Legislator dissent does not affect electoral outcomes[*]

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Abstract

Are there electoral consequences or benefits for legislators who deviate from the party line? We answer this question with data from individual-level vote choice as well as constituency-level electoral results in the United Kingdom for the last two decades. Exploring the variations in voting patterns over time with a panel-regression approach, we find results that are most compatible with the null hypothesis — that dissent by legislators is neither rewarded nor punished in elections. These results call into question the degree to which voters know and/or care about legislative dissent in parliament.

Keywords

legislative politics; elections; party discipline; roll-call vote; fixed-effects regression

Word counts

91 in abstract, 4,045 in main text, and 3,294 in appendix

1   Introduction

Based on the existing evidence, one would believe that there might be electoral consequences or benefits for legislators who deviate from the party line. On the one hand, voters dislike parties that appear divided (for example, Kam, 2009; Wolak, 2017), and they might therefore punish legislators who cause such divisions. On the other hand, they like independent-minded legislators (for example, Crisp et al., 2013; Méndez-Lago and Martínez, 2002) and might reward those who dissent instead.

Our article tests this common belief with data from the United Kingdom (UK), where party discipline has been weakening for the last fifty or so years. Once considered the archetype of party government, recent decades have seen Members of Parliament (MPs) rebel more often, in greater numbers, and with greater effect (Cowley, 2002, 2005, 2015; Cowley and Norton, 1999; Cowley and Stuart, 2014; Norton, 1975, 1980). This has included high-profile rebellions on matters of high politics, such as the Iraq war or Britain's membership of the European Union. In line with most findings elsewhere, research finds that British voters prefer MPs who deviate from the party line in this way (Campbell et al., 2019; Johnson and Rosenblatt, 2007; Wagner et al., 2020).

Yet this work mostly draws on surveys or experiments – and we need to know whether these have external validity. Voters may appear to prefer independent-minded MPs, but this is of less significance if it does not manifest itself in electoral behaviour.

Expecting to detect electoral correlates for the way MPs voted on individual issues is to set an exceptionally high bar. It requires voters to have a stance on an issue; to know their MPs' voting on that issue; and for the two to then be so in conflict or agreement that this one issue changes the way they will vote at the next election. It is therefore perhaps not surprising that attempts to discover such effects find relatively little. Hanretty et al. (2021) found only extremely limited effects even when examining the way voters reacted to MPs' voting over Brexit, about as good a test case as it is possible to imagine (and, moreover, they found that MPs appeared to know they were largely immune from any electoral sanction for their voting). Vivyan and Wagner (2012) detected only marginal effects when it came to voting over Iraq. Earlier research found only small electoral correlates on a number of high-profile social issues (Pattie et al., 1994).

More plausibly, though, voters might acquire a vaguer sense of whether an MP is independent

minded or not. This would not require knowledge of specifics about the way an MP has voted, but rather to have picked up on the extent to which he or she was in lockstep with their party. This still requires some knowledge of an MP's behaviour and for it then to be enough to influence the voter at the ballot box — but the bar here is lower. An MP's voting record would not be the only thing driving this effect, as there are other ways an MP can demonstrate their independence (Campbell et al., 2019) but we might expect their voting record, broadly conceived, to at least constitute a part of how they are perceived by their voters. We know that British voters appear to value independence because they see it as a valence issue, rather than being concerned about the details of the votes themselves (Campbell et al., 2019). There is also evidence that rebels may have a higher profile in their constituencies as a result of their behaviour (Kam, 2009).

2 Data and Design

We look for the electoral effects of legislator dissent in the House of Commons on the general elections in the UK, from where much of the existing evidence originates in the first place. Indeed, 'nearly all studies [on this topic] are conducted in single-member district systems, such as the United States and United Kingdom, which are generally considered most-likely settings for observing such effects' (Bøggild and Pedersen, 2020, p. 1). If we find — as we do — that dissent does not affect electoral outcomes in the UK, this poses a significant challenge to such claims.

Our study draws on two datasets. First, we have generated an MP-level panel dataset that covers the period between 1997 and 2019, bringing together observations from (a) MPs' legislative votes during six parliamentary terms and (b) their vote share in the elections that follow these terms. Second, we have complemented this with panel survey data on (c) their constituents' electoral behaviour, which limits the beginning of the period to 2010 for the voter-level analysis. All data come from publicly available sources.[1]

We focus on two outcome variables, measuring the support for incumbents at the level of MPs and voters: *Vote Share* is the proportion of valid votes cast for incumbents while *Vote Choice* is

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[1]The data on MPs' votes come from the Public Whip, which provides the voting records in the House of Commons since 1997. The constituency-level election results are available from the Electoral Commission. Finally, the survey data come from the British Election Study Internet Panel. For more information on data sources and variables, please see the Appendix.

whether (1) or not (0) individual constituents vote for incumbents. Our independent variable of interest measures how often an MP m votes against the majority of members of their party p in a parliamentary term t:

$$Dissent_{mpt} = \frac{\text{\# votes cast against the majority of party members}_{mpt}}{\text{\# votes held in a parliamentary term}_t} \tag{1}$$

By definition, this design excludes three groups of MPs: those (1) who do not run for re-election, (2) who do not vote (that is, speakers, deputy speakers and absentee MPs from Northern Ireland), and/or (c) who do not belong to a party (that is, independent MPs) from the analysis. To increase the comparability of our observations, we also exclude MPs whose party affiliation and/or constituency change from one election to the next. All exclusions are specific to a parliamentary term or terms that MPs meet one or more of these criteria.[2]

Most existing studies of backbench dissent in the UK exclude what are called 'free votes', those occasions where the party managers, the whips, did not issue instructions to their MPs. This happens on some social issues, various procedural votes, as well as when a party is trying to avoid high profile splits on other matters. The data utilised here are more inclusive, taking in all votes in the Commons in the periods analysed, both free and whipped.[3] We think it must be moot whether too many members of the public closely follow the intricacies of party management. While it may matter internally — the whips will look more askance at an MP deviating from the party on a whipped vote — we suspect the public will not pick up on such distinctions. This method also gives us a fuller data source, covering all parties in Parliament for the period examined, whereas published data on dissent (more narrowly conceived) are only available for the government. However, for the record, the two sources of data anyway match closely.[4]

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[2]In Table A4, we provide a robustness check with data from the latter, purposefully excluded, groups of MPs. The results remain the same. All tables and figures numbered with the prefix A are in the online Appendix.

[3]When a party's official line is to abstain, online data sources will not register MPs who are breaking their whip to vote on an issue (either for or against), unless the MPs doing so are themselves divided, with the party splitting three ways (abstain, aye, and no). This is usually less of a problem for parties in government, since it is rare for the government to be neutral on an issue, but it can be a more problem when analysing the behaviour of opposition MPs. As we note in the text, however, the two data sources correlate closely, indicating this is not a major problem.

[4]For example, the correlation between the number of votes cast against the whip by Labour MPs in the 2008-9 session (reported in Cowley and Stuart, 2009) and the total number of times they deviated from the majority position of their party, the data used in the paper, is 0.98. The equivalent correlation for Conservative MPs in the 2012-13 session (based on data in Cowley and Stuart, 2013) is 0.89. See Figure A3.

Simple comparisons of electoral outcomes for those who dissent more or less from their party line are likely to be misleading. There might be systematic differences between these two groups of MPs which might affect both legislative dissent and electoral outcomes. For example, senior legislators are more likely to dissent from their party line (Slapin et al., 2018) and they have an increased incumbency advantage in elections (Butler, 2009). While we can measure and control for seniority, doing so for all potential factors is not credible.

One way to address such concerns is to use linear fixed-effects regressions — limiting the analysis to within-MP and, for individual-level analysis, within-voter comparisons over time. This forms the basis of our identification strategy.[5]

3 Results

Table 1 presents the main regression models, three for MP-level *Vote Share* and three for individual-level *Vote Choice*. In the baseline models without fixed effects (Models 1 and 4), we estimate the results using the pooled data — pooling all observations across time, constituencies, MPs, and voters. With this naive approach, we find that the coefficients for *Dissent* are positive, and in the case of *Vote Choice*, the effect is relatively large and statistically significant.

However, when we limit the analysis to within-MPs and within-voters, the results change, which indicates there might be selection bias in our initial estimates. We use fixed effects for the MP–constituency and party–election pairs for *Vote Share*. In estimating the effect of legislator dissent on *Vote Choice*, we also include fixed effects for individual voters. Finally, we cluster the standard errors at the level of MPs in all models.

In the models with fixed effects, we find that the coefficients for *Dissent* are statistically insignificant. These results suggest that, on average, MPs are neither rewarded nor punished electorally, following a parliamentary term in which they dissent more from their party line. At the aggregate level, we find no change in vote share as a result of dissent, nor at the individual level do we find constituents becoming more or less likely to vote for them. This does not change with the inclusion of time-variant

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[5]The ability to identify causal effects with this strategy rests on some strong assumptions (Cunningham, 2021). Particularly relevant for our research design is one such assumption that past electoral outcomes do not affect future legislator dissent (Imai and Kim, 2019). We relax this assumption somewhat by controlling for legislators' electoral majority in our estimations.

Table 1: Effect of dissent on vote share and vote choice

	Vote Share			Vote Choice		
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
Dissent	0.195	-0.235	-0.182	0.698**	0.189	-0.227
	(0.130)	(0.177)	(0.165)	(0.237)	(0.621)	(1.33)
Controls	✗	✗	✓	✗	✗	✓
Fixed-effects						
MP–Constituency FEs	✗	✓	✓	✗	✓	✓
Party–Year FEs	✗	✓	✓	✗	✓	✓
Voter FEs	✗	✗	✗	✗	✓	✓
Fit statistics						
Observations	2,909	2,909	2,909	67,997	67,997	37,558
R^2	0.0008	0.926	0.928	0.0004	0.834	0.939
Within R^2		0.004	0.027		1.68×10^{-5}	0.183

Notes: Standard errors are clustered at the level of MPs. *Controls* refer to three variables in *Vote Share* models (*Attendance*, *Majority*, and *Office*) and additionally four variables in *Vote Choice* models (*Political Knowledge*, *Media Consumption*, *Left-Right Position*, and *Party ID*). See the Appendix for the complete results (Table A2) and for further details on the underlying data and variables. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

control variables: *Attendance*, *Majority*, and *Office* in Model 3, and additionally, *Political Knowledge*, *Media Consumption*, *Left-Right Position*, and *Party ID* in Model 6. We describe these variables in the Appendix.

3.1 Multiverse analysis

In this section we report evidence from a multiverse analysis, to show that the null results are not sensitive to the coding of the independent variable (Steegen et al., 2016) and/or to the combination of the control variables (Young and Holsteen, 2017).

First, we systematically re-code *Dissent*, by excluding divisions based on (1) parliamentary- and (2) party-level attendance, and (3) party-level shares of rebellious MPs. Low attendance might indicate low salience or three-way splits (see Footnote 4), while high rebellion might indicate free votes or make individual rebels less noticeable by voters. In one iteration of this process, for example, we disregard rebellion if it occurred in a division where (1) less than 30 percent of all MPs or (2) 20 percent of MPs in their own party voted, or (3) more than 10 percent of MPs in their own party

rebelled as well. With ten different percentage thresholds for each of these three variables, we therefore re-code *Dissent* (10^3) one thousand times to systematically address such concerns.

Then, based on each of these thousand re-codings, we re-estimate the fixed-effects models, across all ($2^3 + 2^7 = 136$) combinations of possible control variables. Unlike in Table 1, where we report models either with all or without any controls, this process allows us to observe results in between these two extremes. In total, we therefore estimate 136,000 regression models.
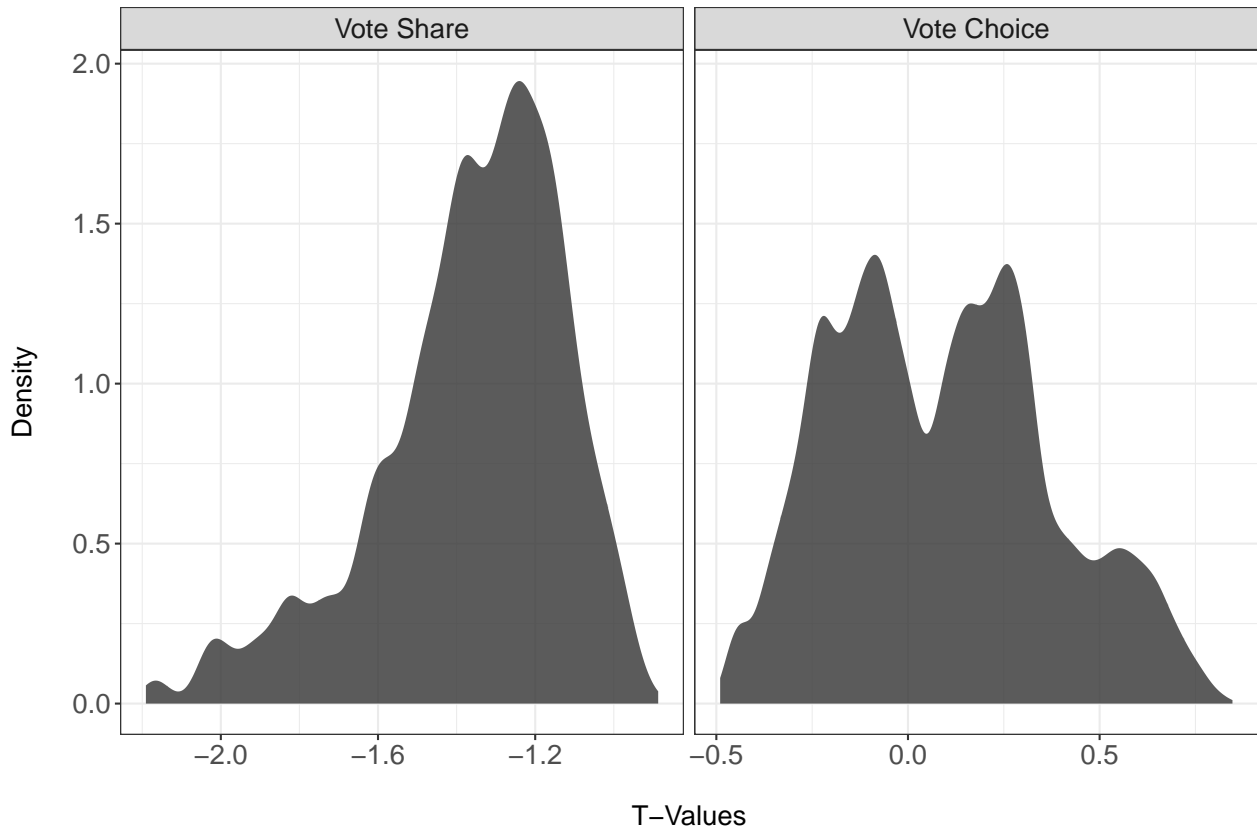
Figure 1: Distribution of t-values from a multiverse analysis.

Figure 1 plots the t-values associated with the coefficient estimates for *Dissent*. It shows that the results presented in Table 1 are robust as the t-values are small, and they indicate statistical significance (that is, greater than 1.96 in magnitude) in just 0.17 percent of the regression models. We consider these false positives, especially because they occur when our underlying data on divisions is reduced to, on average, 10.99 percent of the sample (sd = 1.74, median = 11.78, min = 5.36, max = 11.94). Besides, after estimating this many regression models, we would expect up to 5 percent false positives.

3.2 Conditional effects

In this section we report conditional effects, to show that the null results hold across different levels of voter characteristics that could potentially moderate the effect of legislator dissent. How voters react to dissent could depend, for example, on their party identity (Kam, 2009) or ideological positions (Besch and López-Ortega, 2021). We therefore re-estimate Model 6 in Table 1, by adding interaction terms between *Dissent* and four variables: *Political Knowledge*, *Media Consumption*, *Left-Right Position*, and *Party ID*. We provide these models in Table A3.

Figure 2 plots the relevant estimates with 95 percent confidence intervals. Most of these estimates are small and the confidence intervals include zero. For example, as we move from voters on the left to right along the ideological spectrum, the best estimate for the effect of Dissent turns from negative to positive, but none of these estimates are statistically significant. In other words, the results remain null under these potentially moderating conditions.
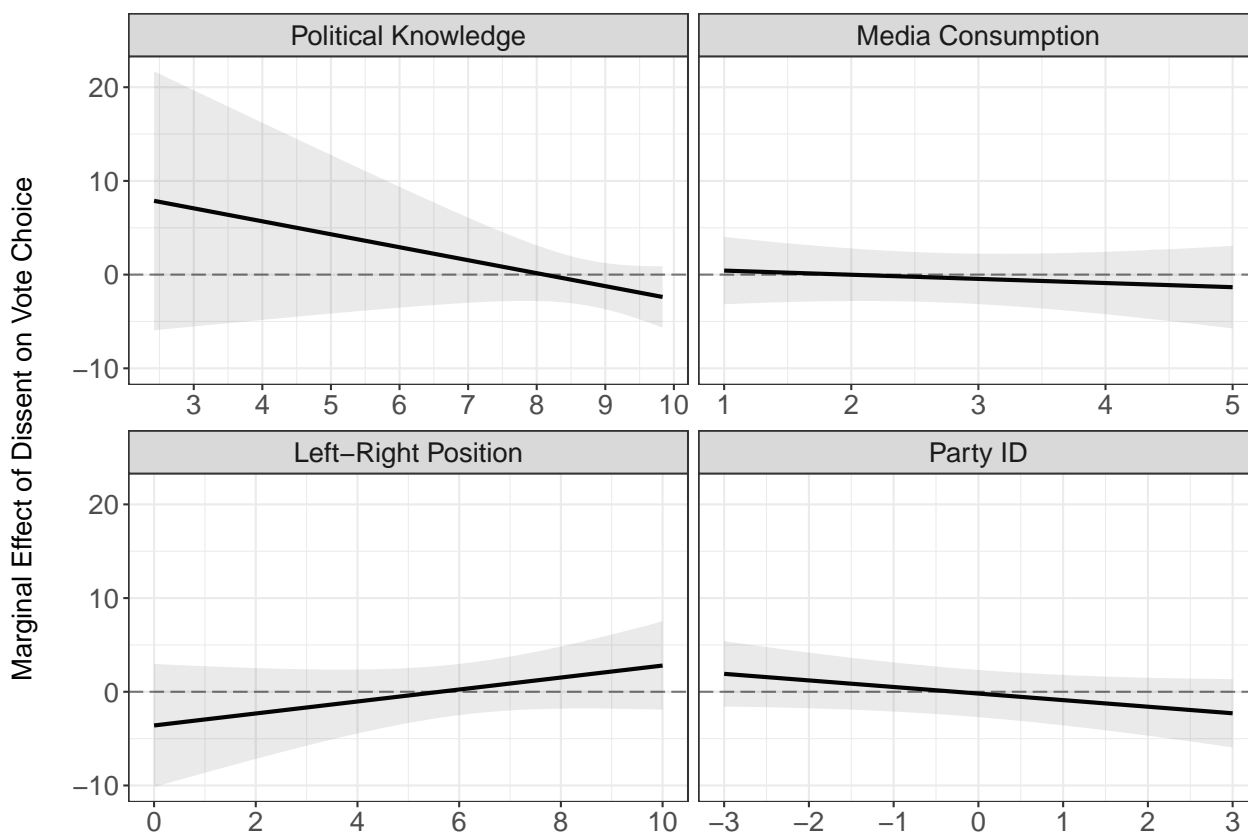

Figure 2: Marginal effect of dissent on vote choice, conditional on various voter characteristics.

4 Conclusion

Our results therefore do not support the expectation that legislator dissent might have effects on electoral outcomes. We found results that are most compatible with the null hypothesis — that legislator dissent is neither rewarded nor punished in elections.

In addition to the analysis reported above, we conducted nine further robustness tests, which are detailed in the Appendix. These tested multiple different ways of coding the independent variable, as well as differing rules for inclusion or exclusion of data. Each increased our confidence in these null results.

We did not, of course, ever expect to find especially large electoral effects. Britain remains a party-based democracy. For all that rebellious behaviour has been increasing at Westminster, it remains limited: most votes in the House of Commons still see complete cohesion; most rebellions are small; even the most rebellious MPs vote with their party most of the time; and the government almost always still wins. Most voters will live their lives blissfully unaware of the way their MPs behave and will continue to vote according to national or party factors.[6] The personal vote of an MP has been growing, but it remains relatively small. The 2019 British Election Study found just one in ten voters saying that they voted for the local candidate rather than national factors. Smith (2013) estimated the personal vote at 1–2 percentage points for Labour and Conservative MPs, if larger for Liberal Democrats; and an MPs' voting pattern will only ever constitute a portion of their personal vote, with the rest accounted for broader constituency service (Cain et al., 2013).

But our findings are both statistically *and* substantively insignificant. Based on the models with control variables, a one within-unit standard deviation increase in *Dissent* leads to a -0.12 [-0.35, 0.1] percentage points decrease in incumbents' vote share and a -0.0016 [-0.02, 0.02] points increase in the probability that constituents vote for their incumbent MP. Even at the ends of the 95 percent confidence intervals in the square brackets, these are negligible effects in the UK elections. Of

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[6]Voting in the House of Commons is transparent — with a high number of roll call votes, frequently around 200–300 per year, the details of which are public — and it is now increasingly easy to access. Division lists are published online — whereas previously someone would have had to either subscribe to the parliamentary record or go to a library — and harvested by multiple websites to allow voters to check the voting behaviour of MPs. Following high profile rebellions, it is quite common for lists of MPs who have broken with their party to be published in the media. Still, while this information may be more accessible than in the past, most voters do not spend their time looking up the way their MPs have voted.

all observations of electoral margins in our analysis, only 1.09 percent of constituency races were decided by less than 0.35 percent of the votes.

In sum, we look at the most likely case; we have examined both aggregate and individual level outcomes; we provide a range of further tests (covering multiverse analysis, conditional effects, and a raft of robustness checks, and we find results that are substantively negligible, in addition to being statistically insignificant.

We are therefore left with a puzzle. There is plenty of evidence that MPs are increasingly willing to break ranks and defy their party managers. British voters say they prefer MPs who demonstrate independence and who are willing to deviate from the party line. At the same time, they dislike parties that appear divided. And yet there is little or no evidence that voters then reward or punish MPs accordingly.

Data Availability Statement

Competing Interests

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Appendix to

Legislator dissent does not affect electoral outcomes

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1   Descriptive Statistics

Table A1 presents the summary statistics for all variables in the main text — except for the fixed effects variables.

We use separate datasets for MP-level and voter-level analyses, which are both in the long format. Most of the variables in the MP-level dataset originate from the Public Whip (publicwhip.org.uk). The only exception is the *Vote Share* variable, which comes from election results published by the Electoral Commission (electoralcommission.org.uk). All variables in the voter-level dataset originate from the British Election Study (britishelectionstudy.com), Internet Panel (BESIP).

Table A1: Descriptive statistics

Variable	Dataset	N	Mean	SD	Median	Min	Max
Vote Share	MPs	2,923	0.5	0.1	0.5	0.1	0.9
Vote Choice	Voters	68,241	0.5	0.5	0	0	1
Dissent	MPs	2,909	0.01	0.01	0.004	0	0.2
Attendance	MPs	2,923	0.7	0.2	0.7	0	1.0
Majority	MPs	2,923	0.2	0.1	0.2	0.000	0.8
Office	MPs	2,923	0.4	0.6	0	0	5.5
Political Knowledge	Voters	103,237	7.8	1.3	8.2	2.4	9.8
Media Consumption	Voters	101,062	2.3	0.9	2	1	5
Left-Right Position	Voters	84,229	5.0	2.4	5	0	10
Party ID	Voters	53,842	-0.1	2.0	0	-3	3

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1.1 Dependent variables

Note that the dependent variables are coded as missing for MPs who stood down or for voters in constituencies without an incumbent among the candidates.

Vote Share. This variable is the proportion of valid votes that MPs received, at the general election following their voting record in parliament. Figure A1 visualises the distribution of this variable.
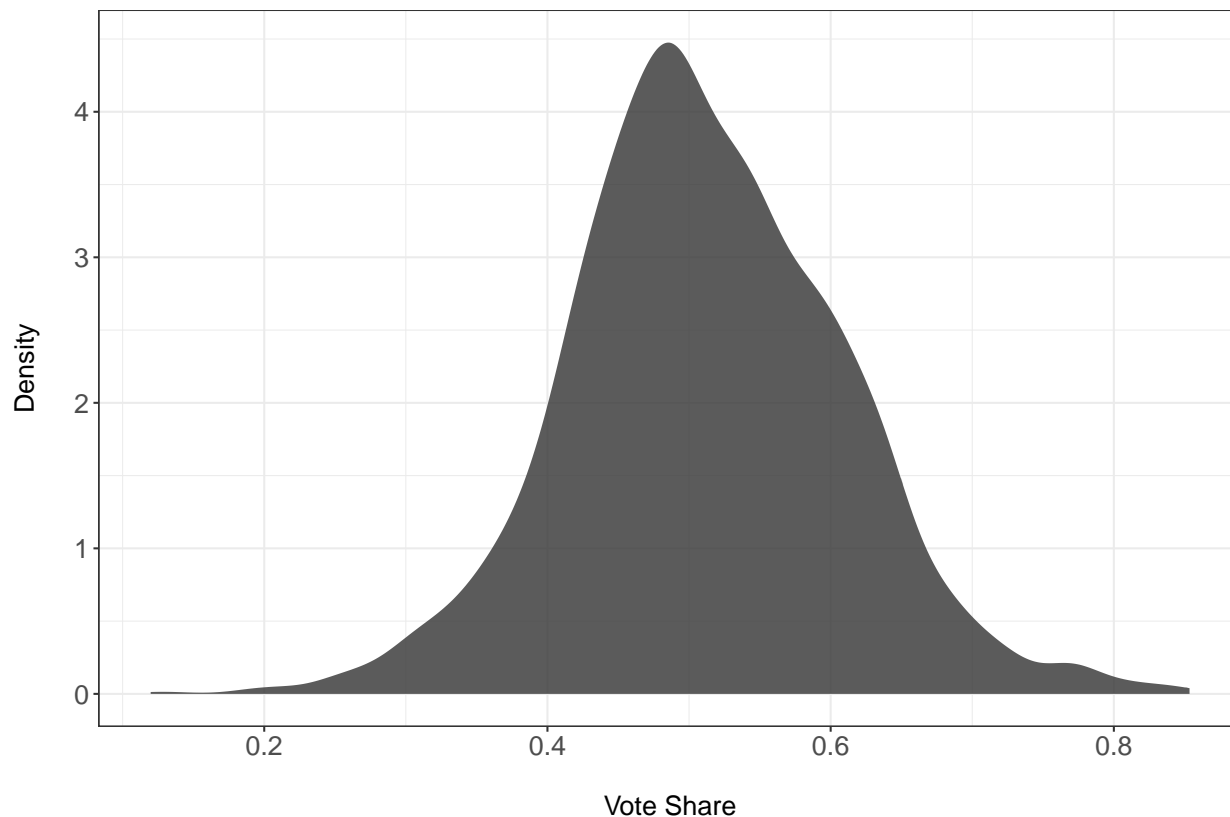
Figure A1: Distribution of the *Vote Share* variable.

Vote Choice. This variable indicates whether (1) or not (0) survey respondents voted for incumbent MPs standing for re-election in their constituency.

1.2 Independent variable

Dissent. This variable is the share of divisions that MPs vote against the majority in their party in a parliamentary term. Figure A2 plots this variable in six parliamentary terms under analysis.

As mentioned in the main text, there appear strong correlations between the number of (a) votes

cast against the majority in a party and (b) votes cast against the whip. Figure A3 plots these correlations with data on the latter measure of dissent among Labour MPs in the 2008-9 session (Cowley and Stuart, 2009) and Conservative MPs in the 2012-13 session (Cowley and Stuart, 2013).
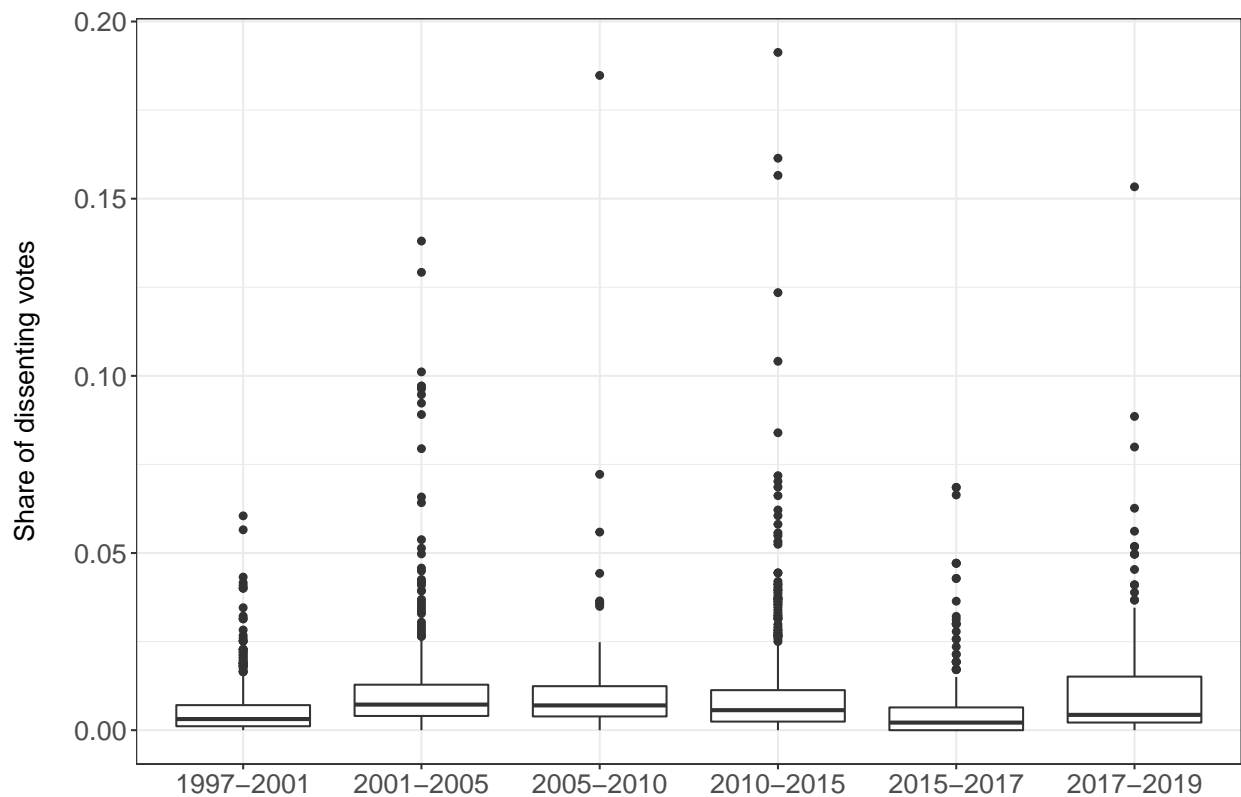
Figure A2: Legislative dissent in six parliamentary terms.

1.3 Control variables

Attendance. This variable is the share of divisions that MPs vote in a parliamentary term.

Majority. This variable is the difference in the vote shares of the incumbent MP and the candidate who came second in the most recent elections. Figure A4 plots this variable against *Dissent*.

Office. This variable is the share of a parliamentary term, in days, that MPs held one or more higher offices. These offices include party leadership, ministers, shadow ministers, and/or party spokespersons.

Political Knowledge. This variable is based on measuring how knowledgeable respondents are about the ideological position of parties — a method that outperforms measuring political knowledge with
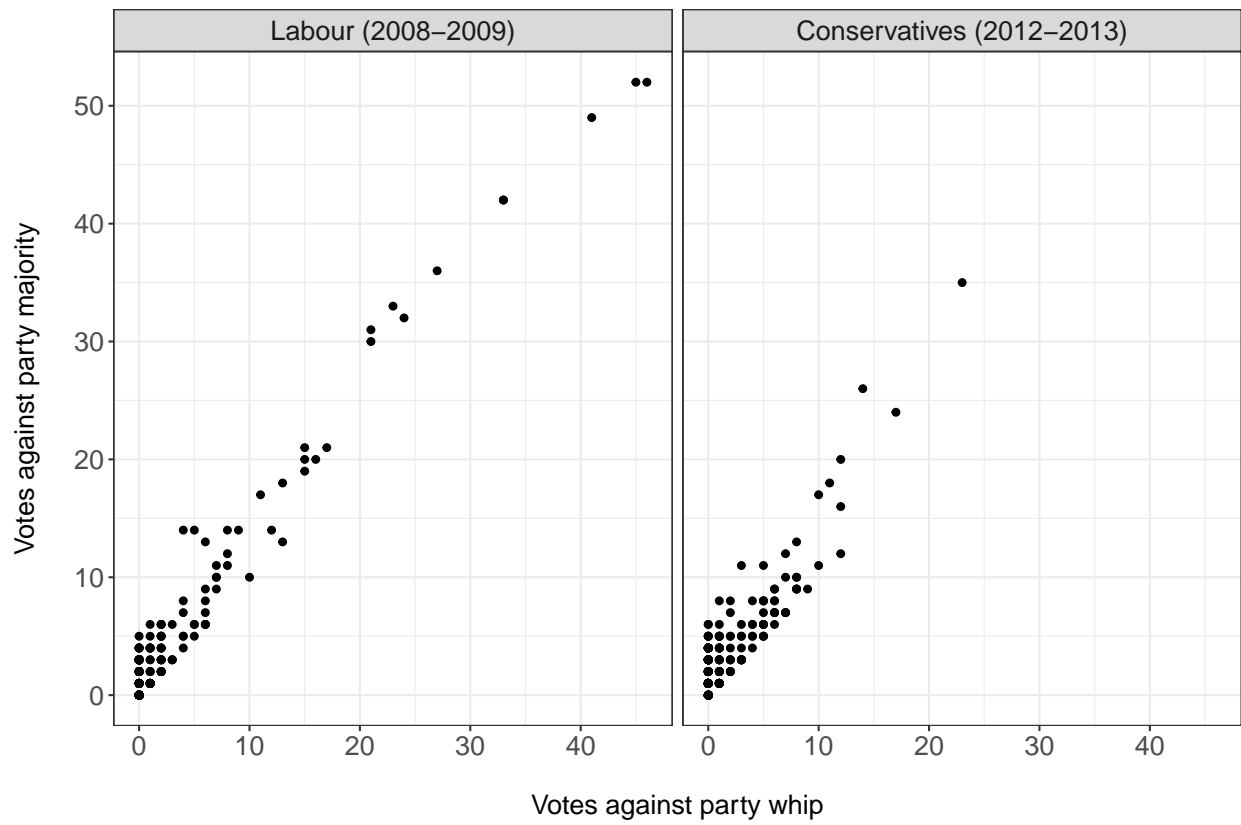
Figure A3: Correlation between votes against party majority and party whip.
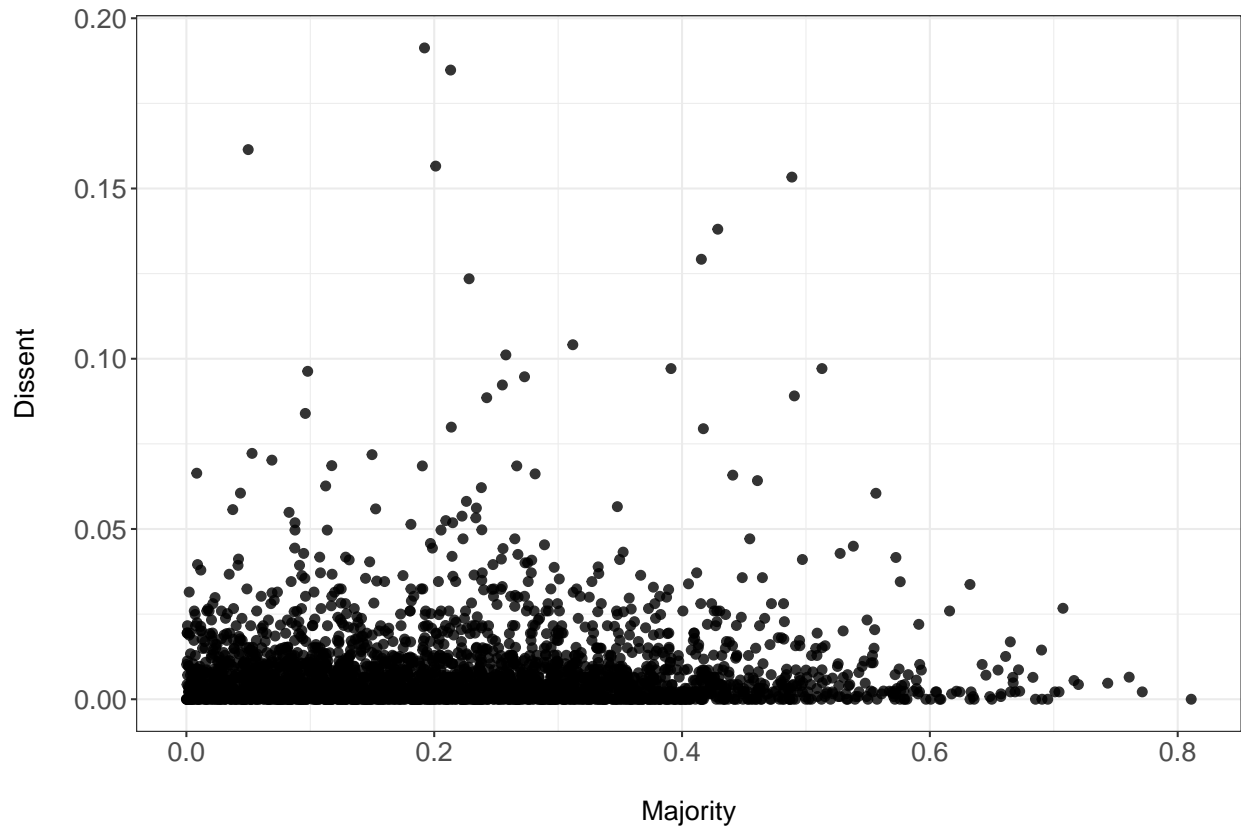
Figure A4: Correlation between *Majority* and *Dissent*.

factual knowledge questions (Gidengil et al., 2016). It originates from the *lr* item in BESIP, which asks '*In politics people sometimes talk of left and right. Where would you place the following parties on this scale?*'. The answer categories range between 0 (*Left*) and 10 (*Right*).

Following Gordon and Segura (1997), we first calculate the mean absolute distances between (a) the party placements by each respondent and (b) the average placements by all respondents. Then, for respondents who fail to place a party, we assign them the mean absolute distance for that party plus two standard deviations. Finally, we invert the values so that high scores indicate higher levels of political knowledge.

Media Consumption. This variable measures the amount of time respondents spend following the news. It originates from the *infoSources* item in BESIP, which asks '*During the last seven days, on average how much time (if any) have you spent per day following news about politics or current affairs from each of these sources?*'. The answer categories range between 1 (*None, no time at all*) and 5 (*More than 2 hours*). We take the average score for the following sources: *Television*, *Newspaper (including online)*, *Radio*, and *Internet (not including online newspapers).*

Left-Right Position. This variable measures respondents' ideological positions. It originates from the survey item *leftRight* in BESIP, which asks '*In politics people sometimes talk of left and right. Where would you place yourself on the following scale?*'. The answer categories range from *0 (Left)* to *10 (Right).*

Party ID. This variable measures how strongly respondents identify with the party of incumbent MP(s) standing for re-election in their constituency. It originates from three survey items in BESIP:

- *partyId*, which asks '*Generally speaking, do you think of yourself as Labour, Conservative, Liberal Democrat or what?*',
- *partyIdSqueeze*, which asks '*Do you generally think of yourself as a little closer to one of the parties than the others? If yes, which party?*', and
- *partyIdStrength*, which asks '*Would you call yourself [1] very strong, [2] fairly strong, or [3] not very strong [party]?*'.

Note that the *partyIdSqueeze* item is asked only if respondents answer *No — None* or *Don't know* to the *partyId* item.

Following Kam (2009), we then code this variable as:

- 0 for respondents without party identification,

- as inverted *partyIdStrength* for respondents who identify with incumbents' party, or

- as negated and inverted *partyIdStrength* for respondents who identify with a different party.

For example, in constituencies represented by a Labour MP, we code this variable as 3 for respondents whose *partyId* is Labour and whose *partyIdStrength* is very strong. For voters whose *partyId* is any other party and whose *partyIdStrength* is very strong, we code this variable as -3. Hence the resulting variable ranges between -3 (voters identifying very strongly with a party other than the party of their incumbent MP) and 3 (voters identifying very strongly with the party of their incumbent MP).

2 Complete regression models for Table 1

For reasons of brevity and space, the regression table in the main text (Table 1) reports only a summary of the results. The complete results are available here in Table A2.

Table A2: Effect of dissent on vote share and vote choice — Complete results for Table 1

	Vote Share			Vote Choice		
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
Dissent	0.195	-0.235	-0.182	0.698**	0.189	-0.227
	(0.130)	(0.177)	(0.165)	(0.237)	(0.621)	(1.33)
Attendance			0.047*			-0.058
			(0.018)			(0.157)
Majority			0.080***			0.011
			(0.019)			(0.131)
Office			0.001			0.005
			(0.003)			(0.015)
Political Knowledge						0.006
						(0.014)
Media Consumption						0.005
						(0.013)
Left-Right Position						0.004
						(0.009)
Party ID						0.120***
						(0.013)
Constant	0.510***			0.460***		
	(0.003)			(0.004)		
Fixed-effects						
MP–Constituency FEs	✗	✓	✓	✗	✓	✓
Party–Year FEs	✗	✓	✓	✗	✓	✓
Voter FEs	✗	✗	✗	✗	✓	✓
Fit statistics						
Observations	2,909	2,909	2,909	67,997	67,997	37,558
R^2	0.0008	0.926	0.928	0.0004	0.834	0.939
Within R^2		0.004	0.027		1.68×10^{-5}	0.183

Notes: Standard errors are clustered at the level of MPs. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

3   Regression models for Figure 2

The conditional marginal effects plot (Figure 2) in the main text is based on regression models with interaction terms. We provide these models here in Table A3.

Table A3:   Models with interaction terms for Figure 2

	Vote Choice			
	(1)	(2)	(3)	(4)
Variables				
Dissent	11.2	0.872	-3.59	-0.190
	(9.65)	(2.42)	(3.35)	(1.29)
Attendance	-0.053	-0.058	-0.054	-0.063
	(0.159)	(0.157)	(0.159)	(0.156)
Majority	0.008	0.009	-0.0001	0.014
	(0.131)	(0.131)	(0.130)	(0.131)
Office	0.005	0.005	0.006	0.004
	(0.015)	(0.015)	(0.015)	(0.015)
Political Knowledge	0.014	0.006	0.005	0.005
	(0.015)	(0.014)	(0.014)	(0.014)
Media Consumption	0.004	0.007	0.004	0.005
	(0.013)	(0.014)	(0.013)	(0.013)
Left-Right Position	0.003	0.004	-2.75×10^{-5}	0.003
	(0.009)	(0.009)	(0.010)	(0.009)
Party ID	0.120***	0.120***	0.119***	0.124***
	(0.013)	(0.013)	(0.013)	(0.013)
Dissent × Political Knowledge	-1.38			
	(1.09)			
Dissent × Media Consumption		-0.443		
		(0.762)		
Dissent × Left-Right Position			0.639	
			(0.501)	
Dissent × Party ID				-0.702
				(0.430)
Fixed-effects				
MP–Constituency FEs	✓	✓	✓	✓
Party–Year FEs	✓	✓	✓	✓
Voter FEs	✓	✓	✓	✓
Fit statistics				
Observations	37,558	37,558	37,558	37,558
R^2	0.939	0.939	0.940	0.939
Within R^2	0.184	0.183	0.185	0.185

Notes: Standard errors are clustered at the level of MPs. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

4 Robustness Checks

This section provides a series of nine checks on the robustness of the results reported in the main text.

4.1 Extended datasets

Three groups of MPs are excluded from our analysis by definition, as the key variables cannot be calculated for:

- MPs who did not run for re-election in the general elections that follow a parliamentary term
- MPs who did not vote - including speakers, deputy speakers, and absentee MPs from Northern Ireland
- MPs without a party affiliation

In addition, we purposefully excluded two further groups of MPs from our analyses in the main text. These were:

- MPs whose party affiliation changed at anytime from one election to the next - including MPs who had party whip removed for a period of time
- MPs whose constituency changed from one election to the next - including the boundary changes in 2005 and 2010

In Table A4, we re-estimate the models with the latter groups of MPs included in the datasets.

Table A4: Models based on data from extended datasets

	Vote Share			Vote Choice		
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
Dissent	-0.211	-0.073	-0.041	-0.044	0.089	-0.223
	(0.161)	(0.100)	(0.093)	(0.286)	(0.453)	(0.717)
Attendance			0.040**			-0.052
			(0.015)			(0.150)
Majority			0.079***			0.014
			(0.018)			(0.127)
Office			-0.0005			0.004
			(0.002)			(0.015)
Political Knowledge						0.006
						(0.013)
Media Consumption						0.005
						(0.013)
Left-Right Position						0.001
						(0.009)
Party ID						0.127***
						(0.013)
Constant	0.504***			0.462***		
	(0.003)			(0.004)		
Fixed-effects						
MP–Constituency FEs	✗	✓	✓	✗	✓	✓
Party–Year FEs	✗	✓	✓	✗	✓	✓
Voter FEs	✗	✗	✗	✗	✓	✓
Fit statistics						
Observations	3,393	3,393	3,393	69,331	69,331	38,266
R^2	0.0009	0.922	0.924	1.82×10^{-6}	0.829	0.935
Within R^2		0.0004	0.023		5.14×10^{-6}	0.202

Notes: Standard errors are clustered at the level of MPs. * p < 0.05, ** p < 0.01, *** p < 0.001.

4.2 Reduced datasets

According to our measure, there are two conditions under which MPs cannot be seen as deviating from their party line, no matter how they vote. First, when there is a party with a single MP voting in a division. This includes, by definition, cases where the parliamentary party consists of just one MP, but it can also include cases where an MP from a larger party rebels on their own, while the rest of their party is abstaining. Their vote alone defines the majority in their party, so they cannot deviate from it. Second, when voting MPs of a party divide equally between *Aye* and *No*, the majority cannot be defined in the first place. Again, this can happen in larger parties as well as in parties with two MPs.

In Table A5, we re-estimate the models with these cases excluded from the datasets.

Table A5: Models based on data from reduced datasets

	Vote Share			Vote Choice		
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
Dissent	0.131	-0.270	-0.208	0.683**	0.057	-0.235
	(0.130)	(0.159)	(0.145)	(0.243)	(0.667)	(1.37)
Attendance			0.046*			-0.042
			(0.019)			(0.166)
Majority			0.085***			0.018
			(0.020)			(0.141)
Office			0.002			0.007
			(0.003)			(0.017)
Political Knowledge						0.008
						(0.015)
Media Consumption						0.009
						(0.014)
Left-Right Position						0.004
						(0.010)
Party ID						0.106***
						(0.015)
Constant	0.516***			0.464***		
	(0.003)			(0.004)		
Fixed-effects						
MP–Constituency FEs	✗	✓	✓	✗	✓	✓
Party–Year FEs	✗	✓	✓	✗	✓	✓
Voter FEs	✗	✗	✗	✗	✓	✓
Fit statistics						
Observations	2,577	2,577	2,577	62,802	62,802	35,607
R^2	0.0004	0.927	0.929	0.0004	0.854	0.945
Within R^2		0.005	0.032		1.76×10^{-6}	0.141

Notes: Standard errors are clustered at the level of MPs. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

4.3 Votes for both ways

MPs can technically vote for both *Aye* and *No* in the same division, although this rarely happens in practice. In the main text, and elsewhere in this Appendix, we do not consider these votes as rebellion.

In Table A6, we re-estimate the models with the votes cast both ways considered as rebellion.

Table A6: Models based on considering votes for both ways as rebellion

	Vote Share			Vote Choice		
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
Dissent	0.181	-0.223	-0.170	0.681**	0.195	-0.271
	(0.128)	(0.175)	(0.164)	(0.234)	(0.610)	(1.33)
Attendance			0.047*			-0.058
			(0.018)			(0.157)
Majority			0.083***			0.011
			(0.019)			(0.131)
Office			0.001			0.005
			(0.003)			(0.015)
Political Knowledge						0.006
						(0.014)
Media Consumption						0.005
						(0.013)
Left-Right Position						0.004
						(0.009)
Party ID						0.120***
						(0.013)
Constant	0.510***			0.460***		
	(0.003)			(0.004)		
Fixed-effects						
MP–Constituency FEs	✗	✓	✓	✗	✓	✓
Party–Year FEs	✗	✓	✓	✗	✓	✓
Voter FEs	✗	✗	✗	✗	✓	✓
Fit statistics						
Observations	2,889	2,889	2,889	67,997	67,997	37,558
R^2	0.0007	0.925	0.927	0.0004	0.834	0.939
Within R^2		0.003	0.028		1.82×10^{-5}	0.183

Notes: Standard errors are clustered at the level of MPs. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

4.4 Logistic regression models

Although one of our dependent variables, *Vote Choice* is a binary measure, we modelled it using ordinary least squares (OLS) in the main text. This yields coefficients that are easy to compute, interpret, and compare.

In Table A7, we provide a robustness check on this strategy by using logistic regression models for the models with *Vote Choice* as the dependent variable.

Table A7: Logistic regression models of vote choice

	Vote Choice		
	(1)	(2)	(3)
Variables			
Dissent	2.80**	3.57	-8.79
	(0.957)	(7.93)	(25.6)
Attendance			-0.891
			(2.52)
Majority			2.79
			(2.59)
Office			0.054
			(0.371)
Political Knowledge			0.144
			(0.206)
Media Consumption			-0.028
			(0.243)
Left-Right Position			0.025
			(0.161)
Party ID			1.36***
			(0.114)
Constant	-0.159***		
	(0.016)		
Fixed-effects			
MP–Constituency FEs	✗	✓	✓
Party–Year FEs	✗	✓	✓
Voter FEs	✗	✓	✓
Fit statistics			
Observations	67,997	12,886	3,225
Squared Correlation	0.0004	0.225	0.468
Pseudo R^2	0.0003	0.192	0.417
BIC	93,951.1	74,750.1	19,966.6

Notes: Standard errors are clustered at the level of MPs. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

4.5 Quadratic independent variable

In Table A8, we add a quadratic term to the original regression models.

Table A8: Models with quadratic independent variable

	Vote Share			Vote Choice		
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
Dissent	0.391	-0.203	-0.103	2.12***	0.170	-0.634
	(0.247)	(0.246)	(0.248)	(0.398)	(0.932)	(1.73)
Dissent^2	-2.15	-0.249	-0.608	-16.6***	0.170	6.98
	(1.65)	(1.23)	(1.14)	(3.22)	(6.86)	(14.7)
Attendance			0.047*			-0.056
			(0.018)			(0.158)
Majority			0.081***			0.010
			(0.019)			(0.132)
Office			0.001			0.005
			(0.003)			(0.015)
Political Knowledge						0.006
						(0.014)
Media Consumption						0.005
						(0.013)
Left-Right Position						0.004
						(0.009)
Party ID						0.120***
						(0.013)
Constant	0.509***			0.453***		
	(0.003)			(0.004)		
Fixed-effects						
MP–Constituency FEs	✗	✓	✓	✗	✓	✓
Party–Year FEs	✗	✓	✓	✗	✓	✓
Voter FEs	✗	✗	✗	✗	✓	✓
Fit statistics						
Observations	2,909	2,909	2,909	67,997	67,997	37,558
R^2	0.001	0.926	0.928	0.001	0.834	0.939
Within R^2		0.004	0.027		1.69×10^{-5}	0.183

Notes: Standard errors are clustered at the level of MPs. * p < 0.05, ** p < 0.01, *** p < 0.001.

4.6 Binary independent variable

In Table A9, we use a binary measure instead of *Dissent*, indicating whether (1) or not (0) MPs vote against the majority in their party at least once in a parliamentary term.

Table A9: Models with binary independent variable

	Vote Share			Vote Choice		
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
Dissent Binary	0.001	0.0002	-9.31×10^{-5}	0.011	-0.004	0.002
	(0.005)	(0.004)	(0.003)	(0.007)	(0.012)	(0.022)
Attendance			0.047*			-0.055
			(0.018)			(0.157)
Majority			0.082***			0.014
			(0.019)			(0.129)
Office			0.002			0.005
			(0.003)			(0.015)
Political Knowledge						0.006
						(0.014)
Media Consumption						0.005
						(0.013)
Left-Right Position						0.004
						(0.009)
Party ID						0.120***
						(0.013)
Constant	0.510***			0.458***		
	(0.005)			(0.006)		
Fixed-effects						
MP–Constituency FEs	✗	✓	✓	✗	✓	✓
Party–Year FEs	✗	✓	✓	✗	✓	✓
Voter FEs	✗	✗	✗	✗	✓	✓
Fit statistics						
Observations	2,909	2,909	2,909	67,997	67,997	37,558
R^2	3.1×10^{-5}	0.925	0.927	8.47×10^{-5}	0.834	0.939
Within R^2		3.63×10^{-6}	0.025		1.07×10^{-5}	0.183

Notes: Standard errors are clustered at the level of MPs. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

4.7 Quartile independent variable

In Table A10, we use a categorical measure instead of *Dissent*, by dividing it into four parts. The first quarter (Q1), which includes MPs who rebel relatively rarely if at all, is the baseline category in the regression models.

Table A10: Models with quartile independent variable

	Vote Share			Vote Choice		
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
Dissent Q2	0.0001	0.002	0.002	-0.017*	-0.004	0.004
	(0.005)	(0.003)	(0.003)	(0.008)	(0.013)	(0.026)
Dissent Q3	0.002	-0.001	-0.002	0.009	-0.005	-0.0007
	(0.005)	(0.003)	(0.003)	(0.008)	(0.015)	(0.027)
Dissent Q4	0.008	-0.003	-0.002	0.041***	0.004	0.004
	(0.005)	(0.005)	(0.005)	(0.008)	(0.021)	(0.035)
Attendance			0.048*			-0.057
			(0.019)			(0.159)
Majority			0.082***			0.014
			(0.019)			(0.132)
Office			0.002			0.006
			(0.003)			(0.015)
Political Knowledge						0.006
						(0.014)
Media Consumption						0.005
						(0.013)
Left-Right Position						0.004
						(0.009)
Party ID						0.120***
						(0.013)
Constant	0.509***			0.458***		
	(0.004)			(0.006)		
Fixed-effects						
MP–Constituency FEs	✗	✓	✓	✗	✓	✓
Party–Year FEs	✗	✓	✓	✗	✓	✓
Voter FEs	✗	✗	✗	✗	✓	✓
Fit statistics						
Observations	2,909	2,909	2,909	67,997	67,997	37,558
R^2	0.001	0.926	0.927	0.002	0.834	0.939
Within R^2		0.001	0.026		5.24×10^{-5}	0.183

Notes: Standard errors are clustered at the level of MPs. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

4.8   Interest in elections

Figure A5 plots the marginal effect of legislator dissent on vote choice, at different levels of voters'
interest in upcoming elections. It shows that the results are not heterogeneous along this dimension
either — in addition to the four dimensions in Figure 2 in the main text.

The moderating variable originates from the *electionInterest* item in BESIP, which asks '*How
interested are you in the General Election that will be held on ... this year?*'. The answer categories
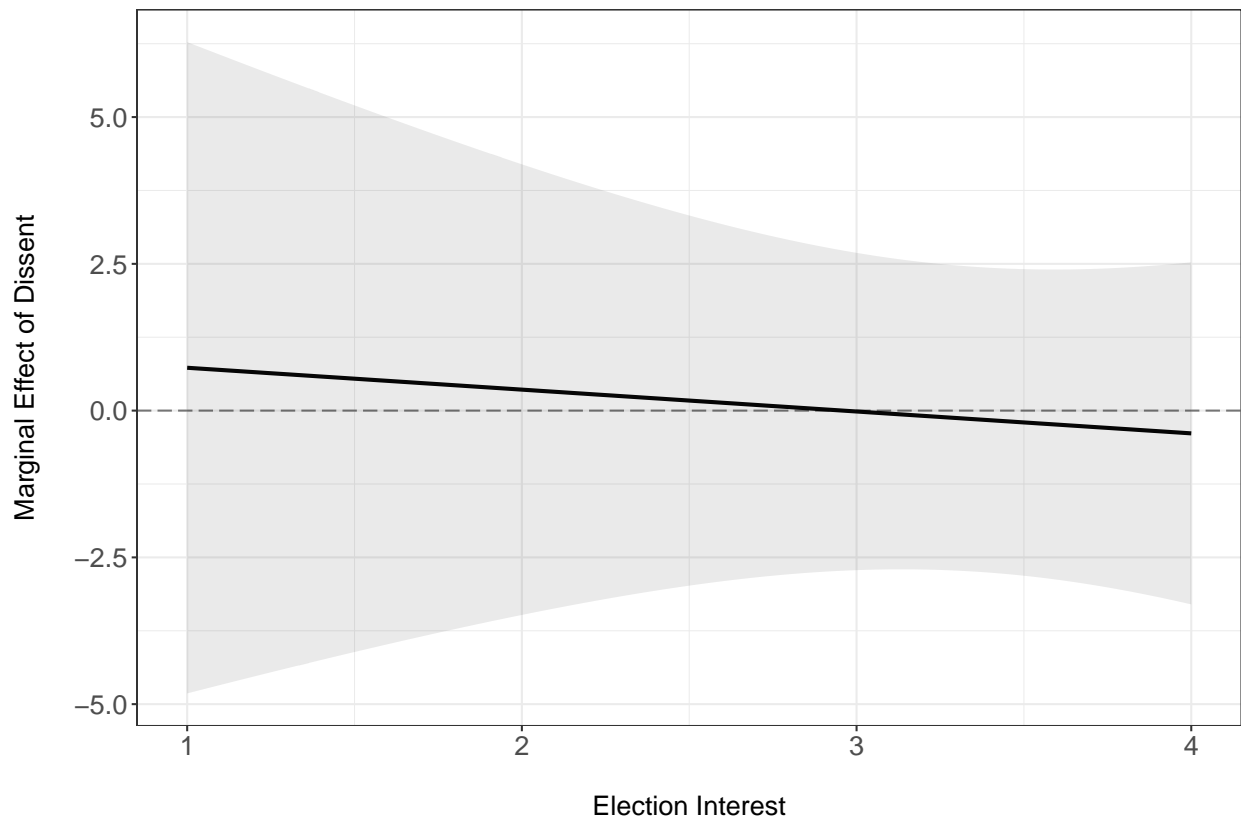range between 1 (*Not at all interested*) and 4 (*Very interested*).

Figure A5: Marginal effect of dissent on vote choice, conditional on voters' interest in elections.

4.9 Turnout as dependent variable

In Table A11, we re-estimate the models using electoral turnout as the dependent variable.

Table A11: Models of electoral turnout

	Turnout Share			Turnout Choice		
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
Dissent	-0.033	-0.023	-0.023	0.149	-0.126	-0.142
	(0.125)	(0.042)	(0.042)	(0.078)	(0.257)	(0.670)
Attendance			-0.008			-0.022
			(0.008)			(0.085)
Majority			0.002			0.018
			(0.008)			(0.088)
Office			-0.0002			0.0009
			(0.001)			(0.013)
Political Knowledge						0.002
						(0.009)
Media Consumption						0.011
						(0.008)
Left-Right Position						0.001
						(0.005)
Party ID						0.001
						(0.003)
Constant	0.646***			0.913***		
	(0.002)			(0.002)		
Fixed-effects						
MP–Constituency FEs	✗	✓	✓	✗	✓	✓
Party–Year FEs	✗	✓	✓	✗	✓	✓
Voter FEs	✗	✗	✗	✗	✓	✓
Fit statistics						
Observations	2,909	2,909	2,909	75,067	75,067	40,158
R^2	4.27×10^{-5}	0.974	0.974	5.32×10^{-5}	0.875	0.919
Within R^2		0.0002	0.001		3.16×10^{-5}	0.002

Notes: Standard errors are clustered at the level of MPs. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

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