

The left-right positions of British MPs inferred from a survey of local councillors*

Chris Hanretty [†]
Royal Holloway, University of London
chris.hanretty@rhul.ac.uk

Vasil Lazarov
Royal Holloway, University of London
Survation
vasil.lazarov@survation.com

ABSTRACT We present local councillors in England, Wales and Scotland with pairwise comparisons between MPs in their local area and two anchor MPs and ask them to identify the more left-wing MP on economic issues. We infer MPs' positions on the left-right dimension from the responses to these pairwise choices. The estimates of MPs' positions have good face validity, and can be used to study the effects of MPs' position on behaviour in the party and in the legislature.

KEYWORDS expert survey; ideal points; ordinal regression

Introduction

The measurement of actors' positions in political space is a key task of political science. Most effort has been spent on estimating the positions of parties in a one-dimensional, left-right, political space; but for polities which use candidate-centred electoral systems, or which have politically relevant within-party disagreement, knowing the positions of individual legislators is also important. Unfortunately, measuring individual legislators' positions is difficult outside of a small number of countries. Most legislators do not issue personal manifestos or policy platforms (cf. Catalinac, 2018), meaning we cannot scale legislators in the same way the Comparative Manifesto Project scales political parties. Although legislators do talk and vote in parliaments, these acts are often strategic: scaling

*Thanks to Survation for hosting these questions on their omnibus survey of local councillors. Particular thanks to David Izamoje for setting up the script seen by councillors.

[†]Corresponding author.

techniques used successful to analyse congressional roll-calls can fail to recover left-right positions where there are strong government-opposition dynamics and where extremes of left and right join together to vote against the middle (Spiraling & McLean, 2007).¹ The analysis of legislative speech generally also tends to recover government-opposition dynamics more than left-right position (Lauderdale & Herzog, 2016).² Whilst expert surveys have proved tremendously useful in the study of party systems, few political scientists would be able to place hundreds of MPs on an interval scale with as much equanimity as they place parties, and those expert assessments that exist are typically fairly coarse-grained (Heppell, 2013).

In this note, we provide estimates of the economic left-right positions of British MPs in the 2019-2024 parliament. Estimating the positions of British legislators is important because within-party disagreement in Britain has been increasing over time, and because MPs' preferences have strongly conditioned or determined the identity of the last four British prime ministers.³ We estimate positions on the basis of a survey of local councillors. We presented councillors with up to six pairwise comparisons between MPs in their local area and two "anchor" MPs (Prime Minister Rishi Sunak and Labour leader Sir Keir Starmer). This pairwise approach has previously been used by Breunig et al. (2021) and Hopkins and Noel (2022); our application uses a richer set of response categories and presented only local comparisons. We asked councillors to pick the more left-wing MP on economic issues, choosing between five response options:

- [the first named MP] is much more left-wing;
- [the first named MP] is somewhat more left-wing;
- [the first named MP] and [the second named MP] are about the same;
- [the second named MP] is somewhat more left-wing;
- [the second named MP] is much more left-wing;

We analyze these ordinal responses using a Bayesian ordinal logistic regression (Bürkner & Vuorre, 2019) with symmetric thresholds (Johnson, 2003). The use of Bayesian methods allows us to work directly with the probability that a named MP is more left- or right-wing than a comparison MP and calculate measures of uncertainty for derived statistics such as rank-order. Our estimates should prove useful to researchers interested in parliamentary representation in the United Kingdom and more generally.

¹Some non-strategic legislative behaviours can be analysed (Kellermann, 2012), but these are becoming less popular (and thus less informative)

²Latent positions on specific issues can be recovered, but this requires a careful selection both of texts and reference points. See O'Grady (2022).

³Theresa May was elected Conservative party leader without a membership vote after four ballots of Conservative MPs; Boris Johnson became leader by beating Jeremy Hunt in a membership vote after eight other candidates were eliminated by MPs; Liz Truss became leader by beating Rishi Sunak in a membership vote after six other candidates were eliminated by MPs; Rishi Sunak subsequently became leader without any membership vote or ballot amongst MPs.

Table 1: Distribution of responses

Response	Y	N
[First-named MP] much more left-wing	1	652
[First-named MP] somewhat more left-wing	2	749
[First-named MP] and [Second-named MP] about the same	3	1321
[Second-named MP] somewhat more left-wing	4	712
[Second-named MP] much more left-wing	5	526

Data

Our survey was fielded between 7th August and 3rd September 2023 to n_{total} local councillors. Only responses from the 1486 local councillors in England, Wales and Scotland were used. Respondents were asked to make up to six comparisons between pairs of MPs. The pairs of MPs were randomized within upper-tier local authorities. The pool of MPs included MPs which represented any constituency located wholly or partly within the “upper tier local authority”, together with the leaders of the two largest parties (Rishi Sunak and Sir Keir Starmer). For example, respondents in County Durham were asked to make comparisons between seven MPs, of which five represented constituencies in the area.⁴ An example prompt is shown in Figure 1.

In total, respondents made 6024, or just over 4 comparisons per respondent. After excluding “don’t know” responses, we are left with 3962 comparisons. These comparisons are not evenly distributed across MPs. 23 MPs feature in the data zero times. Two MPs (Keir Starmer and Rishi Sunak) appear over three hundred times. Including these extremes, the median number of appearances each MPs makes is 10.

Table 1 shows the distribution of responses across categories. The distribution is broadly symmetric (as we would expect) and concentrated around the middle category (as we would expect given that most comparisons were within-party comparisons). The table also shows the numeric representation of each response: we map “[First-named MP] much more left-wing” on to 1 so that in our analyses more left-wing MPs have negative values of the latent trait and are to the left in our plots.

Methods

We use an ordinal regression model with a cumulative logit link and symmetric thresholds. A cumulative link model models the probability that the response will fall in category k or lower:

⁴These were: Dehenna DAVISON (Bishop Auckland, Cons.); Grahame MORRIS (Easington, Lab.); Kevan JONES (North Durham, Lab.); Mary FOY (City of Durham, Lab.); Paul HOWELL (Sedgefield, Cons.); Richard HOLDEN (North West Durham, Cons.).

$$\Pr(Y_i \leq k) = F(\tau_k - \mu_i) \quad (1)$$

where τ_k is one of $K - 1$ threshold parameters ordered such that $\tau_i < \tau_{i+1}$. A cumulative *logit* link is obtained where $F(\cdot)$ is standard logistic distribution $\frac{\exp x}{1 + \exp x}$. The use of a logit link rather than (say) a probit link does not affect our estimates except for changing the scale of the estimates. We use symmetric thresholds because of the symmetry in our question format: whether an MP appears as the first-named or second-named MP is random, and so the distance between “much more” and “somewhat more” should not be different depending on whether we face the actual comparison or the comparison with the order reversed.⁵ Symmetric thresholds can be obtained either by specifying the appropriate Jacobian (Christensen, 2019) or by dealing with the increments between thresholds. We use the latter approach here, and stipulate that:

$$\tau = [\tau_1^*, \tau_1^* + \delta_1, \tau_1^* + \delta_1 + \delta_2, \tau_1^* + 2 \cdot \delta_1 + \delta_2]$$

This approach is illustrated in Figure 1, which shows the ordered thresholds and the increments used.

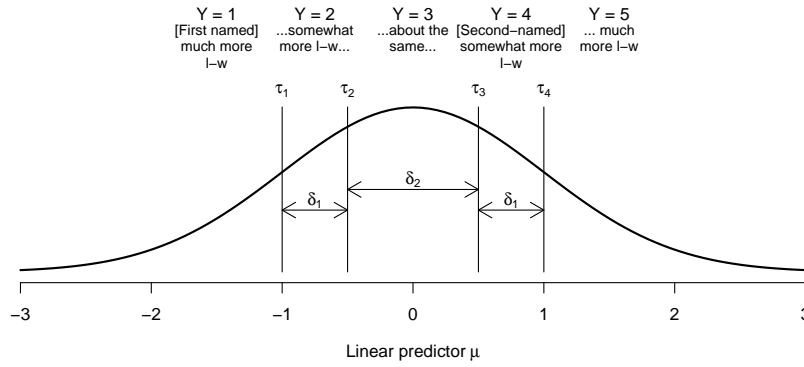


Figure 1: Illustration of the symmetric thresholds used

The thresholds describe how our linear predictor μ_i is related to the observed response Y , but we now need to characterize μ . We set μ equal to the difference between MP ideal points. We use $\theta_{A_{[i]}}$ refers to the level of the latent trait of the first named MP in the i -th comparison, and θ_B for the second named MP. Thus,

⁵The *responses* need not be symmetric: respondents may systematically be more likely to choose the second-named MP, but this can happen thanks to changes in the values of parameters τ_1^* and δ_2 rather than breaking the symmetry between $|\tau_2 - \tau_1|$ and $|\tau_4 - \tau_3|$.

$$\mu_i = \theta_{A_{[i]}} - \theta_{B_{[i]}} \quad (2)$$

There is no error term in this equation; the error is implied by the use of the logistic function in Equation 1. We then model θ as a function of the legislator Party and a residual random intercept α .⁶ If we use l to index legislators $l = 1, \dots, 632$, then we have

$$\theta_l = \alpha_l + \gamma_{P[l]} \quad (3)$$

where the value of γ for the reference party, the Conservative party, is set to zero. Values of α are drawn from a distribution with estimated standard deviation:

$$\alpha \sim N(0, \sigma)$$

We place the following priors on the model parameters:

$$\sigma \sim N^+(0, 1)$$

$$\gamma \sim N(0, 2.5)$$

$$\tau_1^* \sim N(-1, 2.5)$$

$$\delta_i \sim N^+(0, 1)$$

We estimate this model in Stan, using four chains for 2,000 iterations, with the first 1,000 iterations discarded as warmup. There were no problems with convergence.

Results

Figure 2 shows a beeswarm plot of MPs' ideal points, with parties ordered by mean position. The relative ordering of the parties is broadly as expected, with the Liberal Democrats to the left of the Conservatives, and the positions of the SNP and Plaid Cymru parliamentary groups to the left of Labour. The within-party dispersion of the ideal points also makes sense: Labour MPs' positions are more dispersed than those of the Conservative party, whilst the Liberal Democrats are split between more left-wing Liberal Democrats (Layla Moran and Daisy Cooper) and the more free-market wing of the party (Ed Davey and, to a lesser extent, the party's Scottish MPs).

⁶In principle it would be possible to add additional predictors such as region or lagged vote share. In practice some additional predictors such as region overlap perfectly with membership in a particular party (Scottish National Party, Plaid Cymru), or otherwise introduced problems with convergence.

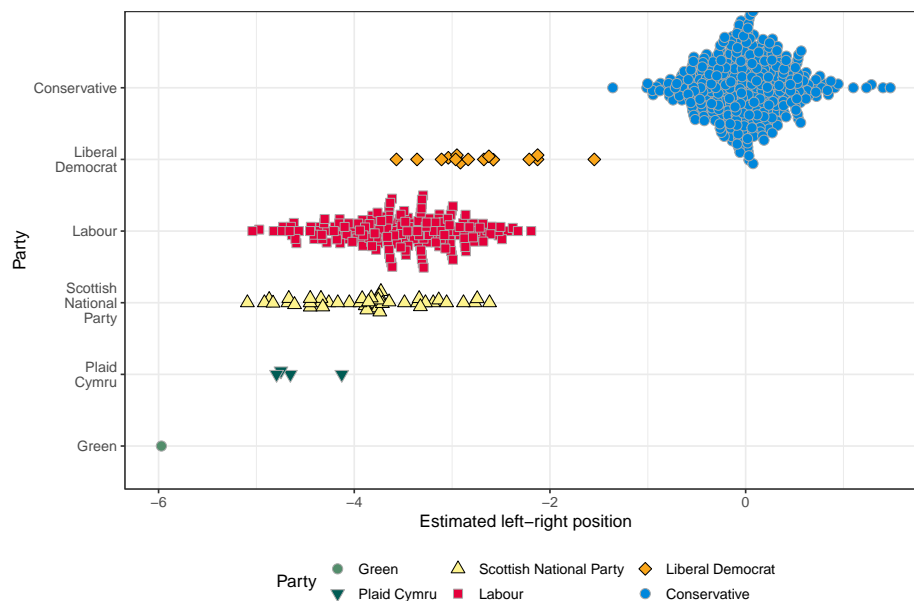


Figure 2: Bee-swarm plot of MPs' left-right positions

Figure 2 plots each individual legislators as a single point, and ignores the uncertainty associated with each estimate. The average width of the 95% credible interval on each estimate is 1.97 units. By comparison, the range of ideal points is $(1.48 - -5.97 =) 7.45$ units, and the standard deviation is 1.83 units.

We can investigate the face validity of the estimates by examining MPs at the extremes and middle of the distribution. Table 2 gives information on the six most left-wing, most centrist and most right-wing MPs, where “centrist” is defined relative to the distribution of MPs in the 2019-2024 parliament. The two most right-wing MPs, Mark Jenkinson and John Redwood, are respectively a former UKIP candidate and a “right-wing true-believer in the cold realities of the free market”.⁷ The most left-wing MP is the sole representative of the Green party, whilst the most left-wing Labour MP John McDonnell is an occasional Marxist and former Shadow Chancellor of the Exchequer under Jeremy Corbyn.⁸ The centrist MPs are those on the left wing of the Conservative party, including, in Robert Buckland, a member of the One Nation caucus and patron of the Tory Reform Group.

The table also gives information on the rank of each MP, together with the endpoints of the 95% credible interval. Thus, while we present Caroline Lucas

⁷William Tuohy, “Cool, Aloof John Redwood Adds Fire to British Politics”, *Los Angeles Times*, 29th June 1995, accessed at <https://www.latimes.com/archives/la-xpm-1995-06-29-mn-18536-story.html>

⁸Jason Cowley, “Who is the real John McDonnell?”, *New Statesman*, 5th September 2018, accessed at <https://www.newstatesman.com/long-reads/2018/09/who-real-john-mcdonnell>

Table 2: MPs on the left, middle, and right of the recovered dimension. Columns Lo and Hi refer to the 2.5th and 97.5th percentiles of the posterior distribution.

MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Left-wing							
Caroline LUCAS	Green	-5.97	-7.57	-4.47	1	1	36
Steven BONNAR	SNP	-5.09	-6.30	-3.85	2	1	85
John Martin MCDONNELL	Labour	-5.04	-5.98	-4.12	3	2	61
Barry GARDINER	Labour	-4.97	-5.93	-4.04	4	2	69
Tommy SHEPPARD	SNP	-4.92	-6.15	-3.66	5	1	106
Mhairi BLACK	SNP	-4.87	-6.12	-3.60	6	1	113
Middle							
Robert BUCKLAND	Cons.	-0.39	-1.38	0.63	314	257	553
Richard HOLDEN	Cons.	-0.38	-1.42	0.63	315	257	558
Iain STEWART	Cons.	-0.37	-1.31	0.57	316	260	544
John STEVENSON	Cons.	-0.35	-1.30	0.56	317	260	544
Helen GRANT	Cons.	-0.35	-1.11	0.44	318	265	526
Jane STEVENSON	Cons.	-0.35	-1.54	0.83	319	255	575
Right-wing							
Mark FRANCOIS	Cons.	0.95	0.16	1.75	604	472	608
Craig MACKINLAY	Cons.	1.10	0.40	1.82	605	520	608
Esther MCVEY	Cons.	1.23	0.57	1.92	606	546	609
Suella BRAVERMAN	Cons.	1.29	0.53	2.05	607	542	609
Mark JENKINSON	Cons.	1.40	0.50	2.31	608	537	609
John REDWOOD	Cons.	1.48	0.62	2.34	609	554	609

as the most left-wing MP, we could not rule out the possibility that she is actually the 36th left-most MP. Uncertainty in rank is particularly acute for centrist MPs, whose rank differs by almost three hundred places across samples from the posterior. Nevertheless, we can still distinguish between MPs at these points: the posterior probability that Robert Buckland is to the left of Mark Francois (for example) is 100, while the probability that Mark Francois is to the left of John Redwood is 15. Generally the uncertainty in the estimates is primarily a function of the number of comparisons and only secondarily a function of the extremism of the MPs' position (see Figure 3).

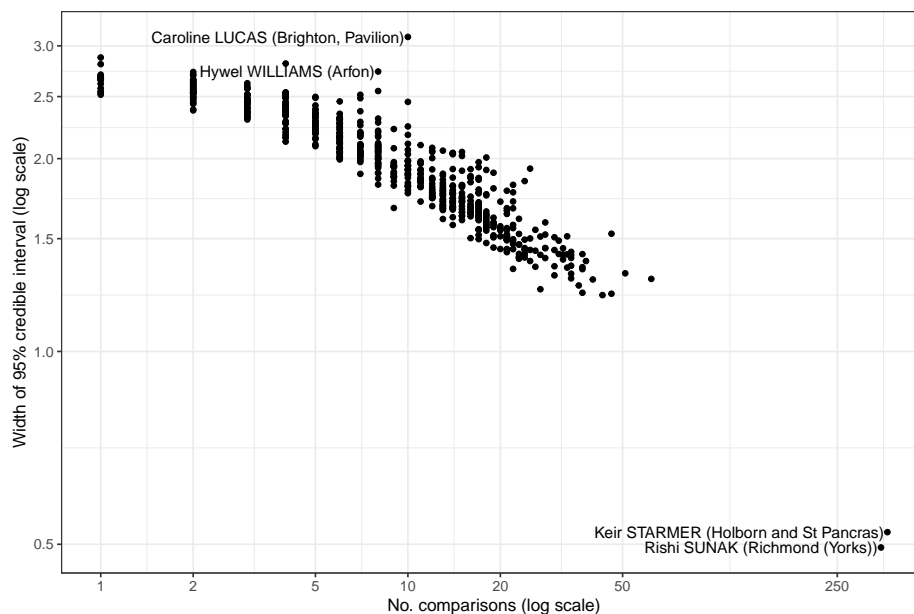


Figure 3: Uncertainty in estimates as a function of the number of comparisons

Another way of demonstrating face validity is to examine the average positions of MPs in different party caucuses. Table 3 shows positions for Labour and Conservative caucuses. For Labour, Socialist Campaign Group MPs are to the left of the party generally, and the party generally is to the left of Tribune Group MPs. For the Conservatives, members of the (partially overlapping) Tory Reform and One Nation groupings are to the left of the party generally, and the party generally is to the left of European Reform Group subscribers.

We can check convergent validity by comparing our measures with other measures. Hanretty et al. (2017) present estimates of the left-right positions of 441 MPs who signed early day motions relating to the economy in the 2010 to 2015 parliament. Of these MPs, 164 also feature in our data. The correlation between the two measures is extremely high ($r = 0.94$).

Table 3: Average positions and standard deviations of MPs in different party caucuses

Group	N	Median	SD
Cons.			
ERG subscribers	42	0.20	0.42
(All Conservative MPs)	356	0.01	0.42
Tory Reform Group	13	-0.18	0.30
One Nation members	26	-0.20	0.33
Lab.			
Tribune Group	68	-3.38	0.51
(All Labour MPs)	191	-3.49	0.58
Socialist Campaign Group	34	-4.20	0.48

Conclusions

In this note, we have presented estimates of the economic left-right position of almost all MPs serving in the 2019-2024 House of Commons. Our estimates therefore have greater coverage than any previous set of estimates. In future we hope to achieve a degree of temporal coverage by repeating this exercise for future parliaments. The estimates, which are available online at [REFERENCE REMOVED](#), should help researchers interested in many different aspects of legislative and party behaviour.

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The left-right positions of British MPs inferred from a survey of local councillors^{*}

Appendix

Chris Hanretty [†]
Royal Holloway, University of London
chris.hanretty@rhul.ac.uk

Vasil Lazarov
Royal Holloway, University of London
Survation
vasil.lazarov@survation.com

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[†]Corresponding author.

Full listing of MPs

The table reports the positions and ranks of MPs in office at the time of the survey. MPs appear with the party label under which they were elected to the House of Commons, whether or not they retain the party whip.

MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Caroline LUCAS	Green	-5.97	-7.57	-4.47	1	1	36
Steven BONNAR	SNP	-5.09	-6.30	-3.85	2	1	85
John Martin MCDONNELL	Labour	-5.04	-5.98	-4.12	3	2	61
Barry GARDINER	Labour	-4.97	-5.93	-4.04	4	2	69
Tommy SHEPPARD	SNP	-4.92	-6.15	-3.66	5	1	106
Mhairi BLACK	SNP	-4.87	-6.12	-3.60	6	1	113
Chris STEPHENS	SNP	-4.83	-5.90	-3.80	7	2	90
Andy MCDONALD	Labour	-4.82	-5.86	-3.82	8	2	92
Hywel WILLIAMS	Plaid Cymru	-4.79	-6.22	-3.48	9	1	130
Liz SAVILLE-ROBERTS	Plaid Cymru	-4.75	-6.06	-3.51	10	2	127
Lloyd RUSSELL-MOYLE	Labour	-4.74	-5.53	-4.01	11	4	73
Rushanara ALI	Labour	-4.73	-5.86	-3.59	12	2	115
Dave DOOGAN	SNP	-4.68	-5.95	-3.41	13	2	134
Alison THEWLISS	SNP	-4.67	-5.61	-3.73	14	4	97
Mick WHITLEY	Labour	-4.66	-5.59	-3.72	15	3	99
Ben LAKE	Plaid Cymru	-4.65	-6.05	-3.24	16	2	159
Ian LAVERY	Labour	-4.65	-5.78	-3.54	17	2	117
Ian BYRNE	Labour	-4.64	-5.63	-3.62	18	3	109
Kim JOHNSON	Labour	-4.62	-5.66	-3.63	19	3	111
Philippa WHITFORD	SNP	-4.61	-5.76	-3.45	20	3	131
Bell RIBEIRO-ADDY	Labour	-4.60	-5.68	-3.51	21	3	124
Margaret GREENWOOD	Labour	-4.59	-5.52	-3.68	22	4	104
Rebecca LONG-BAILEY	Labour	-4.57	-5.65	-3.49	23	3	126
Christina REES	Labour	-4.45	-5.53	-3.42	24	4	138
Kenny MACASKILL	SNP	-4.45	-5.69	-3.30	25	3	153
Anne MCLAUGHLIN	SNP	-4.45	-5.47	-3.41	26	5	138
Deidre BROCK	SNP	-4.45	-5.67	-3.26	27	3	154
Dan CARDEN	Labour	-4.44	-5.38	-3.49	28	6	125
Grahame MORRIS	Labour	-4.41	-5.52	-3.35	29	4	146
Richard BURGON	Labour	-4.41	-5.74	-3.12	30	3	173
Paul BLOMFIELD	Labour	-4.37	-5.54	-3.22	31	4	157
Mike AMESBURY	Labour	-4.35	-5.24	-3.47	32	8	131
Drew HENDRY	SNP	-4.34	-5.46	-3.21	33	5	157
Stuart MCDONALD	SNP	-4.34	-5.57	-3.07	34	4	175

(continued)

MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Nadia WHITTOME	Labour	-4.33	-5.69	-2.96	35	3	186
Claudia WEBBE	Labour	-4.33	-5.66	-3.02	36	3	183
Owen THOMPSON	SNP	-4.32	-5.56	-3.10	37	4	176
Chris BRYANT	Labour	-4.31	-5.68	-2.98	38	3	188
Jeremy CORBYN	Labour	-4.30	-5.56	-3.07	39	4	177
Olivia BLAKE	Labour	-4.29	-5.59	-2.94	40	3	185
Kate OSBORNE	Labour	-4.28	-5.54	-3.03	41	4	180
Patricia GIBSON	SNP	-4.26	-5.25	-3.27	42	9	154
Jon TRICKETT	Labour	-4.21	-5.39	-3.10	43	6	174
Marsha DE CORDOVA	Labour	-4.20	-5.29	-3.10	44	7	170
Carolyn HARRIS	Labour	-4.18	-5.03	-3.32	45	12	146
Zarah SULTANA	Labour	-4.18	-5.46	-2.94	46	5	190
Pete WISHART	SNP	-4.17	-5.63	-2.75	47	4	207
Florence ESHALOMI	Labour	-4.15	-5.47	-2.89	48	4	197
Clive BETTS	Labour	-4.15	-5.17	-3.14	49	10	169
Kate OSAMOR	Labour	-4.14	-5.26	-3.05	50	7	179
Jonathan EDWARDS	Plaid Cymru	-4.13	-5.11	-3.18	51	11	165
Janet DABY	Labour	-4.12	-5.35	-2.87	52	6	197
Tulip SIDDIQ	Labour	-4.10	-5.02	-3.20	53	13	161
Wayne DAVID	Labour	-4.08	-5.10	-3.05	54	11	179
Apsana BEGUM	Labour	-4.08	-5.14	-3.04	55	10	177
Charlotte NICHOLS	Labour	-4.06	-5.31	-2.87	56	7	202
Alan BROWN	SNP	-4.05	-5.07	-3.03	57	12	180
Debbie ABRAHAMS	Labour	-4.03	-5.19	-2.89	58	9	194
Ruth JONES	Labour	-4.02	-5.26	-2.81	59	8	201
Jon CRUDDAS	Labour	-4.00	-4.83	-3.23	60	20	160
Paula BARKER	Labour	-3.98	-4.91	-3.03	61	17	176
Dawn BUTLER	Labour	-3.97	-5.16	-2.80	62	10	205
Jim MCMAHON	Labour	-3.96	-5.27	-2.69	63	9	214
Beth WINTER	Labour	-3.94	-5.19	-2.70	64	10	212
Stewart HOSIE	SNP	-3.94	-5.10	-2.81	65	12	203
John MCNALLY	SNP	-3.92	-5.02	-2.79	66	13	206
Helen HAYES	Labour	-3.92	-5.09	-2.78	67	12	207
Kate HOLLERN	Labour	-3.92	-5.21	-2.69	68	10	211
Khalid MAHMOOD	Labour	-3.91	-5.14	-2.67	69	10	214
Karl TURNER	Labour	-3.91	-4.93	-2.85	70	16	198
John SPELLAR	Labour	-3.89	-5.17	-2.60	71	9	217
Douglas CHAPMAN	SNP	-3.89	-4.85	-2.93	72	21	191

(continued)

MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Patrick GRADY	SNP	-3.87	-4.93	-2.85	73	17	197
Yasmin QURESHI	Labour	-3.86	-5.14	-2.61	74	11	218
John NICOLSON	SNP	-3.85	-4.88	-2.86	75	19	198
Cat SMITH	Labour	-3.85	-4.72	-2.98	76	23	185
Alex SOBEL	Labour	-3.84	-5.08	-2.65	77	11	215
Bridget PHILLIPSON	Labour	-3.83	-5.17	-2.50	78	9	226
Angus MACNEIL	SNP	-3.83	-4.97	-2.69	79	16	211
Rachael MASKELL	Labour	-3.82	-5.02	-2.70	80	13	212
Mohammad YASIN	Labour	-3.82	-5.01	-2.70	81	14	215
Anneliese DODDS	Labour	-3.81	-4.48	-3.19	82	37	165
Preet Kaur GILL	Labour	-3.81	-5.04	-2.59	83	13	220
Christian WAKEFORD	Labour	-3.79	-5.16	-2.45	84	11	228
Amy CALLAGHAN	SNP	-3.79	-4.82	-2.76	85	21	206
Matt WESTERN	Labour	-3.78	-4.57	-2.98	86	32	187
Barry SHEERMAN	Labour	-3.77	-5.09	-2.49	87	12	229
Ruth CADBURY	Labour	-3.77	-4.65	-2.90	88	29	196
Lisa NANDY	Labour	-3.76	-4.89	-2.65	89	18	217
Joanna CHERRY	SNP	-3.76	-4.93	-2.58	90	17	221
Alex CUNNINGHAM	Labour	-3.76	-4.63	-2.87	91	29	196
Chris LAW	SNP	-3.75	-4.65	-2.86	92	28	198
Angela CRAWLEY	SNP	-3.74	-4.51	-3.00	93	35	185
Naseem SHAH	Labour	-3.74	-4.96	-2.60	94	16	221
Peter GRANT	SNP	-3.74	-4.72	-2.78	95	26	205
Ian BLACKFORD	SNP	-3.73	-4.98	-2.45	96	14	230
Angela RAYNER	Labour	-3.72	-4.93	-2.59	97	17	220
Rupa HUQ	Labour	-3.72	-4.77	-2.67	98	22	214
Neale HANVEY	SNP	-3.71	-4.73	-2.72	99	26	210
Judith CUMMINS	Labour	-3.68	-4.83	-2.56	100	20	224
Luke POLLARD	Labour	-3.66	-4.67	-2.68	101	27	213
Daniel ZEICHNER	Labour	-3.66	-4.62	-2.76	102	30	209
Holly LYNCH	Labour	-3.66	-4.75	-2.58	103	24	221
Chi ONWURAH	Labour	-3.66	-4.87	-2.45	104	19	228
Jess PHILLIPS	Labour	-3.65	-4.91	-2.45	105	18	230
Mary GLINDON	Labour	-3.65	-4.99	-2.35	106	15	235
Fabian HAMILTON	Labour	-3.65	-4.86	-2.44	107	18	229
Imran HUSSAIN	Labour	-3.64	-5.00	-2.34	108	15	234
Richard THOMSON	SNP	-3.64	-4.60	-2.75	109	31	210
Yvette COOPER	Labour	-3.64	-5.07	-2.26	110	13	238

(continued)

MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Rachel HOPKINS	Labour	-3.64	-4.62	-2.71	111	30	212
Nia GRIFFITH	Labour	-3.64	-4.62	-2.64	112	31	216
Sam TARRY	Labour	-3.63	-4.50	-2.80	113	38	204
Stephen MORGAN	Labour	-3.63	-4.87	-2.44	114	19	230
Gill FURNISS	Labour	-3.62	-4.97	-2.31	115	16	237
Pat MCFADDEN	Labour	-3.61	-4.72	-2.56	116	24	224
David LAMMY	Labour	-3.61	-4.77	-2.44	117	22	230
Kim LEADBEATER	Labour	-3.60	-4.88	-2.36	118	18	234
Diane ABBOTT	Labour	-3.60	-4.82	-2.42	119	20	231
Derek TWIGG	Labour	-3.59	-4.59	-2.66	120	32	218
Ben BRADSHAW	Labour	-3.58	-4.37	-2.82	121	46	203
Andrew GWYNNE	Labour	-3.57	-4.75	-2.40	122	23	232
Sarah DYKE	Liberal Democrat	-3.57	-4.34	-2.84	123	46	202
Emma HARDY	Labour	-3.56	-4.32	-2.81	124	48	204
Sarah JONES	Labour	-3.54	-4.69	-2.42	125	27	232
Afzal KHAN	Labour	-3.53	-4.80	-2.32	126	23	236
Tony LLOYD	Labour	-3.53	-4.80	-2.25	127	20	239
Valerie VAZ	Labour	-3.52	-4.75	-2.31	128	23	236
Ian MEARNES	Labour	-3.52	-4.84	-2.18	129	19	241
Catherine MCKINNELL	Labour	-3.52	-4.74	-2.26	130	25	239
Clive EFFORD	Labour	-3.49	-4.45	-2.58	131	40	222
Karen BUCK	Labour	-3.49	-4.77	-2.24	132	25	239
Yvonne FOVARGUE	Labour	-3.49	-4.56	-2.41	133	35	231
Margaret FERRIER	SNP	-3.49	-4.34	-2.67	134	48	216
Ed MILIBAND	Labour	-3.48	-4.77	-2.22	135	22	241
Virendra SHARMA	Labour	-3.47	-4.65	-2.32	136	28	236
Nick BROWN	Labour	-3.47	-4.69	-2.33	137	26	236
Navendu MISHRA	Labour	-3.46	-4.80	-2.20	138	22	241
Alex DAVIES-JONES	Labour	-3.45	-4.64	-2.25	139	31	239
Justin MADDERS	Labour	-3.45	-4.32	-2.61	140	48	222
Louise HAIGH	Labour	-3.44	-4.69	-2.24	141	28	238
Mike KANE	Labour	-3.41	-4.62	-2.24	142	30	239
Peter DOWD	Labour	-3.41	-4.38	-2.43	143	45	230
Clive LEWIS	Labour	-3.39	-4.32	-2.50	144	47	228
Sarah GREEN	Liberal Democrat	-3.36	-4.48	-2.30	145	38	237
Ashley DALTON	Labour	-3.36	-4.18	-2.53	146	59	225
Hannah BARDELL	SNP	-3.35	-4.52	-2.17	147	35	242
Paulette HAMILTON	Labour	-3.34	-4.68	-2.02	148	29	246

(continued)

MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Matthew PENNYCOOK	Labour	-3.34	-4.45	-2.27	149	42	239
Margaret BECKETT	Labour	-3.34	-4.04	-2.68	150	72	216
Abena OPPONG-ASARE	Labour	-3.34	-4.15	-2.52	151	62	225
Allan DORANS	SNP	-3.34	-4.52	-2.16	152	38	242
Tahir ALI	Labour	-3.32	-4.65	-1.95	153	27	248
Rosena ALLIN-KHAN	Labour	-3.32	-4.37	-2.29	154	47	237
Brendan O'HARA	SNP	-3.32	-4.57	-2.14	155	33	243
Nick THOMAS-SYMONDS	Labour	-3.32	-4.66	-2.00	156	28	246
Catherine WEST	Labour	-3.32	-4.46	-2.21	157	38	240
Alan WHITEHEAD	Labour	-3.31	-4.32	-2.32	158	49	236
Sharon HODGSON	Labour	-3.31	-4.44	-2.17	159	40	242
Hilary BENN	Labour	-3.31	-4.51	-2.14	160	37	243
Meg HILLIER	Labour	-3.31	-4.29	-2.28	161	50	238
Alex NORRIS	Labour	-3.31	-4.57	-2.06	162	33	245
Samantha DIXON	Labour	-3.30	-4.24	-2.38	163	54	232
Barbara KEELEY	Labour	-3.30	-4.57	-1.98	164	30	247
Jessica MORDEN	Labour	-3.29	-4.35	-2.25	165	47	239
Ellie REEVES	Labour	-3.29	-4.13	-2.45	166	64	229
David LINDEN	SNP	-3.27	-4.15	-2.37	167	64	233
Steve MCCABE	Labour	-3.27	-4.60	-1.93	168	32	248
Marie RIMMER	Labour	-3.27	-4.22	-2.33	169	58	236
Matt RODDA	Labour	-3.26	-4.08	-2.43	170	67	231
Emma LEWELL-BUCK	Labour	-3.26	-4.55	-2.02	171	34	246
Stephanie PEACOCK	Labour	-3.24	-4.49	-2.01	172	38	246
Bambos CHARALAMBOUS	Labour	-3.23	-4.16	-2.30	173	63	237
Lyn BROWN	Labour	-3.21	-4.23	-2.19	174	59	241
Martyn DAY	SNP	-3.19	-4.23	-2.17	175	58	242
Jonathan REYNOLDS	Labour	-3.19	-4.35	-2.02	176	47	246
Jon ASHWORTH	Labour	-3.17	-4.36	-1.96	177	44	247
Steve REED	Labour	-3.17	-4.11	-2.21	178	66	239
Mark TAMI	Labour	-3.17	-4.28	-2.09	179	52	245
Angela EAGLE	Labour	-3.16	-4.12	-2.23	180	65	240
Marion FELLOWS	SNP	-3.14	-4.20	-2.09	181	61	244
Lilian GREENWOOD	Labour	-3.14	-4.41	-1.80	182	44	250
Tonia ANTONIAZZI	Labour	-3.13	-4.12	-2.15	183	67	243
Julie ELLIOTT	Labour	-3.13	-4.44	-1.86	184	41	249
Sarah OWEN	Labour	-3.12	-4.33	-1.94	185	48	247
Tim FARRON	Liberal Democrat	-3.11	-4.00	-2.24	186	78	240

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MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Liz TWIST	Labour	-3.11	-4.07	-2.15	187	70	243
Simon LIGHTWOOD	Labour	-3.10	-4.39	-1.82	188	45	250
Siobhain MCDONAGH	Labour	-3.09	-3.95	-2.25	189	82	240
Seema MALHOTRA	Labour	-3.09	-4.09	-2.04	190	65	246
Andrew WESTERN	Labour	-3.08	-4.36	-1.85	191	45	249
Toby PERKINS	Labour	-3.07	-3.76	-2.40	192	101	235
Carol MONAGHAN	SNP	-3.06	-4.05	-2.01	193	72	246
Jeff SMITH	Labour	-3.04	-4.16	-1.97	194	61	247
Alistair CARMICHAEL	Liberal Democrat	-3.04	-4.13	-1.93	195	66	248
Stella CREASY	Labour	-3.03	-4.00	-2.09	196	76	244
Keir MATHER	Labour	-3.03	-3.89	-2.17	197	86	242
Feryal CLARK	Labour	-3.02	-3.93	-2.11	198	85	243
Vicky FOXCROFT	Labour	-3.02	-4.22	-1.85	199	58	249
John HEALEY	Labour	-3.01	-4.14	-1.90	200	64	248
Mary FOY	Labour	-3.01	-4.00	-2.05	201	76	245
Fleur ANDERSON	Labour	-3.00	-4.21	-1.78	202	55	251
John CRYER	Labour	-3.00	-3.91	-2.10	203	85	244
Geraint DAVIES	Labour	-2.99	-3.85	-2.14	204	91	243
Emily THORNBERRY	Labour	-2.99	-4.14	-1.87	205	62	248
Layla MORAN	Liberal Democrat	-2.96	-3.62	-2.29	206	116	238
Richard FOORD	Liberal Democrat	-2.95	-3.59	-2.33	207	119	238
Dan JARVIS	Labour	-2.95	-4.23	-1.71	208	59	252
Graham STRINGER	Labour	-2.92	-3.96	-1.91	209	81	249
Sarah CHAMPION	Labour	-2.92	-4.13	-1.72	210	67	251
Daisy COOPER	Liberal Democrat	-2.92	-3.69	-2.13	211	109	243
Mark HENDRICK	Labour	-2.89	-3.74	-2.01	212	100	246
Gavin NEWLANDS	SNP	-2.88	-4.08	-1.60	213	69	253
Kevan JONES	Labour	-2.87	-3.96	-1.80	214	82	250
Gerald JONES	Labour	-2.87	-3.89	-1.92	215	89	248
Lindsay HOYLE	Labour	-2.87	-3.69	-2.07	216	107	245
Liam BYRNE	Labour	-2.87	-4.15	-1.57	217	63	253
Liz KENDALL	Labour	-2.87	-4.20	-1.58	218	60	254
Stephen KINNOCK	Labour	-2.86	-3.91	-1.86	219	86	250
Neil COYLE	Labour	-2.86	-4.10	-1.63	220	66	254
Wera HOBHOUSE	Liberal Democrat	-2.84	-3.60	-2.08	221	115	245
Chris EVANS	Labour	-2.83	-3.64	-2.01	222	115	246
Rosie WINTERTON	Labour	-2.82	-4.04	-1.56	223	74	254
Taiwo OWATEMI	Labour	-2.79	-4.05	-1.53	224	72	254
Chris ELMORE	Labour	-2.78	-4.01	-1.62	225	76	253

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MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Harriet HARMAN	Labour	-2.78	-3.90	-1.67	226	88	252
Stewart MCDONALD	SNP	-2.77	-3.78	-1.74	227	103	251
Margaret HODGE	Labour	-2.76	-3.80	-1.75	228	97	251
Anum QAISAR	SNP	-2.74	-3.93	-1.58	229	86	254
Wes STREETING	Labour	-2.72	-3.58	-1.86	230	121	250
Bill ESTERSON	Labour	-2.70	-3.61	-1.80	231	124	250
Maria EAGLE	Labour	-2.69	-3.59	-1.79	232	123	251
Andrew SLAUGHTER	Labour	-2.68	-3.67	-1.73	233	110	251
Gareth THOMAS	Labour	-2.68	-3.75	-1.64	234	100	253
Helen MORGAN	Liberal Democrat	-2.68	-3.79	-1.54	235	98	254
Peter KYLE	Labour	-2.64	-3.72	-1.49	236	107	256
Jamie STONE	Liberal Democrat	-2.62	-3.78	-1.49	237	100	255
Lisa CAMERON	SNP	-2.62	-3.35	-1.86	238	146	250
Keir STARMER	Labour	-2.61	-2.87	-2.35	239	198	237
Lucy POWELL	Labour	-2.60	-3.81	-1.39	240	97	257
Sarah OLNEY	Liberal Democrat	-2.58	-3.43	-1.70	241	138	252
Ian MURRAY	Labour	-2.52	-3.62	-1.45	242	119	256
Diana R. JOHNSON	Labour	-2.52	-3.58	-1.47	243	122	256
Stephen TIMMS	Labour	-2.51	-3.65	-1.33	244	113	259
Conor MCGINN	Labour	-2.49	-3.38	-1.59	245	147	253
Rosie DUFFIELD	Labour	-2.43	-3.15	-1.71	246	172	252
George HOWARTH	Labour	-2.38	-3.38	-1.43	247	147	256
Alison MCGOVERN	Labour	-2.33	-3.20	-1.44	248	166	256
Christine JARDINE	Liberal Democrat	-2.21	-3.39	-1.02	249	143	272
James MURRAY	Labour	-2.19	-3.23	-1.13	250	165	265
Wendy CHAMBERLAIN	Liberal Democrat	-2.13	-3.07	-1.17	251	178	264
Edward DAVEY	Liberal Democrat	-2.13	-2.98	-1.23	252	189	262
Munira WILSON	Liberal Democrat	-1.55	-2.57	-0.51	253	224	324
Jo GIDEON	Cons.	-1.36	-2.49	-0.24	254	227	376
Simon BAYNES	Cons.	-1.01	-2.02	-0.02	255	246	427
Caroline NOKES	Cons.	-1.00	-1.72	-0.27	256	252	370
Simon FELL	Cons.	-0.95	-1.79	-0.12	257	250	407
Shaun BAILEY	Cons.	-0.95	-1.98	0.11	258	247	458
Tobias ELLWOOD	Cons.	-0.91	-1.89	0.09	259	248	453
Will QUINCE	Cons.	-0.88	-1.68	-0.07	260	252	415
Gareth BACON	Cons.	-0.87	-1.85	0.10	261	250	459
Roger GALE	Cons.	-0.80	-1.51	-0.08	262	255	414
Bob NEILL	Cons.	-0.79	-1.74	0.18	263	252	477

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MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
David SIMMONDS	Cons.	-0.78	-1.83	0.24	264	250	486
Claire COUTINHO	Cons.	-0.78	-1.84	0.31	265	250	504
Mark LOGAN	Cons.	-0.77	-1.93	0.36	266	249	509
Theresa MAY	Cons.	-0.74	-1.69	0.16	267	252	471
Bob STEWART	Cons.	-0.72	-1.72	0.30	268	252	496
Derek THOMAS	Cons.	-0.70	-1.53	0.11	269	255	462
Michael GOVE	Cons.	-0.69	-1.47	0.10	270	256	451
Maria MILLER	Cons.	-0.68	-1.40	0.05	271	257	445
Kate KNIVETON	Cons.	-0.67	-1.46	0.15	272	256	469
Lee ANDERSON	Cons.	-0.65	-1.61	0.29	273	254	497
Steve BRINE	Cons.	-0.65	-1.44	0.13	274	256	463
Simon HART	Cons.	-0.65	-1.61	0.31	275	253	499
Paul SCULLY	Cons.	-0.63	-1.72	0.47	276	252	533
Victoria ATKINS	Cons.	-0.59	-1.40	0.18	277	257	476
David DAVIES	Cons.	-0.59	-1.86	0.65	278	249	556
Rob ROBERTS	Cons.	-0.59	-1.75	0.59	279	251	546
Matt VICKERS	Cons.	-0.59	-1.49	0.34	280	255	506
Matthew OFFORD	Cons.	-0.57	-1.77	0.62	281	251	554
Greg KNIGHT	Cons.	-0.56	-1.65	0.50	282	253	536
Maggie THROUP	Cons.	-0.56	-1.34	0.22	283	259	483
Gary STREETER	Cons.	-0.56	-1.18	0.05	284	263	443
Louie FRENCH	Cons.	-0.55	-1.59	0.51	285	254	537
Chris SKIDMORE	Cons.	-0.54	-1.57	0.44	286	254	528
Gareth DAVIES	Cons.	-0.54	-1.25	0.20	287	261	479
David MORRIS	Cons.	-0.54	-1.41	0.30	288	257	499
Helen WHATELY	Cons.	-0.53	-1.25	0.18	289	261	474
Jeremy HUNT	Cons.	-0.53	-1.43	0.36	290	256	514
Antony HIGGINBOTHAM	Cons.	-0.53	-1.26	0.23	291	260	484
David MUNDELL	Cons.	-0.52	-1.14	0.09	292	265	455
Elliot COLBURN	Cons.	-0.52	-1.41	0.39	293	257	519
Rachel MACLEAN	Cons.	-0.52	-1.48	0.48	294	256	532
Alex BURGHART	Cons.	-0.49	-1.34	0.36	295	258	513
Philip DUNNE	Cons.	-0.47	-1.53	0.56	296	255	545
Thomas TUGENDHAT	Cons.	-0.47	-1.16	0.20	297	264	477
Tracey CROUCH	Cons.	-0.47	-1.09	0.16	298	267	470
Nigel MILLS	Cons.	-0.46	-1.23	0.29	299	261	494
John HOWELL	Cons.	-0.45	-1.15	0.25	300	265	490
Mims DAVIES	Cons.	-0.45	-1.32	0.47	301	259	528

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MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Andrew BRIDGEN	Cons.	-0.44	-1.26	0.40	302	260	518
Matt WARMAN	Cons.	-0.44	-1.26	0.39	303	261	519
Chris LODER	Cons.	-0.44	-1.42	0.58	304	257	547
Julian KNIGHT	Cons.	-0.44	-1.58	0.69	305	254	561
Peter ALDOUS	Cons.	-0.44	-1.21	0.36	306	263	507
Robin WALKER	Cons.	-0.44	-1.46	0.56	307	256	540
Robert HALFON	Cons.	-0.43	-1.27	0.43	308	260	525
Alok SHARMA	Cons.	-0.42	-1.30	0.45	309	259	525
Dean RUSSELL	Cons.	-0.42	-1.26	0.42	310	261	525
George FREEMAN	Cons.	-0.41	-1.25	0.43	311	261	525
Neil HUDSON	Cons.	-0.40	-1.26	0.47	312	262	530
Oliver DOWDEN	Cons.	-0.40	-1.35	0.55	313	259	543
Robert BUCKLAND	Cons.	-0.39	-1.38	0.63	314	257	553
Richard HOLDEN	Cons.	-0.38	-1.42	0.63	315	257	558
Iain STEWART	Cons.	-0.37	-1.31	0.57	316	260	544
John STEVENSON	Cons.	-0.35	-1.30	0.56	317	260	544
Helen GRANT	Cons.	-0.35	-1.11	0.44	318	265	526
Jane STEVENSON	Cons.	-0.35	-1.54	0.83	319	255	575
Michelle DONELAN	Cons.	-0.35	-1.27	0.57	320	260	544
Sally-Ann HART	Cons.	-0.34	-1.15	0.49	321	264	534
Caroline DINENAGE	Cons.	-0.34	-1.12	0.47	322	265	530
Peter BOTTOMLEY	Cons.	-0.34	-1.11	0.39	323	266	517
Matthew HANCOCK	Cons.	-0.34	-1.04	0.41	324	269	518
Neil O'BRIEN	Cons.	-0.33	-1.24	0.61	325	261	550
Miriam CATES	Cons.	-0.33	-1.59	0.88	326	254	581
Tim LOUGHTON	Cons.	-0.32	-1.16	0.54	327	264	542
Sara BRITCLIFFE	Cons.	-0.32	-1.11	0.51	328	266	535
Darren HENRY	Cons.	-0.31	-1.19	0.57	329	263	544
John PENROSE	Cons.	-0.31	-1.33	0.75	330	258	567
Craig TRACEY	Cons.	-0.30	-1.04	0.46	331	270	527
Laura FARRIS	Cons.	-0.29	-1.15	0.59	332	265	547
Mark PAWSEY	Cons.	-0.28	-1.09	0.53	333	267	539
Andrew SELOUS	Cons.	-0.28	-1.15	0.62	334	265	551
Joy MORRISSEY	Cons.	-0.28	-1.25	0.71	335	261	563
Anna FIRTH	Cons.	-0.28	-1.55	0.99	336	255	587
Kelly TOLHURST	Cons.	-0.28	-1.30	0.75	337	260	570
David JOHNSTON	Cons.	-0.27	-0.92	0.37	338	278	512
Luke HALL	Cons.	-0.27	-1.25	0.73	339	261	564
Greg CLARK	Cons.	-0.27	-0.91	0.39	340	279	517

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MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Royston SMITH	Cons.	-0.26	-1.16	0.62	341	264	555
Nigel HUDDLESTON	Cons.	-0.26	-1.18	0.64	342	263	556
Chris GRAYLING	Cons.	-0.26	-1.26	0.73	343	261	565
Selaine SAXBY	Cons.	-0.26	-0.99	0.48	344	272	532
Jacob YOUNG	Cons.	-0.25	-1.09	0.58	345	268	547
Conor BURNS	Cons.	-0.25	-1.24	0.72	346	260	565
Peter GIBSON	Cons.	-0.25	-1.36	0.83	347	259	576
Virginia CROSBIE	Cons.	-0.25	-1.45	0.98	348	256	586
Jerome MAYHEW	Cons.	-0.23	-0.96	0.50	349	275	533
Alex CHALK	Cons.	-0.23	-0.91	0.45	350	279	525
Andrew LEWER	Cons.	-0.23	-1.07	0.61	351	268	554
Giles WATLING	Cons.	-0.23	-1.06	0.60	352	269	549
Damian COLLINS	Cons.	-0.22	-1.02	0.53	353	271	539
Jo CHURCHILL	Cons.	-0.22	-0.99	0.53	354	273	541
Stuart ANDERSON	Cons.	-0.22	-1.43	1.01	355	257	587
James WILD	Cons.	-0.21	-1.17	0.72	356	264	567
Aaron BELL	Cons.	-0.21	-1.04	0.65	357	270	555
Daniel POULTER	Cons.	-0.21	-0.96	0.55	358	276	544
Mark SPENCER	Cons.	-0.20	-1.13	0.74	359	265	567
Richard GRAHAM	Cons.	-0.19	-0.90	0.52	360	279	536
David DAVIS	Cons.	-0.18	-1.23	0.88	361	262	580
Eddie HUGHES	Cons.	-0.18	-1.48	1.14	362	256	595
James GRUNDY	Cons.	-0.18	-1.32	0.94	363	259	585
John LAMONT	Cons.	-0.18	-1.17	0.77	364	264	569
Greg HANDS	Cons.	-0.17	-1.17	0.90	365	263	581
Amanda MILLING	Cons.	-0.17	-0.94	0.61	366	277	550
Damian GREEN	Cons.	-0.16	-0.87	0.55	367	282	543
Ruth EDWARDS	Cons.	-0.16	-1.06	0.75	368	268	567
Mark FLETCHER	Cons.	-0.16	-0.91	0.61	369	279	552
Jesse NORMAN	Cons.	-0.16	-1.35	1.01	370	258	590
Victoria PRENTIS	Cons.	-0.16	-0.84	0.55	371	284	542
Kevin HOLLINRAKE	Cons.	-0.15	-1.14	0.80	372	266	573
Mary ROBINSON	Cons.	-0.15	-1.25	0.94	373	262	584
Jonathan DJANOGLY	Cons.	-0.15	-1.03	0.69	374	270	562
Maria CAULFIELD	Cons.	-0.15	-0.86	0.58	375	282	547
Cherilyn MACKRORY	Cons.	-0.15	-0.97	0.66	376	275	558
Siobhan BAILLIE	Cons.	-0.15	-0.77	0.46	377	292	527
Damian HINDS	Cons.	-0.14	-1.16	0.91	378	263	583

(continued)

MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Anthony BROWNE	Cons.	-0.14	-0.97	0.71	379	275	564
Lucy FRAZER	Cons.	-0.14	-1.03	0.81	380	271	571
Karen BRADLEY	Cons.	-0.14	-0.98	0.74	381	273	566
Julie MARSON	Cons.	-0.12	-1.05	0.85	382	270	580
Alicia KEARNS	Cons.	-0.11	-0.91	0.71	383	278	562
Holly MUMBY-CROFT	Cons.	-0.11	-1.07	0.86	384	268	576
Craig WILLIAMS	Cons.	-0.11	-1.26	1.05	385	261	590
Stephen HAMMOND	Cons.	-0.10	-1.05	0.82	386	271	574
Huw MERRIMAN	Cons.	-0.10	-1.14	0.92	387	265	582
Andrew JONES	Cons.	-0.10	-0.87	0.68	388	281	560
Stephen MCPARTLAND	Cons.	-0.10	-1.17	0.97	389	264	588
Amanda SOLLOWAY	Cons.	-0.10	-0.98	0.79	390	273	571
Julia LOPEZ	Cons.	-0.10	-1.00	0.82	391	274	575
Johnny MERCER	Cons.	-0.10	-0.97	0.77	392	274	571
Anthony MANGNALL	Cons.	-0.09	-0.93	0.71	393	277	565
Julian SMITH	Cons.	-0.09	-0.85	0.69	394	282	563
Sheryll MURRAY	Cons.	-0.09	-0.82	0.62	395	286	553
Andrew MURRISON	Cons.	-0.09	-0.93	0.76	396	278	570
Jill MORTIMER	Cons.	-0.09	-1.35	1.17	397	259	596
John WHITTINGDALE	Cons.	-0.08	-0.84	0.66	398	284	558
Andy CARTER	Cons.	-0.08	-1.12	0.95	399	266	586
Paul BERESFORD	Cons.	-0.08	-1.04	0.89	400	271	582
Leo DOCHERTY	Cons.	-0.08	-1.06	0.91	401	269	583
Robert LARGAN	Cons.	-0.08	-0.82	0.67	402	287	560
Bim AFOLAMI	Cons.	-0.07	-0.93	0.82	403	276	576
Vicky FORD	Cons.	-0.07	-0.86	0.71	404	282	565
David DUGUID	Cons.	-0.07	-0.92	0.79	405	277	571
Ben BRADLEY	Cons.	-0.07	-0.96	0.78	406	274	572
Paul HOLMES	Cons.	-0.07	-0.93	0.81	407	277	573
Nicholas FLETCHER	Cons.	-0.07	-1.31	1.19	408	259	597
Andrew ROSINDELL	Cons.	-0.06	-1.01	0.93	409	272	584
Ian LIDDELL-GRAINGER	Cons.	-0.06	-0.94	0.83	410	276	575
James SUNDERLAND	Cons.	-0.05	-1.01	0.86	411	272	579
Angela RICHARDSON	Cons.	-0.05	-0.97	0.86	412	274	578
Felicity BUCHAN	Cons.	-0.05	-1.17	1.06	413	264	591
Henry SMITH	Cons.	-0.04	-0.92	0.84	414	278	575
Rishi SUNAK	Cons.	-0.04	-0.28	0.21	415	369	480
Trudy HARRISON	Cons.	-0.04	-0.93	0.85	416	276	579

(continued)

MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Guy OPPERMAN	Cons.	-0.04	-1.01	0.97	417	271	586
Jeremy QUIN	Cons.	-0.03	-1.02	0.93	418	273	584
Paul HOWELL	Cons.	-0.03	-0.85	0.78	419	284	570
Nicola RICHARDS	Cons.	-0.03	-1.28	1.25	420	260	600
Edward ARGAR	Cons.	-0.03	-0.84	0.78	421	284	572
Pauline LATHAM	Cons.	-0.03	-0.72	0.69	422	296	561
Katherine FLETCHER	Cons.	-0.03	-0.77	0.75	423	291	566
Stephen METCALFE	Cons.	-0.02	-0.70	0.65	424	299	554
Mel STRIDE	Cons.	-0.02	-0.85	0.81	425	282	573
Mark MENZIES	Cons.	-0.02	-0.78	0.74	426	289	566
Jason MCCARTNEY	Cons.	-0.01	-1.14	1.13	427	265	595
Michael ELLIS	Cons.	-0.01	-0.85	0.83	428	283	576
Kevin FOSTER	Cons.	0.00	-1.08	1.04	429	268	591
Bernard JENKIN	Cons.	0.00	-0.77	0.78	430	290	571
Alexander STAFFORD	Cons.	0.01	-1.16	1.21	431	264	597
John GLEN	Cons.	0.01	-0.92	0.93	432	278	582
James CARTLIDGE	Cons.	0.01	-0.71	0.74	433	295	567
Richard FULLER	Cons.	0.01	-0.91	0.91	434	279	582
Alister JACK	Cons.	0.01	-1.10	1.12	435	267	594
Liam FOX	Cons.	0.02	-0.83	0.88	436	285	580
Shailesh VARA	Cons.	0.02	-0.70	0.77	437	299	569
Laura TROTT	Cons.	0.02	-0.70	0.72	438	300	566
Paul MAYNARD	Cons.	0.02	-0.68	0.72	439	303	565
Simon HOARE	Cons.	0.02	-0.98	1.00	440	274	588
Jeremy WRIGHT	Cons.	0.02	-0.65	0.70	441	305	562
Chris PHILP	Cons.	0.02	-1.10	1.16	442	267	596
Sarah ATHERTON	Cons.	0.03	-1.25	1.28	443	261	600
Philip HOLLOBONE	Cons.	0.03	-0.68	0.75	444	299	567
Eleanor LAING	Cons.	0.03	-0.81	0.87	445	288	576
Jake BERRY	Cons.	0.03	-0.65	0.75	446	306	566
Charles WALKER	Cons.	0.03	-0.83	0.85	447	284	578
Graham BRADY	Cons.	0.03	-1.08	1.19	448	269	597
Theo CLARKE	Cons.	0.03	-0.75	0.81	449	293	573
Andrew STEPHENSON	Cons.	0.04	-0.69	0.75	450	301	570
Caroline ANSELL	Cons.	0.04	-0.75	0.83	451	296	576
George EUSTICE	Cons.	0.04	-0.79	0.88	452	289	579
Chloe SMITH	Cons.	0.04	-0.86	0.95	453	284	583
Christopher PINCHER	Cons.	0.04	-0.86	0.91	454	283	583
Jane HUNT	Cons.	0.05	-0.88	0.99	455	279	587

(continued)

MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Flick DRUMMOND	Cons.	0.05	-0.80	0.88	456	288	579
Marcus JONES	Cons.	0.05	-0.61	0.71	457	312	562
Geoffrey COX	Cons.	0.05	-0.82	0.94	458	286	585
Mike PENNING	Cons.	0.06	-1.16	1.31	459	264	600
Edward TIMPSON	Cons.	0.06	-0.62	0.77	460	308	569
Steve TUCKWELL	Cons.	0.06	-0.88	1.07	461	282	591
Douglas ROSS	Cons.	0.06	-1.02	1.14	462	271	595
Anne Marie MORRIS	Cons.	0.07	-0.75	0.90	463	294	581
Andrew BOWIE	Cons.	0.07	-0.66	0.79	464	306	573
Andrew MITCHELL	Cons.	0.07	-1.14	1.28	465	266	601
Julian STURDY	Cons.	0.08	-0.76	0.92	466	294	583
Gillian KEEGAN	Cons.	0.08	-0.62	0.78	467	309	570
Damien MOORE	Cons.	0.08	-0.78	0.98	468	289	587
Bob BLACKMAN	Cons.	0.08	-0.90	1.11	469	279	594
Bill WIGGIN	Cons.	0.09	-0.93	1.10	470	277	593
Simon JUPP	Cons.	0.10	-0.77	0.97	471	291	586
Chris HEATON-HARRIS	Cons.	0.11	-0.64	0.87	472	305	579
Ben EVERITT	Cons.	0.11	-1.04	1.26	473	270	600
Mike WOOD	Cons.	0.11	-1.24	1.45	474	262	604
Richard BACON	Cons.	0.11	-0.71	0.98	475	298	585
Craig WHITTAKER	Cons.	0.11	-1.02	1.27	476	271	601
Sarah DINES	Cons.	0.12	-0.56	0.82	477	318	575
Greg SMITH	Cons.	0.12	-0.88	1.09	478	281	593
Rebecca POW	Cons.	0.12	-0.74	1.02	479	297	589
James HEAPPEY	Cons.	0.12	-0.71	1.00	480	295	588
Luke EVANS	Cons.	0.13	-0.77	1.04	481	291	591
Saqib BHATTI	Cons.	0.13	-1.07	1.32	482	269	601
William WRAGG	Cons.	0.13	-0.89	1.22	483	279	598
David RUTLEY	Cons.	0.14	-0.80	1.10	484	288	593
Wendy MORTON	Cons.	0.15	-1.14	1.43	485	265	604
Robert JENRICK	Cons.	0.15	-0.67	1.00	486	300	587
Jack BRERETON	Cons.	0.15	-0.97	1.23	487	275	599
Ian LEVY	Cons.	0.15	-0.92	1.26	488	278	599
Mark HARPER	Cons.	0.15	-0.56	0.86	489	320	579
Penny MORDAUNT	Cons.	0.16	-1.17	1.50	490	264	605
Duncan BAKER	Cons.	0.16	-0.67	0.96	491	304	586
Gareth JOHNSON	Cons.	0.17	-0.57	0.92	492	316	582
Lee ROWLEY	Cons.	0.17	-0.67	1.02	493	302	590

(continued)

MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Brendan CLARKE-SMITH	Cons.	0.17	-0.73	1.05	494	297	591
James MORRIS	Cons.	0.17	-1.07	1.39	495	269	603
Oliver HEALD	Cons.	0.18	-0.69	1.03	496	299	590
Caroline JOHNSON	Cons.	0.18	-0.60	0.98	497	313	587
Rehman CHISHTI	Cons.	0.18	-0.81	1.18	498	287	597
Danny KRUGER	Cons.	0.18	-0.64	1.02	499	308	589
Nick GIBB	Cons.	0.19	-0.61	0.99	500	307	588
Kieran MULLAN	Cons.	0.19	-0.71	1.10	501	298	593
Michael TOMLINSON	Cons.	0.19	-0.64	1.02	502	306	590
Lia NICI	Cons.	0.19	-0.96	1.37	503	274	603
Heather WHEELER	Cons.	0.20	-0.70	1.10	504	299	594
James DAVIES	Cons.	0.20	-0.84	1.25	505	285	600
James CLEVERLY	Cons.	0.21	-0.61	1.02	506	309	589
Dehenna DAVISON	Cons.	0.21	-0.89	1.31	507	280	602
Jamie WALLIS	Cons.	0.22	-1.15	1.54	508	265	606
James DUDDRIDGE	Cons.	0.23	-0.51	0.97	509	325	588
Grant SHAPPS	Cons.	0.23	-0.68	1.16	510	301	596
Andrew PERCY	Cons.	0.23	-0.61	1.10	511	310	594
Alberto COSTA	Cons.	0.24	-0.59	1.05	512	312	591
Laurence ROBERTSON	Cons.	0.24	-0.46	0.96	513	334	585
Paul BRISTOW	Cons.	0.24	-0.92	1.36	514	279	602
Rebecca HARRIS	Cons.	0.24	-0.62	1.04	515	308	590
James DALY	Cons.	0.24	-1.06	1.53	516	268	606
Andrea LEADSOM	Cons.	0.24	-0.72	1.21	517	298	599
Peter BONE	Cons.	0.25	-0.65	1.12	518	307	594
Kit MALTHOUSE	Cons.	0.25	-0.51	1.00	519	325	589
Harriett BALDWIN	Cons.	0.26	-0.82	1.31	520	285	601
Adam AFRIYIE	Cons.	0.26	-0.64	1.17	521	308	597
Gavin WILLIAMSON	Cons.	0.27	-0.56	1.11	522	317	594
Fay JONES	Cons.	0.27	-1.01	1.54	523	270	606
Jackie DOYLE-PRICE	Cons.	0.27	-0.92	1.46	524	278	605
Nadhim ZAHAWI	Cons.	0.27	-0.45	0.98	525	338	588
Steve BARCLAY	Cons.	0.27	-0.63	1.20	526	307	598
Julian LEWIS	Cons.	0.28	-0.61	1.16	527	311	596
Robert COURTS	Cons.	0.29	-0.41	1.01	528	343	590
Andrea JENKYNs	Cons.	0.30	-0.86	1.47	529	283	604
Philip DAVIES	Cons.	0.31	-0.98	1.58	530	274	606
Nigel EVANS	Cons.	0.31	-0.41	1.03	531	345	590

(continued)

MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Richard DRAX	Cons.	0.31	-0.69	1.33	532	300	602
Geoffrey CLIFTON-BROWN	Cons.	0.31	-0.39	1.03	533	349	589
Tom PURSGLOVE	Cons.	0.32	-0.60	1.22	534	311	598
Nusrat GHANI	Cons.	0.32	-0.51	1.12	535	327	595
Alan MAK	Cons.	0.32	-0.52	1.17	536	327	596
Rob BUTLER	Cons.	0.32	-0.52	1.16	537	323	596
Chris CLARKSON	Cons.	0.33	-0.78	1.49	538	287	605
Jonathan GULLIS	Cons.	0.33	-0.48	1.12	539	331	594
Simon CLARKE	Cons.	0.33	-0.78	1.42	540	291	604
Alec SHEL BROOKE	Cons.	0.34	-0.75	1.46	541	294	605
Steve DOUBLE	Cons.	0.34	-0.44	1.13	542	338	596
Scott MANN	Cons.	0.35	-0.47	1.18	543	332	597
Brandon LEWIS	Cons.	0.35	-0.37	1.07	544	352	591
Mark GARNIER	Cons.	0.38	-0.55	1.32	545	319	601
David JONES	Cons.	0.38	-0.62	1.43	546	307	604
Sajid JAVID	Cons.	0.38	-0.56	1.34	547	316	602
Dominic RAAB	Cons.	0.38	-0.49	1.22	548	332	599
Mark PRITCHARD	Cons.	0.39	-0.46	1.21	549	334	599
Anne-Marie TREVELYAN	Cons.	0.39	-0.64	1.40	550	306	603
Mark EASTWOOD	Cons.	0.39	-0.80	1.59	551	288	606
Chris GREEN	Cons.	0.40	-0.79	1.60	552	291	607
Priti PATEL	Cons.	0.41	-0.33	1.16	553	358	596
Robert GOODWILL	Cons.	0.41	-0.51	1.27	554	329	601
Ben WALLACE	Cons.	0.41	-0.45	1.28	555	336	601
Andrew GRIFFITH	Cons.	0.41	-0.27	1.13	556	373	596
Daniel KAWCZYNSKI	Cons.	0.42	-0.65	1.47	557	306	605
Mike FREER	Cons.	0.44	-0.61	1.56	558	307	606
Theresa VILLIERS	Cons.	0.46	-0.50	1.42	559	329	604
Justin TOMLINSON	Cons.	0.46	-0.54	1.47	560	321	605
Robin MILLAR	Cons.	0.46	-0.61	1.59	561	312	606
Gordon HENDERSON	Cons.	0.47	-0.39	1.29	562	345	602
Ben SPENCER	Cons.	0.47	-0.65	1.55	563	305	606
Kemi BADENOCH	Cons.	0.47	-0.23	1.17	564	381	596
Gary SAMBROOK	Cons.	0.50	-0.80	1.82	565	287	608
Edward LEIGH	Cons.	0.51	-0.24	1.27	566	379	600
Kwasi KWARTENG	Cons.	0.51	-0.58	1.60	567	315	606
Jonathan LORD	Cons.	0.51	-0.56	1.59	568	318	606
Suzanne WEBB	Cons.	0.51	-0.75	1.79	569	292	608
Graham STUART	Cons.	0.52	-0.49	1.55	570	330	606

(continued)

MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
Fiona BRUCE	Cons.	0.52	-0.31	1.32	571	365	602
Robbie MOORE	Cons.	0.53	-0.56	1.66	572	319	607
Robert SYMS	Cons.	0.53	-0.48	1.57	573	330	606
Crispin BLUNT	Cons.	0.53	-0.55	1.57	574	316	606
David EVENNETT	Cons.	0.53	-0.47	1.54	575	334	606
Tom HUNT	Cons.	0.54	-0.24	1.31	576	381	601
Lucy ALLAN	Cons.	0.54	-0.33	1.40	577	359	604
Jacob REES-MOGG	Cons.	0.54	-0.41	1.52	578	344	605
Gagan MOHINDRA	Cons.	0.55	-0.50	1.61	579	327	607
Stuart ANDREW	Cons.	0.56	-0.69	1.82	580	301	608
James GRAY	Cons.	0.56	-0.33	1.44	581	359	605
Martin VICKERS	Cons.	0.57	-0.32	1.50	582	363	605
Jack LOPRESTI	Cons.	0.57	-0.43	1.58	583	337	607
Nadine DORRIES	Cons.	0.58	-0.21	1.40	584	383	604
Karl MCCARTNEY	Cons.	0.59	-0.19	1.36	585	388	603
Bill CASH	Cons.	0.60	-0.13	1.36	586	404	603
Tom RANDALL	Cons.	0.62	-0.37	1.63	587	353	607
Nickie AIKEN	Cons.	0.62	-0.48	1.71	588	332	607
Adam HOLLOWAY	Cons.	0.63	-0.24	1.51	589	379	605
John HAYES	Cons.	0.64	-0.10	1.40	590	410	603
Scott BENTON	Cons.	0.65	-0.39	1.69	591	344	608
Therese COFFEY	Cons.	0.69	0.05	1.37	592	448	603
Iain DUNCAN SMITH	Cons.	0.72	-0.31	1.77	593	366	608
Desmond SWAYNE	Cons.	0.72	-0.08	1.48	594	412	605
Marcus FYSH	Cons.	0.72	-0.10	1.57	595	411	606
John BARON	Cons.	0.72	-0.06	1.53	596	421	605
Natalie ELPHICKE	Cons.	0.76	0.01	1.50	597	438	605
Marco LONGHI	Cons.	0.78	-0.26	1.83	598	372	608
Steven BAKER	Cons.	0.82	-0.22	1.84	599	383	608
Elizabeth TRUSS	Cons.	0.84	0.05	1.62	600	442	607
Christopher CHOPE	Cons.	0.85	-0.01	1.74	601	427	608
Ranil JAYAWARDENA	Cons.	0.87	-0.05	1.79	602	418	608
Michael FABRICANT	Cons.	0.91	0.14	1.69	603	461	608
Mark FRANCOIS	Cons.	0.95	0.16	1.75	604	472	608
Craig MACKINLAY	Cons.	1.10	0.40	1.82	605	520	608
Esther MCVEY	Cons.	1.23	0.57	1.92	606	546	609
Suella BRAVERMAN	Cons.	1.29	0.53	2.05	607	542	609
Mark JENKINSON	Cons.	1.40	0.50	2.31	608	537	609

(continued)

MP	Party	Position			Rank		
		Mean	Lo	Hi	Rank	Lo	Hi
John REDWOOD	Cons.	1.48	0.62	2.34	609	554	609

Stan code

```
data {
  int<lower=1> N;           // Number of observations
  int<lower=1> K;           // Number of ordinal categories
  int<lower=1,upper=K> Y[N]; // response variable
  int<lower=1> N_MPs;
  int<lower=1> N_parties;
  int<lower=1, upper=N_MPs> idx_a[N]; // link responses to MPs
  int<lower=1, upper=N_MPs> idx_b[N]; // link responses to MPs
  int<lower=1, upper=N_parties> mp_party[N_MPs];
  // series of dummy variables (Con = ref. cat.)
  int<lower=0, upper=1> mp_is_lab[N_MPs];
  int<lower=0, upper=1> mp_is_libdem[N_MPs];
  int<lower=0, upper=1> mp_is_snp[N_MPs];
  int<lower=0, upper=1> mp_is_plaid[N_MPs];
  int<lower=0, upper=1> mp_is_green[N_MPs];
}

parameters {
  vector[N_MPs] alpha; // (residual) latent trait
  vector[N_parties - 1] party_fx;
  real<lower=0> sigma_alpha; // SD on residual latent trait
  real c0; // initial threshold
  real<lower=0> skip1;
  real<lower=0> skip2;
}

transformed parameters {
  vector[N_MPs] theta;
  ordered[K - 1] c;
  c[1] = c0;
  c[2] = c0 + skip1;
  c[3] = c[2] + skip2;
  c[4] = c[3] + skip1;
  for (l in 1:N_MPs) {
    theta[l] = alpha[l] +
      party_fx[1] * mp_is_lab[l] +
      party_fx[2] * mp_is_snp[l] +
      party_fx[3] * mp_is_libdem[l] +
      party_fx[4] * mp_is_plaid[l] +
      party_fx[5] * mp_is_green[l];
  }
}

model {
  // set up the linear predictor
```

```

// has to be at the top of the block
vector[N] mu = rep_vector(0.0, N);

// Prior model
alpha ~ normal(0, sigma_alpha);
c0 ~ normal(-1, 1);
skip1 ~ std_normal();
skip2 ~ std_normal();
party_fx ~ normal(0, 2.5);
sigma_alpha ~ std_normal(); // half-normal b/c of constraints

// Observational model
for (n in 1:N) {
  mu[n] = theta[idx_a[n]] - theta[idx_b[n]];
}

// outcome
Y ~ ordered_logistic(mu, c);
}

generated quantities {
  int<lower=1, upper=K> Y_ppc[N];
  // create a counter for the number of correct predictions
  int correct_pred = 0;
  real pcg;

  for (n in 1:N) {
    real mu = theta[idx_a[n]] - theta[idx_b[n]];
    Y_ppc[n] = ordered_logistic_rng(mu, c);
    // increment the counter holding correct preds
    correct_pred += (Y_ppc[n] == Y[n]);
  }

  // calculate percentage correctly predicted
  // multiply by 1.0 to promote from int to real
  pcg = (correct_pred * 1.0) / (N * 1.0);
}

```

Efficiency gains over dichotomous or trichotomous responses

The average CI width in the five-category model was 1.97. This compares to a SD of 1.83. The CI width expressed as a proportion of the SD is therefore 1.07.

The average CI width in the three-category model was 2.17. This compares to a SD of 1.98. The CI width expressed as a proportion of the SD is therefore 1.1.

The correlation between the two measures is $r = 0.99$.