each coalition party on how much respondents dislike the coalition that was formed (before it was formed), controlling for lagged party ratings as well as fixed effects for party and election. The coefficient on coalition dislike shows how changes in party ratings vary as coalition-party voters become more neg-

ative about the coalition. The second column shows a regression of changes in coalition evaluations on dummies for respondents who voted for the first coalition party (CDU or CSU) and those who voted for the second party (FDP or SPD), controlling for lagged coalition ratings and fixed effects for elections. The coefficients on Party 1 and Party 2 Vote compare changes in coalition ratings among coalition-party voters and non-coalition-party voters.

Disliking a coalition one more point led respondents to dislike the party they voted for only 0.08 points more. A respondent who strongly disliked (-5 on the -5 to +5 scale) the coalition formed by the party they voted for only became 0.8 points less supportive of that party than a respondent who strongly liked it (+5 on the -5 to +5 scale). On the other hand, changes in coalition ratings among respondents who voted for the first and second coalition parties were 1.25 and 0.61 points greater than those among respondents who did not vote for these parties. Clearly, respondents who saw the party they voted for participate in a coalition changed their ratings of that coalition more than those who saw their party in a coalition they disliked changed their evaluations of their party.

[Table 3 here]

Readers may object that these results may be driven by ratings of coalitions by voters who liked the coalition formed by the party they voted for rather than those who disliked it. To rule out this possibility, Table A1 in the Online Appendix compares changes in party ratings among coalition-party voters who disliked it to those who gave it a non-negative rating.² Voters of coalition parties who disliked the coalition became more negative about the party they voted for than those who did not dislike it in only half of the cases.

Another objection is that the finding that the increases in ratings of coalitions by voters of the parties that formed them take place among voters who already liked those coalitions. Table A2 in the Online Appendix compares mean changes in coalition ratings among respondents who disliked the coalition, comparing those who voted for a coalition member to those who voted for a different party or did not vote. In all cases, coalition-party supporters became more supportive of their disliked coalition after it was formed and more so than respondents who voted for other parties.³ These descriptive tables focus specifically on the voters who should react to coalition formation (those who voted for a coalition party and disliked the coalition) and find much stronger evidence of people changing their views about the coalition on the basis of their party preferences than the reverse.

Another way to test for sanctioning is to assess whether people who voted for a party that forms a coalition they dislike abandon that party following coalition formation. We assess that possibility by running a logistic regression of voting for a coalition party on coalition dislike and controls. As in the models in Table 3, it pools data from parties and elections.⁴ As we can see in Table 4, the coefficient on coalition dislike is very weak and not significant. These results support the conclusion that parties face weak punishment for forming disliked coalitions. Table A3 in the Online Appendix also shows the proportion of coalition party voters who continue to express an intention to vote for the same party after coalition formation broken down by whether they disliked the coalition or not. It shows that most voters continue to support coalition parties. It also shows that rates of loyalty are as high among voters who disliked the coalition as among those who did not dislike it half the time.

[Table 4 here]

Our focus in the analyses above is on how citizens react when they are faced with a situation in which the party they voted for participates in a coalition they dislike and thus where party preferences conflict with coalition preferences. Readers may be tempted to conclude from our results that party preferences more strongly influence coalition preferences than the reverse. This conclusion is not yet justified because the first model only includes respondents who voted for a coalition party, while the second includes all voters. To most fully compare the effect of party ratings on coalition ratings and vice versa, in the following models, we replace vote choice with party ratings. We regress changes in ratings of each of the coalition parties on lagged coalition dislike as well as lagged party ratings. We also regress changes in coalition ratings on lagged party ratings as well as lagged coalition ratings. The expectation for the model of party ratings is that disliking a coalition leads people to rate the parties that form it more negatively. For the model of coalition ratings, we expect respondents who like a party more to become more supportive of the coalition they form. These models thus compare changes in coalition-party ratings among respondents with different levels of coalition dislike, on the one hand, and changes in coalition ratings among respondents with different levels of coalition-party ratings.

Table 5 shows the results. Disliking a coalition does have an effect on party evaluations, but the effect is small: disliking a coalition one more point leads respondents to evaluate the party they voted for 0.08 points more negatively. The impact of party ratings on coalition evaluations is much bigger; liking the party leading the coalition one more point makes respondents 0.32 points more supportive of the coalition and liking the second member of the coalition one more

point leads respondents to like that coalition 0.19 points more (coefficients can be compared because party and coalition ratings are on the same scale). Party and coalition ratings affect each other but the former shape the latter much more than the reverse.

[Table 5 here]

In the Online Appendix, we present results similar to those presented above using district vote and party identification. We also present separate results for each election and show that the findings apply to all cases except that of the FDP in 2009. Thus, while the findings do not generalize to all parties and coalitions, they do apply to two very different parties (the CDU and SPD). More research should be conducted on voters' reactions to coalitions outside Germany. However, we believe that Germany is a sufficiently important case of coalition government for scholars elsewhere to take our findings seriously.

CONCLUSION

We find that citizens often do not punish the party they voted for when it participates in a coalition they dislike. Moreover, they more strongly improve their evaluation of the coalition their party forms than lower their evaluations of that party.

These findings have major implications for the nature of coalition preferences and, more broadly, for citizens' ability to influence the coalitions parties form. Coalition preferences are partly endogenous to coalition-formation decisions by parties.

There is one major limitation of our study. It focuses on coalitions among mainstream parties in Germany. Therefore, the findings cannot necessarily be generalized to coalitions including extremist parties like that with the Freedom Party in Austria.

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Table 1: Election, Coalition Formation, and Survey Field Dates

Election Year	Election Date	Coalition Date	First Survey Dates	Second Survey Dates
2009	27/09/2009	26/10/2009	21/08-31/08/2009	18/07-28/07/2013
2013	22/09/2013	27/11/2013	24/09-04/10/2013	11/05-23/05/2017
2017	24/09/2017	07/02/2018	27/09-09/10/2017	15/03-26/03/2018

Table 2: Ratings of Each Coalition Before It Was Formed by Coalition Party Vote Choice

	Mean	Percent Negative
2009		
CDU	2.63	10.0 %
CSU	3.33	0 %
FDP	2.98	6.6 %
2013		
CDU	1.14	21.8 %
CSU	0.68	28.8 %
SPD	0.05	35.3 %
2017		
CDU	0.68	27.9%
CSU	0.75	22.6%
SPD	-0.39	41.1%

Table 3: Models of Changes in Party and Coalition Ratings

	Δ Party Rating	Δ Coalition Rating
Intercept	-0.14	-2.21*
	(0.19)	(0.11)
Coalition Dislike	-0.08*	
	(0.01)	
Party 1 Vote		1.25*
		(0.06)
Party 2 Vote		0.61*
		(0.06)
Lagged Party Rating	-0.35*	
	(0.02)	
Lagged Coalition Rating		-0.46*
		(0.01)
FDP	-2.64*	
	(0.25)	
SPD	-0.61*	
	(0.06)	
2013 Election	0.25	0.12
	(0.18)	(0.10)
2017 Election	-0.01	1.03*
	(0.17)	(0.09)
<i>N</i>	3999	13708
Adjusted R ²	0.14	0.27
Standard errors in parentheses		
*: $p < 0.05$		

Note: the coefficient on coalition dislike is the difference in the change in party ratings as coalition dislike increases by one point among coalition-party voters. The coefficients on Party 1 Vote and Party 2 Vote represent the differences in changes in coalition ratings between respondents who voted for each coalition party and non-coalition-party voters.

Table 4: Model of Loyalty to the Party One Voted for

Intercept	-0.15 (0.32)
Coalition Dislike	-0.01 (0.02)
FDP	17.25 (376.16)
SPD	-0.45* (0.13)
2013 Election	-0.58* (0.20)
N	1309
AIC	1595.92
BIC	1761.59
Log <i>likelihood</i>	-765.96
Standard errors in parentheses	
*: $p < 0.05$	

The coefficient on Coefficient Coalition Dislike shows the reduction in the log odds of continuing to vote for a coalition party among respondents who voted for it prior to coalition formation as coalition dislike increases by one point.

Table 5: Models of the Relationship between Party and Coalition Ratings

	Δ Party Rating	Δ Coalition Rating
Intercept	-0.33*	-1.71*
	(0.07)	(0.10)
Coalition Dislike	-0.08*	
	0.00	
Lagged Party 1 Rating		0.32*
		(0.01)
Lagged Party 2 Rating		0.19*
		(0.01)
Lagged Party Rating	-0.26*	
	0.00	
Lagged Coalition Rating		-0.66*
		(0.01)
FDP	-1.60*	
	(0.09)	
SPD	-0.21*	
	(0.02)	
2013 Election	0.42*	0.18
	(0.07)	(0.10)
2017 Election	-0.21*	0.87*
	(0.07)	(0.08)
<i>N</i>	25602	12801
Adjusted R ²	0.15	0.37
Standard errors in parentheses		
*: $p < 0.05$		

The coefficient on Coalition Dislike shows how changes in ratings of coalition parties change when dislike for the coalition increases by one point. The coefficients on Lagged Party 1 Rating and Lagged Party 2 Rating show how changes in coalition ratings change when party ratings increase by one point.

How do voters react when their party forms a coalition they dislike?

Online Appendix

1. Our Research Design

Showing that one variable causes another using observational data is extremely difficult. The problem is that unobservable variables can confound the relationships that are found.

When panel data are available, there is a design that allows researchers to show a causal relationship even with non-experimental data: a differences-in-differences design (see Angrist and Pischke 2009, Chapter 5). This design focuses on changes between a measure of the dependent variable that takes place before and after some event. By focusing on changes, it controls for confounders that are stable over time. Even if a confounding variable is associated with both the independent variable and the dependent variable, that is not a problem because the value of the confounder is the same at the times of both the pre- and post-measures of the dependent variable. Taking differences thus controls for such a variable.

Another concern is that other events may occur between the pre- and post-measures. Differences-in-differences compares changes between groups (hence, differences-in-differences), which allows it to control for such over-time confounders. Usually it compares a group of individuals who are affected by an event to a group that is not affected by it, thus allowing researchers to estimate the effect of the event on the affected (note that our use of the word affected is analogous to the use of the word treated in the context of experiments). Other events are not a threat to showing causality as long as they affect both groups equally.

Controlling for over-time confounders does rely on a major assumption, which is that the change between the pre- and post-measures of the dependent variable in the group that is unaffected by the event reflects the counterfactual change in the dependent variable among those who were affected by the event if they had not been affected by it. In other words, this design assumes that affected and unaffected individuals move in parallel over time in absence of the treatment (Angrist and Pischke 2009, 171). If that is the case, the deviation from the unaffected group's trend among affected individuals during the period of the event represents a causal effect of the event on the affected group.

It is impossible to test this for the period of treatment because we cannot observe affected respondents in the counterfactual state in which they are not affected by the event. However, we can observe the evolution of each dependent variable during a longer period of time and observe whether they generally move in parallel in each group. If they do, we can be confident that the change in the unaffected group's values on the dependent variable reflects the change that would have occurred in the affected group if the event had not occurred.

Our analyses focus on the effect of seeing the party a citizen voted for participate in a disliked coalition as well as on the effect of seeing the party one vote for participate in a coalition. We thus consider changes in two dependent variables: party ratings and coalition ratings. We hypothesize that seeing the party a citizen voted for participate in a coalition they dislike causes them to lower their rating of that party. We also hypothesize that seeing the party one voted for participate in a coalition leads voters to improve their evaluation of that coalition (Note that our main

analyses do not focus on the effect of seeing one's party form a disliked coalition on coalition preferences because negative preferences necessarily increase due to regression to the mean).

Our analyses thus rely on two comparisons. First, in models of changes in party ratings, we compare respondents with various levels of dislike for the coalition that is formed among coalition party voters. We assess whether those who disliked the coalition more change their party ratings more in a negative direction than those who did not dislike the coalition as much.

Thus, the assumption for party-ratings models is that, independently of coalition formation, ratings of each coalition party among its voters move in parallel among voters with different levels of dislike for the coalition.

To assess that assumption, the following graphs show ratings of coalition parties over time. To simplify, we compare respondents who voted for each coalition party who disliked (i.e. rated negatively) the coalition to those who did not dislike (i.e. gave a zero or positive rating) it. To simplify the visual presentation of data, here we only include respondents who positively rated the party they voted for in the same wave as vote choice is measured (this is analogous to controlling for initial party ratings as in the regression models).

Figures A1 to A6 show party ratings over time. Note that, for the 2009 election year, we put ratings from that year in a separate facet from those in 2013 in order to make it easier to observe trends over time (there were no data points between 2009 and 2013). In all figures, we include 95% confidence bounds and vertical dashed lines at the time points we compare in our regression models (regression models compare waves with both coalition and party ratings questions). As we can see, trends over time are largely parallel. When they are not, deviations from parallel movement are not significant. Thus, we can confidently conclude that seeing the party they voted for participate in a coalition they dislike leads citizens to (weakly, as shown in the main text) punish that party by lowering their evaluation of it.

Note that graphs are much smoother and confidence bounds are narrower in 2013 and 2017 because more respondents participated in all waves of the survey in those years than in 2009.

Figure A1: Ratings of the CDU Over Time Among CDU/CSU Voters with Negative and Non-Negative Ratings of the CDU/CSU-FDP Coalition in 2009 and 2013

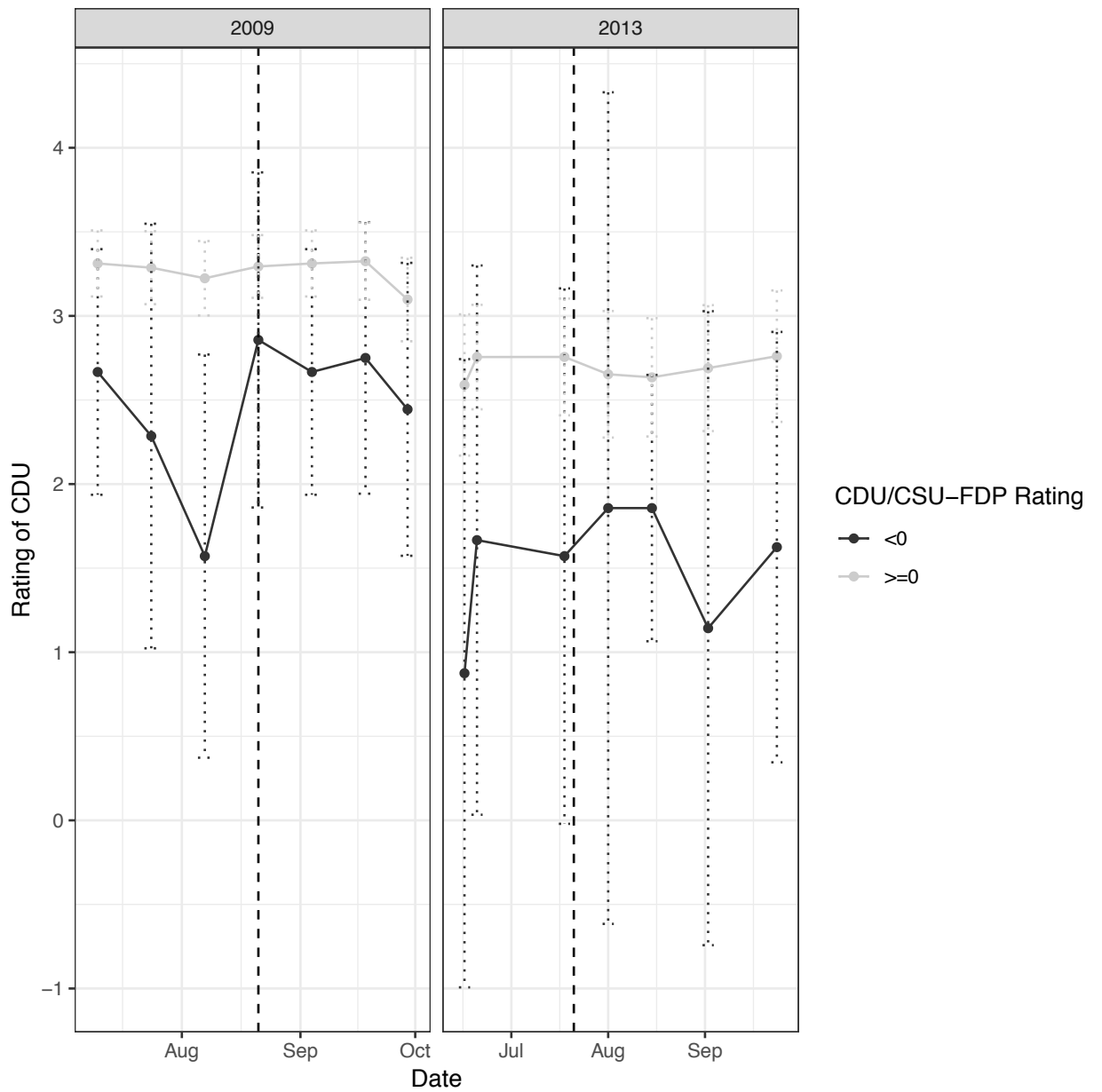


Figure A2: Ratings of the FDP Over Time Among FDP Voters with Negative and Non-Negative Ratings of the CDU/CSU-FDP Coalition in 2009

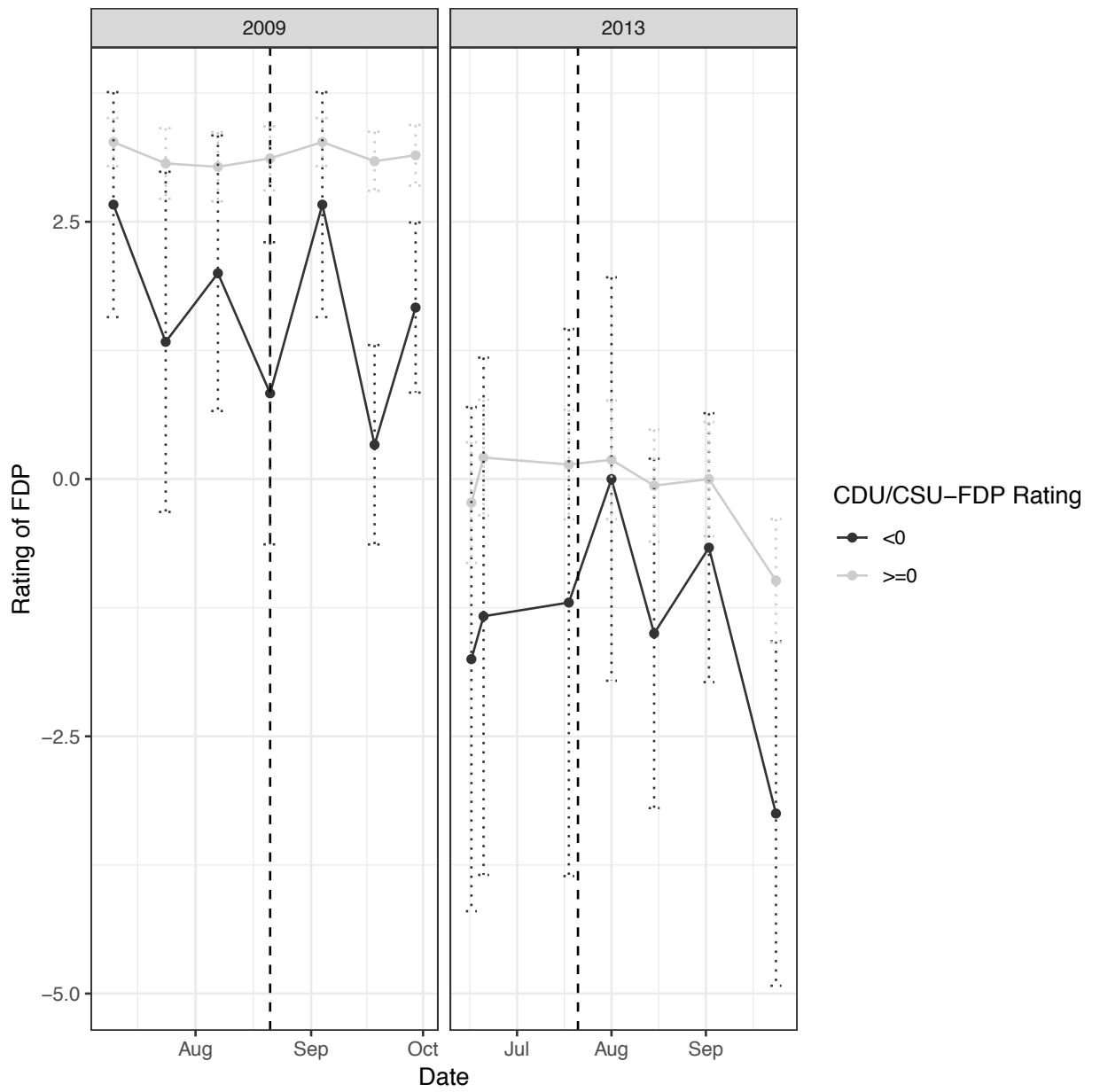


Figure A3: Ratings of the CDU Over Time Among CDU/CSU Voters with Negative and Non-Negative Ratings of the CDU/CSU-SPD Coalition in 2013

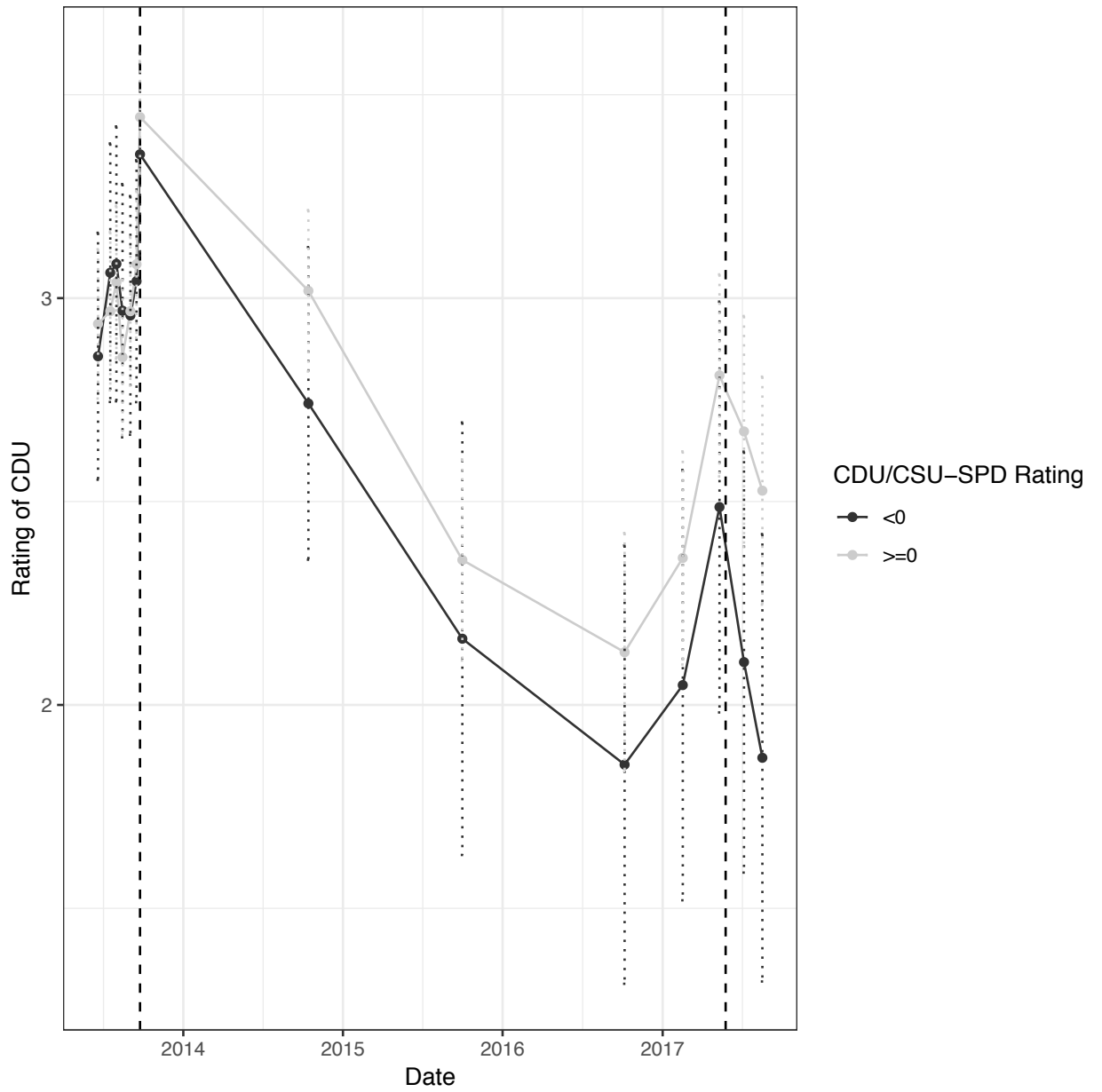


Figure A4: Ratings of the SPD Over Time Among SPD Voters with Negative and Non-Negative Ratings of the CDU/CSU-SPD Coalition in 2013

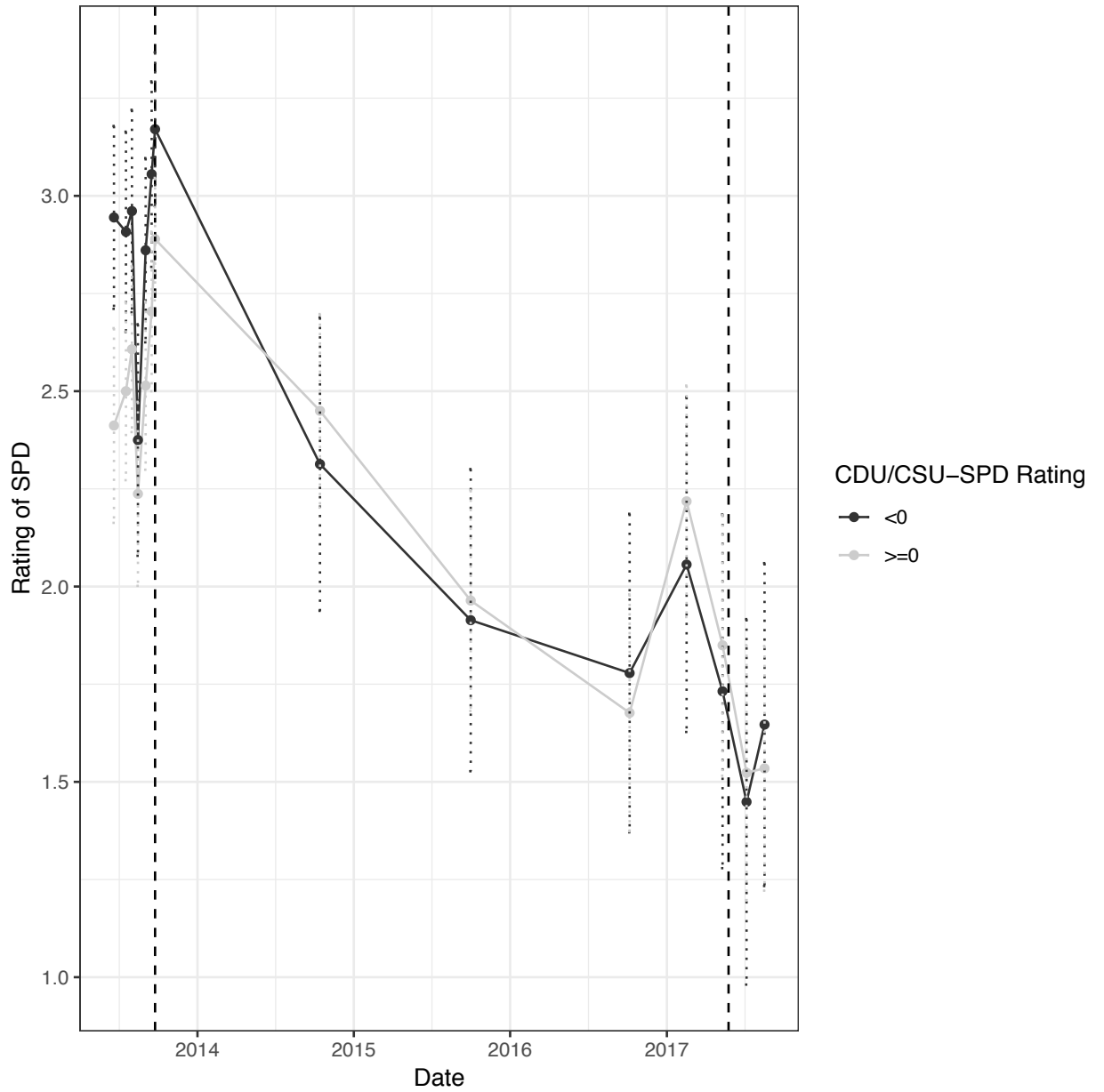


Figure A5: Ratings of the CDU Over Time Among CDU/CSU Voters with Negative and Non-Negative Ratings of the CDU/CSU-SPD Coalition in 2017

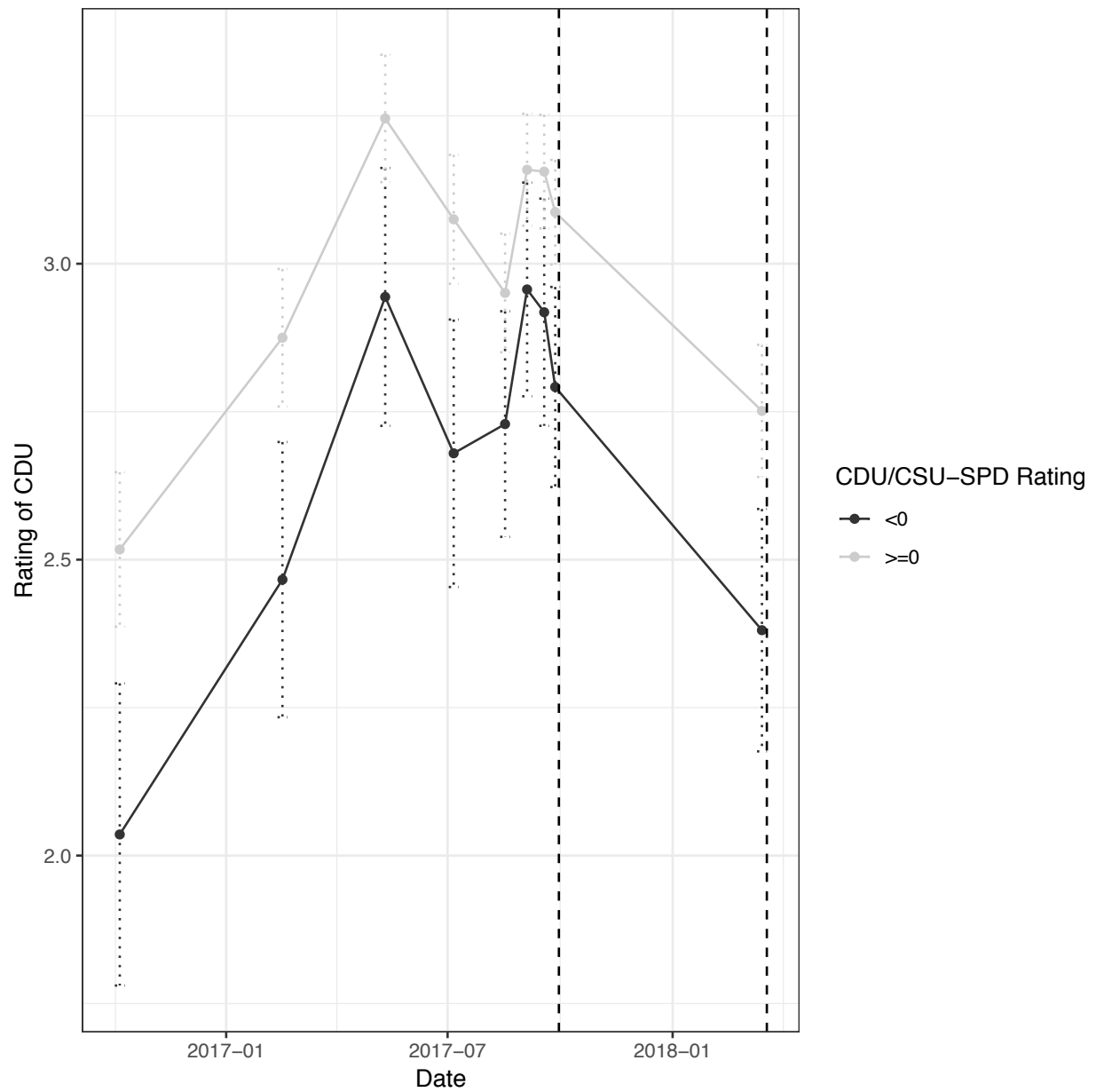
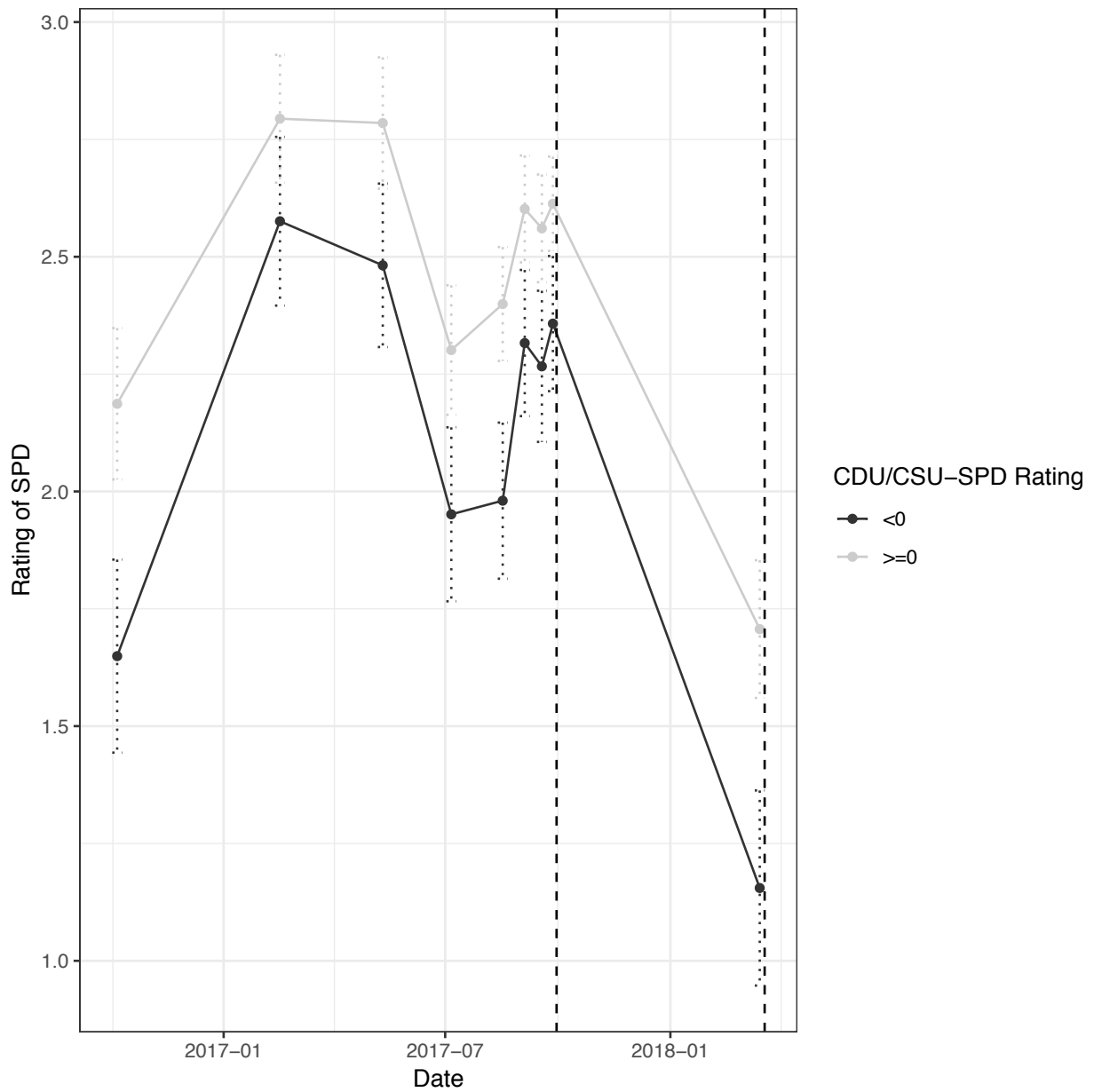


Figure A6: Ratings of the SPD Over Time Among SPD Voters with Negative and Non-Negative Ratings of the CDU/CSU-SPD Coalition in 2017



Our second comparison is in models of coalition ratings where we compare respondents who voted for a coalition party to respondents who voted for a non-coalition party with similar coalition ratings. Given our focus on respondents who dislike coalitions before they are formed, here we focus on assessing parallel movements among voters who gave the coalition formed a negative rating. Figures A7 to A12 show ratings of coalitions over time comparing voters of each coalition party to those who voted for non-coalition parties among respondents who initially gave the coalition formed a negative rating. The key assumption in these analyses is that respondents who voted for a coalition party move in parallel with respondents who voted for a non-coalition party with similar coalition ratings.

Evidence that is supportive of the parallel trends assumption is that those who voted for each coalition party moved in parallel with those who voted for a non-coalition party except during the period following coalition formation when they diverge (because of the reaction by coalition-party voters to the coalition).

We have added vertical dashed lines at the dates of the surveys used in our analyses. Note that it is harder to assess the assumption in 2009 because coalition ratings questions were asked less frequently. However, overall, coalition ratings move in parallel. Most importantly, when they do not, deviations from parallel trends are clearly not significant. The only major exception consists of FDP voters in 2009, who as we explain in the paper, are the exception to our general findings.

Because we have found evidence that party and coalition ratings move in parallel between the groups our analyses compare. We can be confident that the effects we find are causal.

Our main analyses use regression models as suggested by Angrist and Pischke (2009, 174). We do so because it is important to control for regression to the mean by including initial coalition and party ratings. We want to ensure that our results are not simply due to the fact that, while many voters may not like the coalition formed by their party, they like that party. Controlling for prior ratings controls for that possibility.

We also compare averages by initial vote choice and coalition ratings in section 2 of this appendix. We focus on the regression results because they provide a simpler overall test of our hypotheses.

We must clarify though that our analyses assess the effect of seeing a disliked coalition (or of seeing a coalition formed by the party one voted for) be formed and govern during the period between the survey waves we consider. We, therefore, do not claim that we only consider how voters respond to the signing of a coalition agreement between the parties. We do come much closer to isolating reactions to initial coalition formation in 2017 though, when the survey waves are much closer in time.

Nevertheless, our results are about reactions to a seeing the party one voted for participate in a coalition. While other factors like good or bad coalition performance likely influence both party and coalition ratings, they only influence our results to the extent that reactions to these factors differ between the groups we compare (coalition-party voters with varying levels of dislike of the coalition and coalition-party vs other party voters). If reactions (e.g. government performance

assessments) do differ between these groups, they should be seen as resulting from prior coalition dislike or vote choice and thus are appropriately considered part of citizens' reaction to a disliked coalition or to one formed by the party they voted for.

Figure A7: Rating of the CDU/CSU-FDP Coalition Over Time in 2009 Among CDU/CSU Voters and Among Non-Coalition-Party Voters Who Disliked the Coalition Before It Was Formed

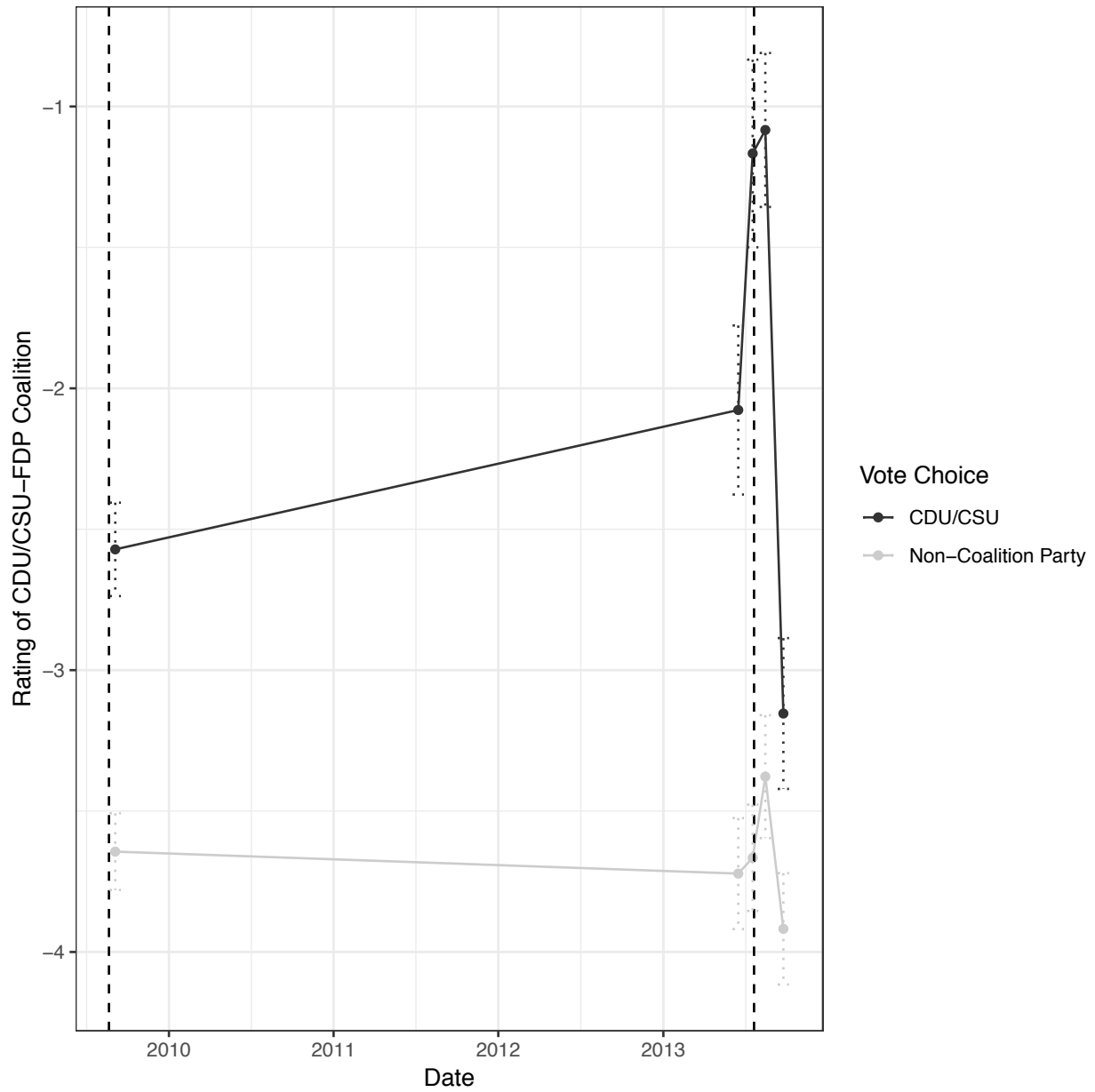


Figure A8: Rating of the CDU/CSU-FDP Coalition Over Time in 2009 Among FDP Voters and Among Non-Coalition-Party Voters Who Disliked the Coalition Before It Was Formed

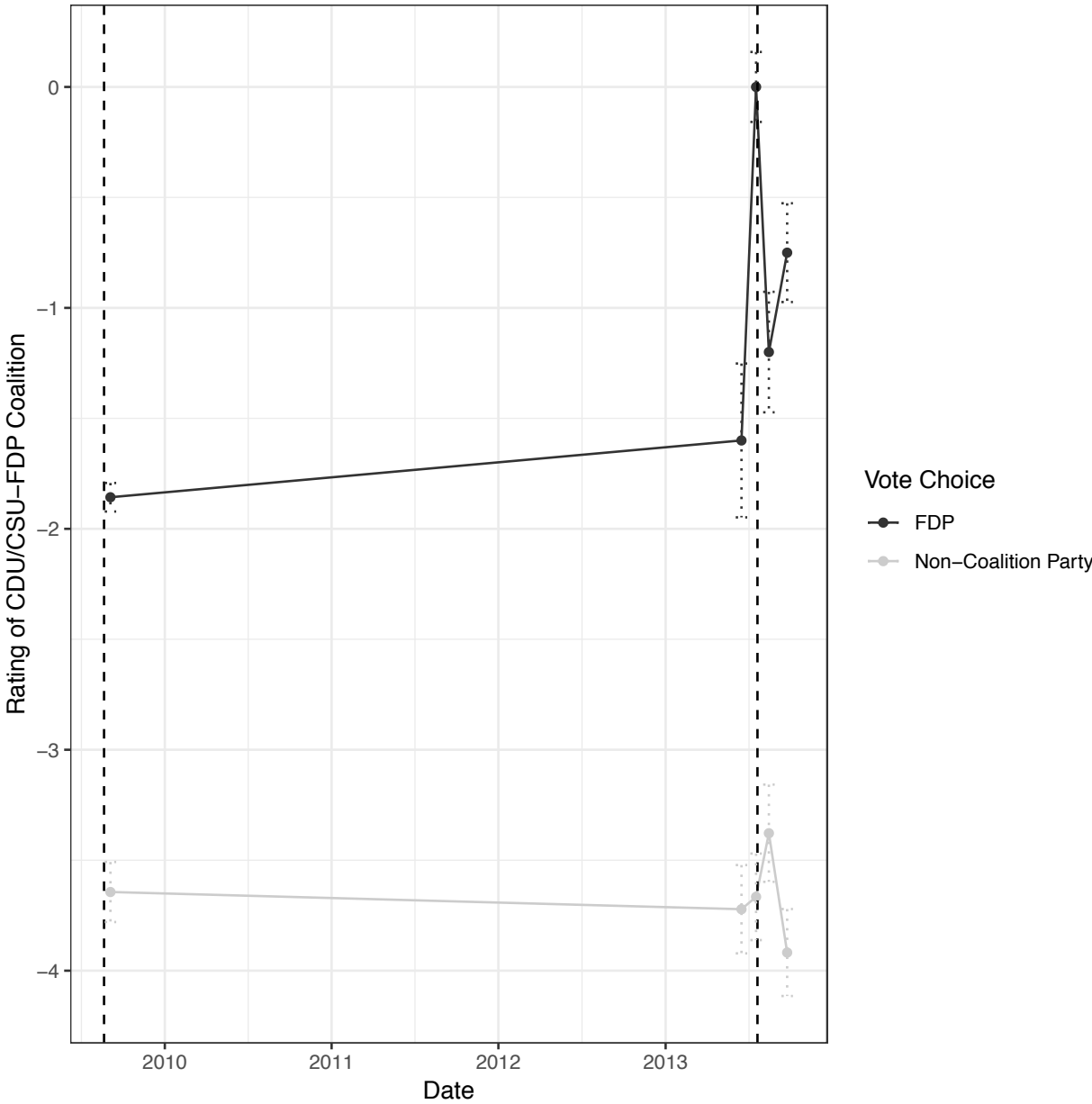


Figure A9: Rating of the CDU/CSU-SPD Coalition Over Time in 2013 Among CDU/CSU Voters and Among Non-Coalition-Party Voters Who Disliked the Coalition Before It Was Formed

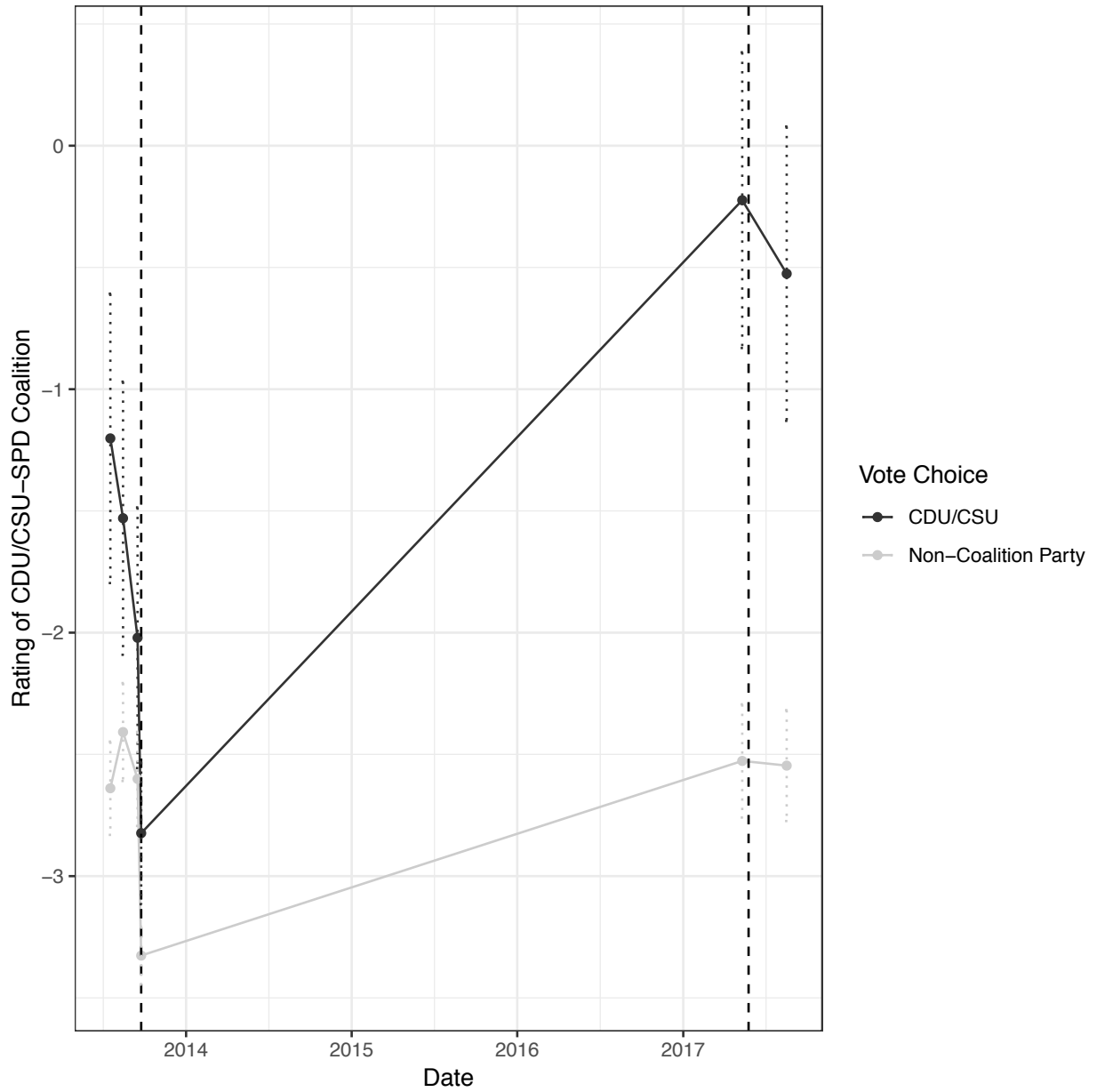


Figure A10: Rating of the CDU/CSU-SPD Coalition Over Time in 2013 Among SPD Voters and Among Non-Coalition-Party Voters Who Disliked the Coalition Before It Was Formed

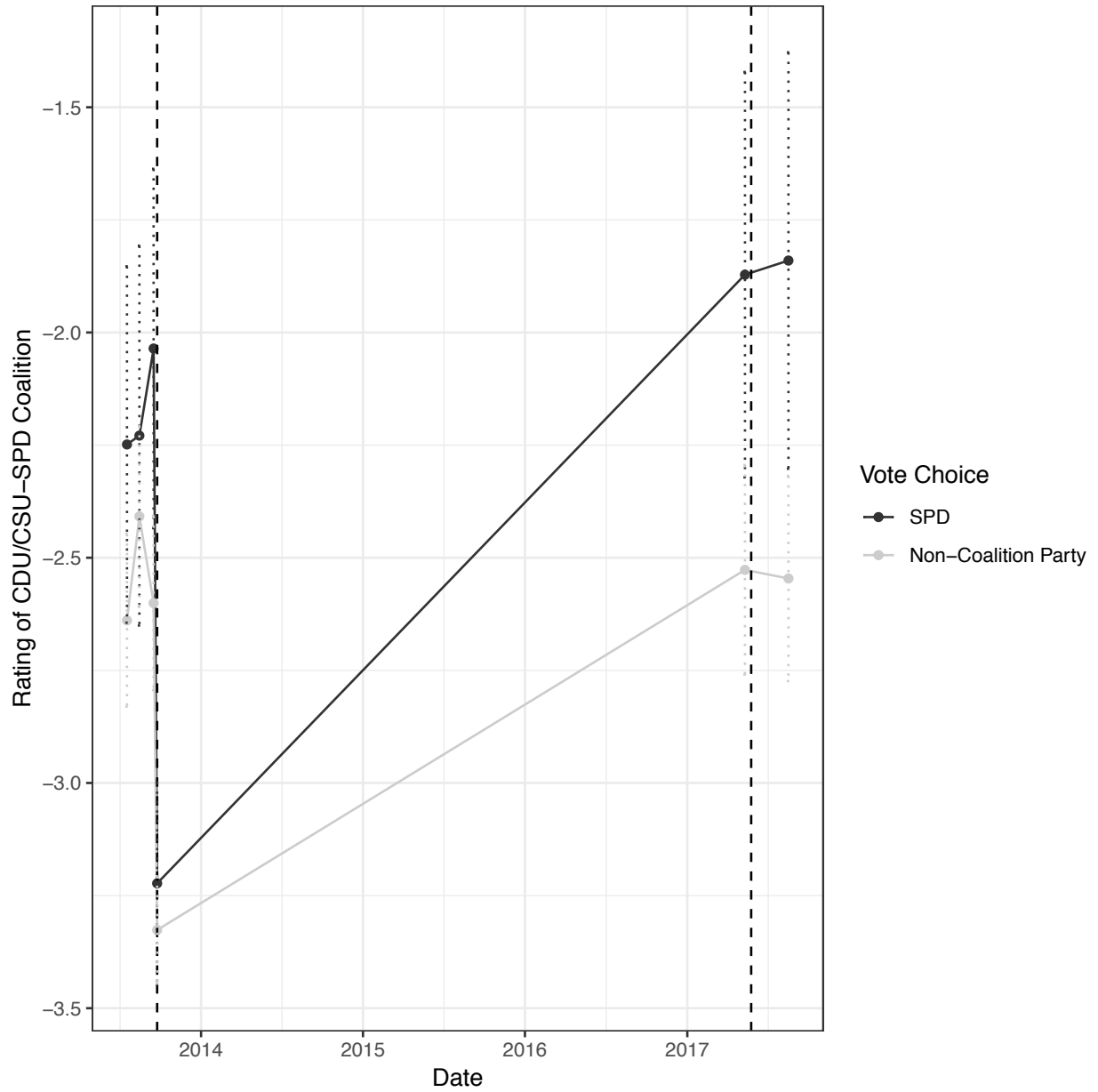


Figure A11: Rating of the CDU/CSU-SPD Coalition Over Time in 2017 Among CDU/CSU Voters and Among Non-Coalition-Party Voters Who Disliked the Coalition Before It Was Formed

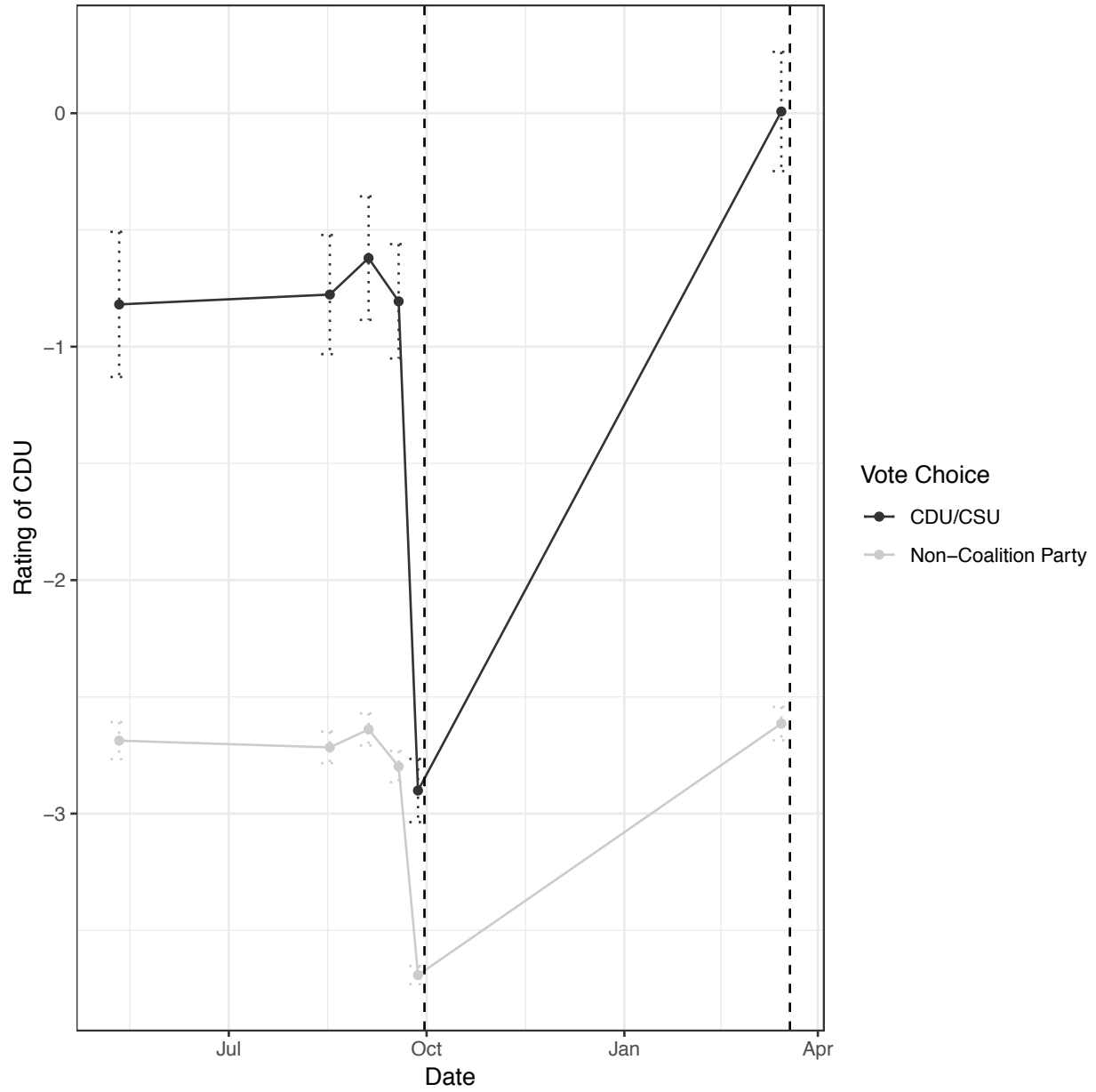
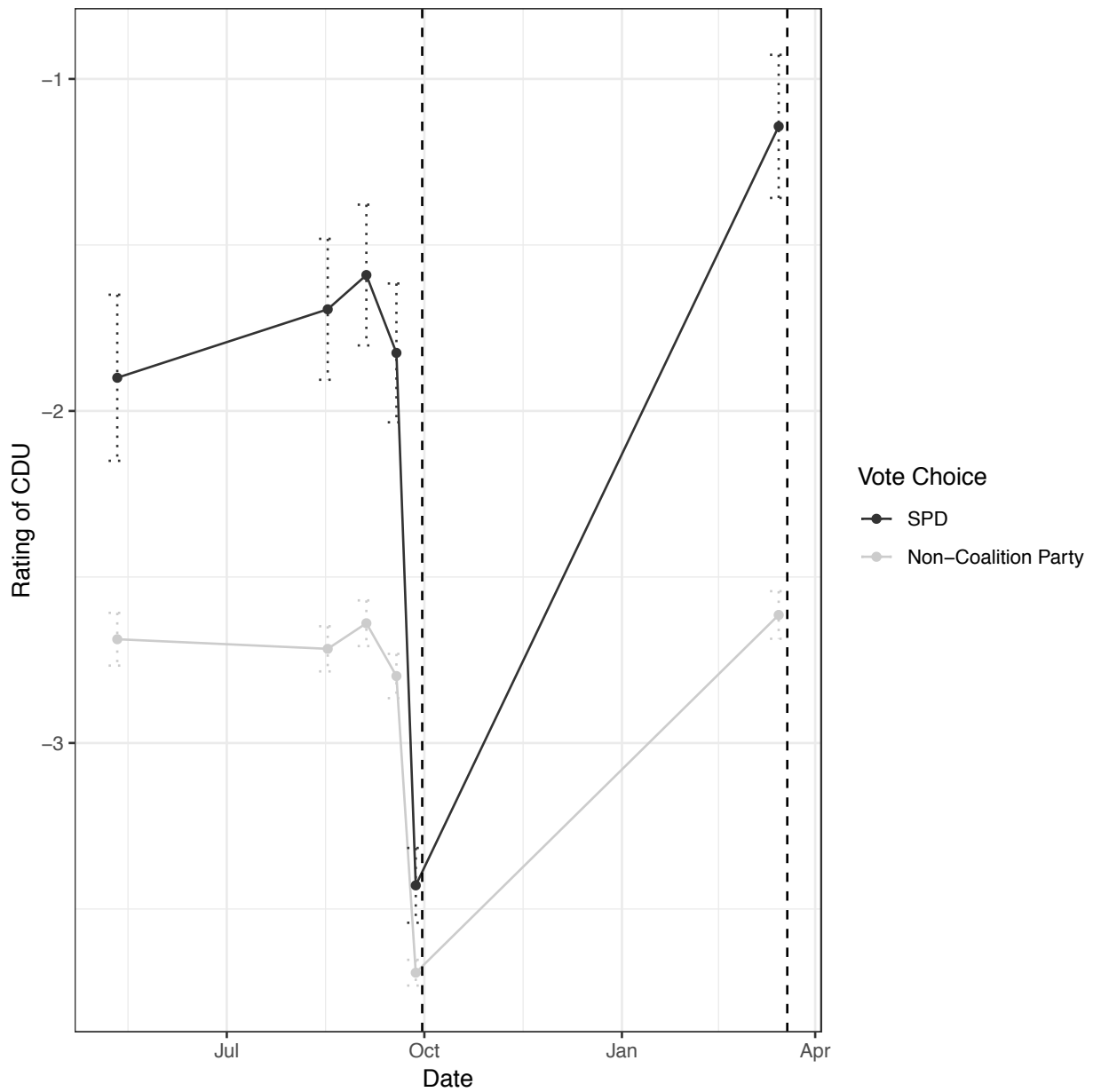


Figure A12: Rating of the CDU/CSU-SPD Coalition Over Time in 2017 Among SPD Voters and Among Non-Coalition-Party Voters Who Disliked the Coalition Before It Was Formed



References

Angrist, Joshua D. Jörn-Steffen Pischke. 2009. *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton: Princeton University Press.

2. Descriptive Tables

Table A1: Changes in Party Ratings Among Voters of Each Party by Coalition Rating

	Δ Party Ratings	
	Disliked Coalition	Did not Dislike
2009		
CDU	0.25	-0.42
CSU	NA*	-0.95
FDP	-3.00	-3.01
2013		
CDU	-0.78	-0.67
CSU	0.38	0.59
SPD	-0.39	0.14
2017		
CDU	-0.23	-0.32
CSU	-0.10	-0.03
SPD	-0.99	-0.75

Note: we consider voters disliked a coalition if they gave it a negative rating. We consider voters did not dislike a coalition if they gave it a positive or zero rating.

Table A2: Changes in Coalition Ratings Among Respondents Who Disliked the Coalition by Vote Choice

	Δ Coalition Ratings
2009	
Voted for Coalition Member	1.24
Did not Vote for Coalition Member	0
2013	
Voted for Coalition Member	1.82
Did not Vote for Coalition Member	0.80
2017	
Voted for Coalition Member	2.55
Did not Vote for Coalition Member	1.05

Table A3: Percentage of Voters Who Intend to Vote for the Same Party Following Coalition Formation by Coalition Attitude and Party

	Negative Coalition Rating	Non-Negative Coalition Rating
2009		
CDU/CSU	70%	70.7%
FDP	0%	29.1%
2013		
CDU/CSU	56.7%	62.7%
SPD	60.3%	57.2%

Note: a non-negative rating is positive or zero.

3. Models with Alternative Measures of Party Preferences

Table A4: Models Using District Vote

	Δ Party Rating	Δ Coalition Rating
Intercept	-0.24 (0.17)	-2.24* (0.11)
Coalition Dislike	-0.08* (0.01)	
Party 1 Vote		1.25* (0.06)
Party 2 Vote		0.62* (0.05)
Lagged Party Rating	-0.33* (0.01)	
Lagged Coalition Rating		-0.46* (0.01)
FDP	-2.75* (0.27)	
SPD	-0.49* (0.06)	
2013 Election	0.18 (0.16)	0.08 (0.10)
2017 Election	-0.01 (0.15)	1.03* (0.09)
<i>N</i>	4716	13708
Adjusted R ²	0.13	0.27
Standard errors in parentheses		
* indicates significance at $p < 0.05$		

Note: the coefficient on coalition dislike is the difference in the change in party ratings as coalition dislike increases among coalition-party identifiers. The coefficients on Party 1 Vote and Party 2 Vote represent the difference in changes in coalition ratings between respondents who voted for each coalition party and non-coalition-party voters.

Table A5: Models Using Party Identification

	Δ Party Rating	Δ Coalition Rating
Intercept	0.09 (0.16)	-2.24* (0.10)
Coalition Dislike	-0.07* (0.01)	
Party 1 Identification		1.46* (0.05)
Party 2 Identification		1.00* (0.05)
Lagged Party Rating	-0.35* (0.01)	
Lagged Coalition Rating		-0.48* (0.01)
FDP	-2.25* (0.27)	
SPD	-0.47* (0.05)	
2013 Election	0.20 (0.15)	0.03 (0.10)
2017 Election	-0.01 (0.14)	0.93* (0.09)
<i>N</i>	5789	13708
adj. R^2	0.13	0.29
Standard errors in parentheses		
* indicates significance at $p < 0.05$		

Note: the coefficient on coalition dislike is the difference in the change in party ratings as coalition dislike increases among coalition-party identifiers. The coefficients on Party 1 Identification and Party 2 Identification represent the difference in changes in coalition ratings between respondents who identify with each coalition party and non-coalition-party identifiers.

4. Separate Models for each Election

Table A6: 2009 Models

	Δ CDU Rating	Δ CSU Rating	Δ FDP Rating	Δ CDU-FDP Rating
Intercept	-0.25	-0.92	-1.70†	-1.22***
	(0.66)	(2.67)	(0.93)	(0.30)
Coalition Dislike	0.03	0.71	-0.17	
	(0.09)	(0.46)	(0.15)	
CDU/CSU Vote				1.20***
				(0.26)
FDP Vote				0.26
				(0.30)
Lagged CDU Rating	-0.34**			
	(0.12)			
Lagged CSU Rating		0.47		
		(0.47)		
Lagged FDP Rating			-0.47*	
			(0.19)	
Lagged Coalition Rating				-0.44***
				(0.03)
<i>N</i>	123	19	97	779
adj. R^2	0.08	0.02	0.02	0.25
Standard errors in parentheses				
† indicates significance at $p < 0.10$; * indicates significance at $p < 0.05$; ** indicates significance at $p < 0.01$; *** indicates significance at $p < 0.001$				

Note: the coefficient on coalition dislike is the difference in the change in party ratings as coalition dislike increases among coalition-party voters. The coefficients on CDU Vote and FDP Vote represent the difference in changes in coalition ratings between respondents who voted for each coalition party and non-coalition-party voters.

Table A7: 2013 Models

	Δ CDU Rating	Δ CSU Rating	Δ SPD Rating	Δ CDU-SPD Rating
Intercept	-1.07*	0.48	-0.51	-1.25***
	(0.48)	(0.78)	(0.53)	(0.24)
Coalition Dislike	-0.07†	-0.08	-0.07†	
	(0.04)	(0.09)	(0.04)	
CDU Vote				1.41***
				(0.16)
SPD Vote				0.45**
				(0.15)
Lagged CDU Rating	-0.30***			
	(0.07)			
Lagged CSU Rating		-0.46**		
		(0.14)		
Lagged SPD Rating			-0.46***	
			(0.08)	
Lagged Coalition Ratings				-0.68***
				(0.02)
<i>N</i>	293	57	402	2027
adj. R2	0.09	0.14	0.09	0.35
Standard errors in parentheses				
† indicates significance at $p < 0.10$; * indicates significance at $p < 0.05$; ** indicates significance at $p < 0.01$; *** indicates significance at $p < 0.001$				

Note: the coefficient on coalition dislike is the difference in the change in party ratings as coalition dislike increases among coalition-party voters. The coefficients on CDU Vote and SPD Vote represent the difference in changes in coalition ratings between respondents who voted for each coalition party and non-coalition-party voters.

Table A8: 2017 Models

	Δ CDU Rating	Δ CSU Rating	Δ SPD Rating	Δ CDU-SPD Rating
Intercept	-0.17 (0.16)	-0.66* (0.33)	-0.70** (0.23)	-1.34*** (0.08)
Coalition Dislike	-0.01 (0.01)	-0.10** (0.04)	-0.09*** (0.02)	
CDU Vote				1.32*** (0.06)
SPD Vote				0.69*** (0.06)
Lagged CDU Rating	-0.21*** (0.02)			
Lagged CSU Rating		-0.17*** (0.05)		
Lagged SPD Rating			-0.38*** (0.03)	
Lagged Coalition Rating				-0.42*** (0.01)
<i>N</i>	1270	238	1435	10902
adj. R2	0.06	0.06	0.10	0.23
Standard errors in parentheses				
† indicates significance at $p < 0.10$; * indicates significance at $p < 0.05$; ** indicates significance at $p < 0.01$; *** indicates significance at $p < 0.001$				

Note: the coefficient on coalition dislike is the difference in the change in party ratings as coalition dislike increases among coalition-party voters. The coefficients on CDU Vote and SPD Vote represent the difference in changes in coalition ratings between respondents who voted for each coalition party and non-coalition-party voters.

¹ We focus on respondents' party list vote, which is decisive for seat allocation.

² A non-negative rating is a value of 0 or above. Note that we only distinguish negative and non-negative ratings for descriptive purposes.

³ Note that we also ran a model (not shown) of changes in coalition ratings limited to those who initially gave the coalition a negative rating and found stronger effects, likely due to regression to the mean.

⁴ Vote intentions after coalition formation are not available in 2017.