"Divergent Preferences and Legislative Speeches on Brexit"

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S1 Codebook of Variables

Before we proceed to define the variables in the multivariate analyses in the article, Table S1 presents the descriptive statistics.

Table S1: Descriptive statistics.

	N	Mean	Median	SD	Min	Max
Binary	643	0.35	0	0.48	0	1
# Speeches	643	0.87	0	1.76	0	15
# Days	643	0.38	0	0.55	0	2
# Words	643	239.19	0	411.13	0	2393
Negativity	224	–0.66	–0.62	0.54	–2.40	1.95
Country Dissenters	620	0.20	0	0.40	0	1
Constituency Dissenters	606	0.20	0	0.40	0	1
Party Dissenters	617	0.09	0	0.28	0	1
Front Bench	648	0.35	0	0.48	0	1
Brexit Committee	648	0.06	0	0.23	0	1
Overall Rebellion	648	0.63	0.30	1.15	0	10.40
Party Size	647	253.86	329	98.30	1	329
Changed Mind	611	0.55	1	0.50	0	1
Age	648	50.24	50	10.39	22	86
Female	648	0.30	0	0.46	0	1
Government	643	0.51	1	0.50	0	1
Majority	648	24.17	24.25	14.12	0.10	81.10
Seniority	648	10.47	7	8.91	1	47

Dependent Variables

As explained in the main text, the data for the dependent variables comes from the debate on the European Union Notification of Withdrawal Bill 2017, held on 31 January–1

February 2017 in the British House of Commons. We started with scraping the debate from www.theyworkforyou.com—a website that re-publishes the debates in the Hansard. We then removed the MPs chairing the debates on the bill as well as the single-sentence interventions asking for others to give way. Based on the remaining data, we first created a set of four dependent variables—alternative operationalisations of legislative speech-making—to explain the relationship between divergent preferences and speeches:

Binary. Whether MPs gave at least one speech during the debate ($x = 1$) or not ($x = 0$).

Speeches. The number of times that MPs spoke during the debate.

Days. The number of days on which MPs gave at least one speech during the debate.

Words. The total number of words in MPs' speeches in the debate.

Then, to explain the relationship between divergent preferences and sentiments in speeches, we created a measure of speech negativity. Considering that the negative tone of a speech can be affected by the counts of not only the negative but also the positive words, this dependent variable takes the difference between the two counts before normalising the scores with the number sentimental words in the speeches.

Negativity. The logit scale of sentiments. As proposed by Lowe, Benoit, Mikhaylov, and Laver (2011), this is calculated as

$$Negativity = \log \frac{\#\ Negative\ Words + 0.5}{\#\ Positive\ Words + 0.5}$$

Independent Variables

To create the three key variables of interest, measuring MPs' compliance with or dissent to their principals, we first coded the referendum results (in individual constituencies (Hanretty, 2017; Rosenbaum, 2017) and in the whole country) and the following parliamentary vote on the Notification Bill (for MPs and parties, in the division on 8 February 2017). Based on this scheme, we then coded the dissenters as follows:

Country Dissenters. As the country voted to leave the EU, this variable is coded as 1 for MPs who voted against the Notification Bill, 0 for those who voted for it.

Constituency Dissenters. For constituencies that voted to leave the EU, this variable is coded as above. In constituencies that voted to remain, the coding scheme is reversed—that is, it is coded as 0 for MPs who voted against the Notification Bill, 1 for those who voted for it.

Party Dissenters. This variable is coded as 1 for MPs who voted against their party whip on the Notification Bill, 0 for those who voted with it. Except for Kenneth Clarke (Rushcliffe, Conservative), all party dissenters were Labour MPs.

Data for the remaining control variables comes from the UK Parliament website, www.parliament.uk, unless otherwise noted for individual variables below:

Front Bench. A binary variable, coded as 1 for party spokespersons as well as for cabinet and shadow cabinet members, or as 0 for MPs without any of these roles. Previous research shows that the backbencher–frontbencher difference correlates with the parliamentary speech-making behaviour (Slapin & Proksch, 2010; Bäck, Debus, & Müller, 2014; Giannetti & Pedrazzani, 2016; Bäck & Debus, 2018a), including the positive sentiments revealed in legislative speeches (Rudkowsky et al., 2018; Proksch, Lowe, Wäckerle, & Soroka, 2018).

Brexit Committee. A binary variable, coded as 1 for the members of the committee in charge of overseeing Brexit—*Exiting the European Union Committee*—or otherwise as 0. Members of the committee in charge of a policy area are more likely to speak when the parliament debates a related policy (Bäck et al., 2014; Giannetti & Pedrazzani, 2016; Alemán, Ramírez, & Slapin, 2017; Schwarz, Traber, & Benoit, 2017; Bäck & Debus, 2018a).

Overall Rebellion. The percentage of the occasions that MPs voted against their party line over a long time, between the start of the parliamentary term and the vote on the Notification Bill. The data for this variable comes from www.publicwhip.org.uk—a website that publishes the voting history of MPs and Lords in the UK. MPs with an established history of rebellion might behave differently than the dissenters in any particular vote.

Party Size. The absolute number of parliamentary seats that parties had in 2017. As the chair tries to find a balance among the parties in any debate in the British House of Commons (Slapin, Kirkland, Lazzaro, Leslie, & O'Grady, 2018; see also Slapin & Proksch, 2010, Bäck et al., 2014, Giannetti & Pedrazzani, 2016, and Bäck & Debus, 2018a), party size is likely to affect who speaks in parliamentary debates.

Changed Mind. A binary variable, coded as 1 for MPs who had changed their position on Brexit since their campaign for the referendum, 0 for those who had not. MPs made their position public before the referendum, and the data for this variable comes from an extensive news report by BBC (June 22, 2016).

Age. A continuous variable measuring the age of MPs in 2017.

Female. A binary variable based on the gender of the MPs, coded as 1 for the females, 0 for the males. Previous research suggests that gender is an important determinant of the speech-making behaviour in parliament (Bäck et al., 2014; Bäck & Debus, 2018b).

Government. A binary variable coded as 0 for the MPs from opposition parties or as 1 for the MPs from the government party—Conservatives. Government MPs are likely to be more positive in their speeches than opposition MPs (Rheault, Beelen, Cochrane, & Hirst, 2016; Rudkowsky et al., 2018; Proksch et al., 2018).

Majority. A continuous variable measuring the difference between the vote shares of the incumbent MP and the candidate who came second in the most recent elections—the 2015 general election. Their margin of electoral safety is likely to correlate with whether and against whom MPs voice dissent in parliamentary speeches (Proksch & Slapin, 2014, Chapter 6) and with the sentiments in their speeches (Proksch et al., 2018).

Seniority. A continuous variable measuring the number of years that MPs had served as parliamentary representatives in 2017. Senior MPs are likely to give more speeches in parliament (Alemán et al., 2017; Bäck & Debus, 2018a).

S2 Regression Estimates in Full

This section provides the complete models for the results summarised in the main text, specifically in Table 1 and Table 2.

Table S2: Regression models of debate participation—complete results for Table 1.

	Model 1 (Binary)	Model 2 (# Speeches)	Model 3 (# Days)	Model 4 (# Words)
Country Dissenters	3.43***	2.09***	2.12***	1.69***
	(0.61)	(0.30)	(0.20)	(0.41)
Constituency Dissenters	0.34***	0.25**	0.18***	0.28***
	(0.07)	(0.09)	(0.05)	(0.05)
Party Dissenters	–1.14*	–1.35**	–1.00***	–1.30**
	(0.52)	(0.43)	(0.24)	(0.48)
Front Bench	–1.46*	–0.83	–0.89	–1.63
	(0.72)	(0.47)	(0.54)	(0.88)
Brexit Committee	0.86*	0.46***	0.27	0.51
	(0.37)	(0.12)	(0.16)	(0.29)
Overall Rebellion	0.18*	0.12	0.08**	0.31
	(0.09)	(0.09)	(0.03)	(0.39)
Party Size	0.01***	0.00***	0.00***	–0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Changed Mind	0.46***	–0.26***	0.15*	–0.17
	(0.11)	(0.04)	(0.07)	(0.18)
Age	–0.00	0.00	0.00	0.01
	(0.01)	(0.01)	(0.01)	(0.01)
Female	0.02	–0.10	0.06	0.05
	(0.17)	(0.13)	(0.15)	(0.08)
Majority	–0.00	0.00	–0.00	–0.00
	(0.01)	(0.01)	(0.01)	(0.01)
Seniority	–0.00	0.01**	–0.00	–0.00
	(0.01)	(0.00)	(0.01)	(0.01)
Constant	–2.48***	–1.50***	–3.13***	5.12***
	(0.49)	(0.37)	(0.24)	(0.72)
Observations	595	595	595	595

Notes: This table presents the complete results for Table 1, where Model 1 is a logistic regression and Models 2–4 are negative binomial regressions. In parentheses are the robust standard errors, clustered by parliamentary party membership. In Model 3, the exposure time is set to two—the number of debating days. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table S3: Regression models of negativity in speeches—complete results for Table 2.

	Coefficient	Std. Error
Country Dissenters	0.24*	0.09
Constituency Dissenters	0.06*	0.02
Party Dissenters	–0.33**	0.05
Front Bench	–0.23	0.11
Changed Mind	–0.09***	0.01
Age	–0.01**	0.00
Female	–0.03	0.07
Government	–0.41***	0.04
Majority	0.00	0.00
Seniority	0.01	0.00
Constant	–0.10	0.06
Observations	207	
R^2	0.17	

Notes: This table presents the complete results for Table 2. The dependent variable is *Negativity*, where higher values indicate more negative speeches. Standard errors are clustered by parliamentary party membership. * $p < 0.05$, ** $p < 0.01$.

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