

## **Appendix A**

This appendix shows the original Danish wording and translation of each 2015 VAA issue statement. The questions that I also have district voter position data for are marked with an asterisk (\*). The response categories in both surveys was as follows: 1 = Completely disagrees, 2 = partially disagrees, 3 = Neither agrees or disagrees, 4 = partially agrees, 5 = Completely agrees.

2015 voting advice application issue statements

Q1: Efter folkeskolereformen får eleverne for lange skoledage

*Q1: After the elementary school reform students' have too long days in school*

Q2: En længere periode af barselsorloven skal være øremærket til faderen.

*Q2: A longer period of maternity leave should be earmarked for the father.*

Q3: Afgiften på cigaretter skal sættes op

*Q3: The cigarette tax should be increased*

Q4: Et besøg hos den praktiserende læge skal koste eksempelvis 100 kr.

*Q4: A doctor's visit should cost, for example, 100 Danish Kroner.*

Q5: Mere af ældreplejen skal udliciteres til private virksomheder

*Q5: More of the elderly care should be licensed to private companies*

Q6: Afgifterne for privatbilisme skal sænkes, så det bliver billigere at køre i bil

*Q6: Taxes on private transportation should be lower such that it becomes cheaper to drive a car*

\*Q7: Man skal hurtigere kunne genoptjene retten til dagpenge

*\*Q7: People should be allowed to earn their daily transfer\*\* rights faster*

Q8: Virksomheder skal kunne drages til ansvar for, om deres udenlandske underleverandører i Danmark overholder danske regler om løn, moms og skat

*Q8: Companies should be held response if their foreign subcontractors in Denmark do not comply with Danish rules on salary and taxes.*

\*Q9: Vækst i den offentlige sektor er vigtigere end skattelettelser

*\*Q9: Growth in the public sector is more important than tax reliefs.*

\*Q10: Investeringer i kollektiv trafik skal prioriteres højere end investeringer til fordel for privatbilisme

*\*Q10: Investments in public transportation should have a higher priority than investments in private transportation*

\*Q11: Straffen for grov vold og voldtægt skal skærpes

*\*Q11: The penalty for aggravated assault and rape should be higher*

\*Q12: Kontanthjælpen skal sænkes, så den økonomiske gevinst ved at arbejde bliver større

*\*Q12: Unemployment benefits should be lower so the economic reward from working is higher.*

\*Q13: Offentlige institutioner i Danmark tager for mange hensyn til religiøse minoriteter

*\*Q13: Public institutions in Denmark are too tolerant towards religious minorities*

Q14: Reglerne skal strammes, så det bliver sværere at få asyl i Danmark

*Q14: The rules should be changed such that it becomes more difficult to be granted asylum*

\*Q15: EU bestemmer for meget i forhold til dansk lov

*\*Q15: The EU has too much power relative to Danish law.*

\*Q16: Ulandsbistanden skal sænkes

*\*Q16: Public foreign aid should be reduced*

\*Q17: Indsatsen for at forbedre miljøet skal gå forud for økonomisk vækst

*\*Q17: The effort to improve the environment is more important than economic growth.*

\*Q18: Den offentlige kulturstøtte skal sænkes

*\*Q18: The government's financial support for culture should be reduced*

Q19: Huslejereguleringen skal ophæves

*Q19: The rent regulation rule should be abolished*

Q20: Kirke og stat skal adskilles

*Q20: Church and state should be separated*

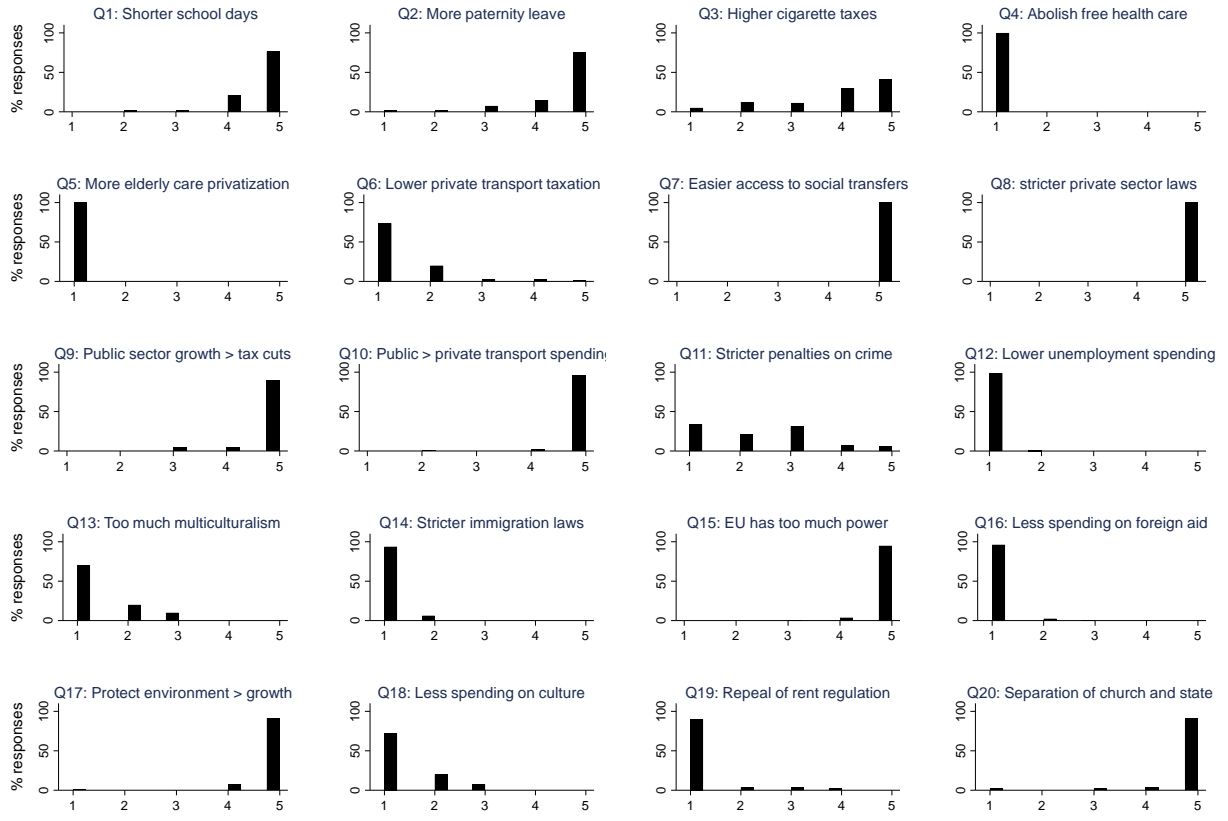
\*Issues for which district voter position data are available.

\*\*daily transfers are a social security scheme for recent salary earners who are out of work due unemployment, sickness, pregnancy or having recently given birth.

## **Appendix B**

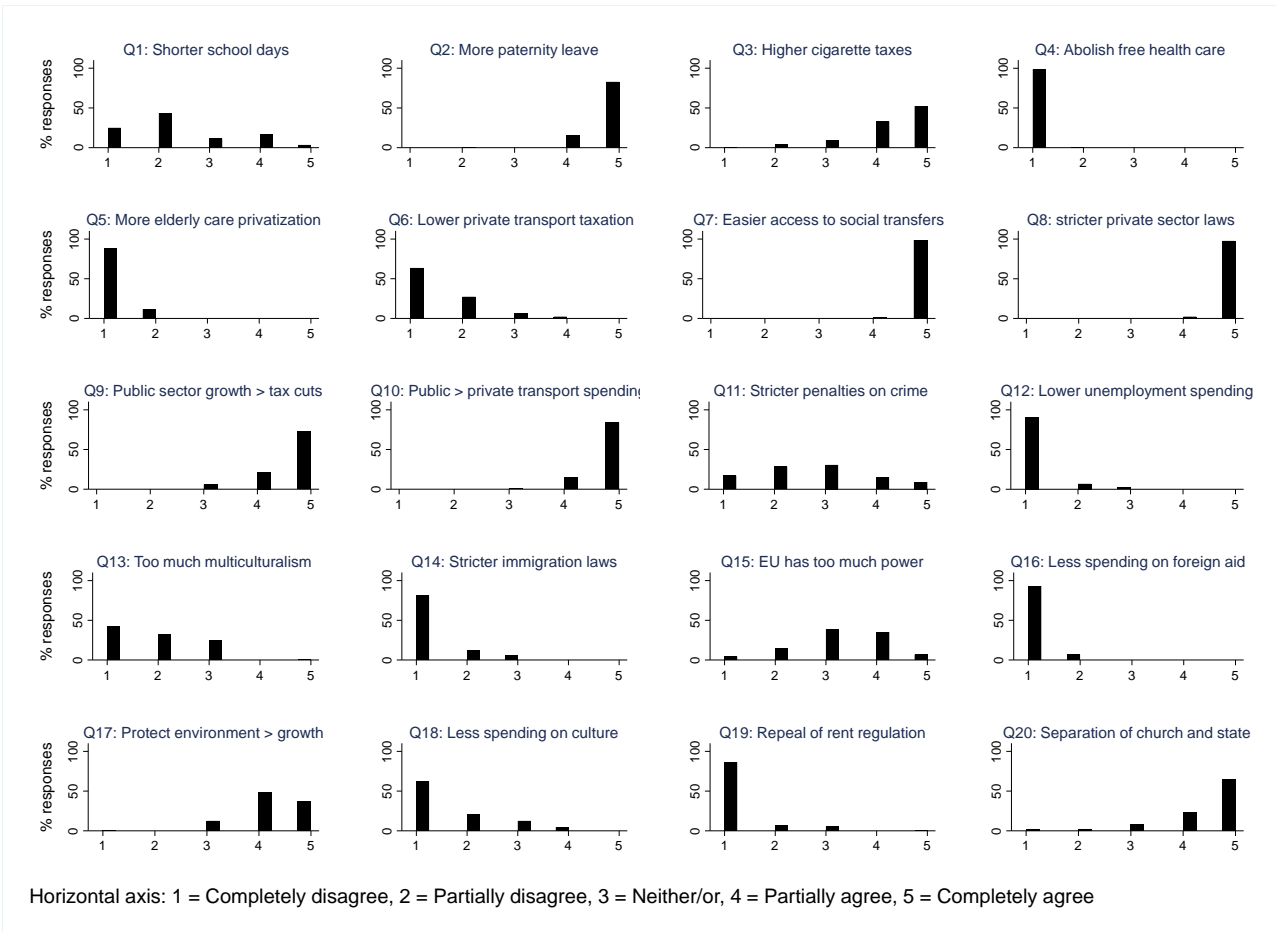
This appendix shows the distribution of candidate responses for each of the 10 Danish parties that competed in the 2015 election. The figures indicate that all parties had high levels of positional diversity on some issues, but high levels of unity on others, which is consistent with the empirical expectations from the theoretical model.

**Figure 1b: The distribution of candidate positions in The Unity List (Enhedslisten)**

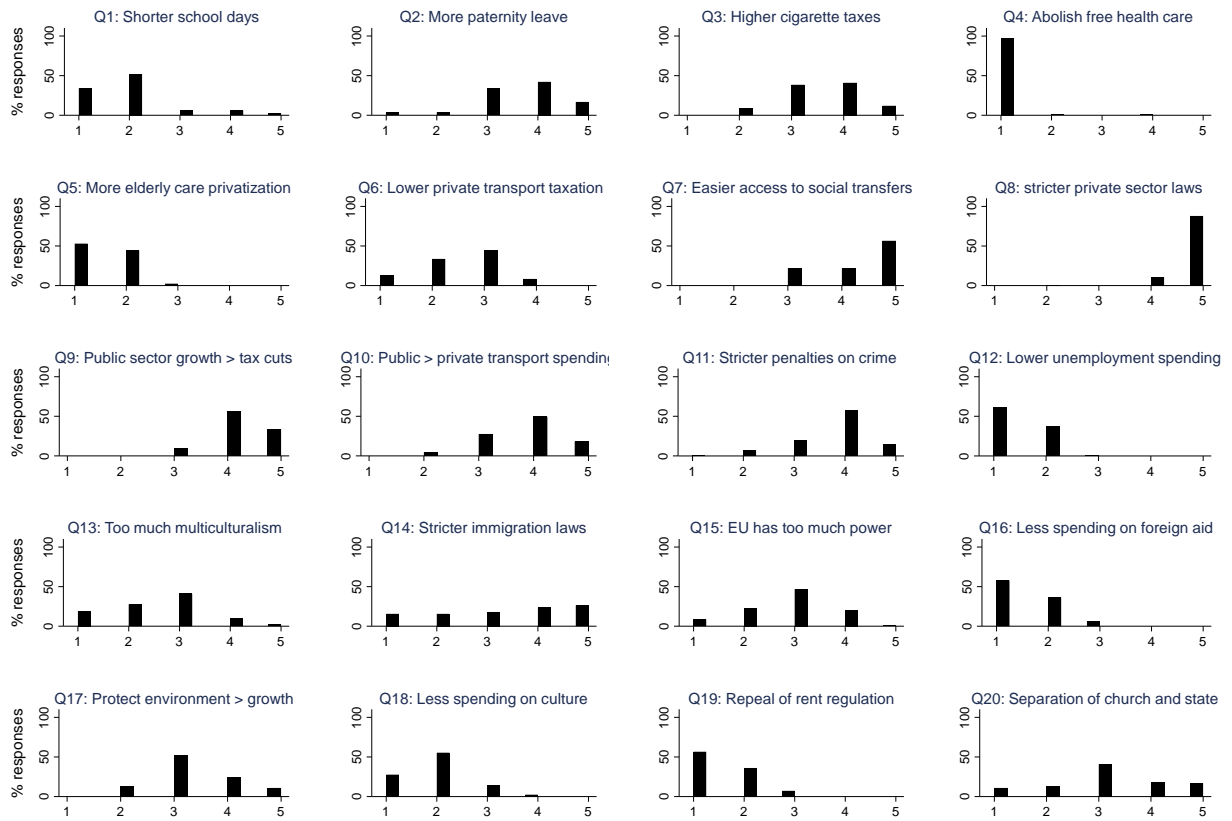


Horizontal axis: 1 = Completely disagree, 2 = Partially disagree, 3 = Neither/or, 4 = Partially agree, 5 = Completely agree

**Figure 2b: The distribution of candidate positions in the Socialist People's Party (Socialistisk Folkeparti)**



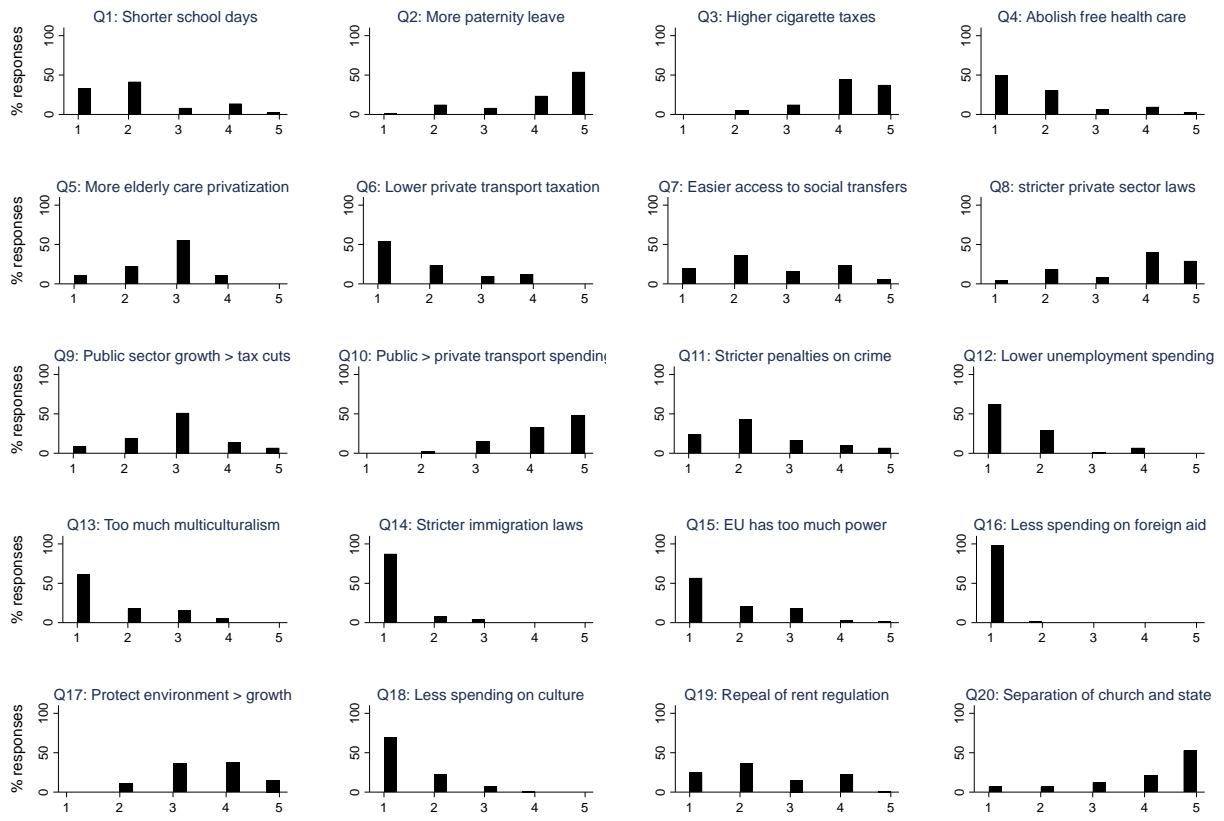
**Figure 3b: The distribution of candidate positions in the Social Democratic Party (Socialdemokratiet)**



Horizontal axis: 1 = Completely disagree, 2 = Partially disagree, 3 = Neither/or, 4 = Partially agree, 5 = Completely agree

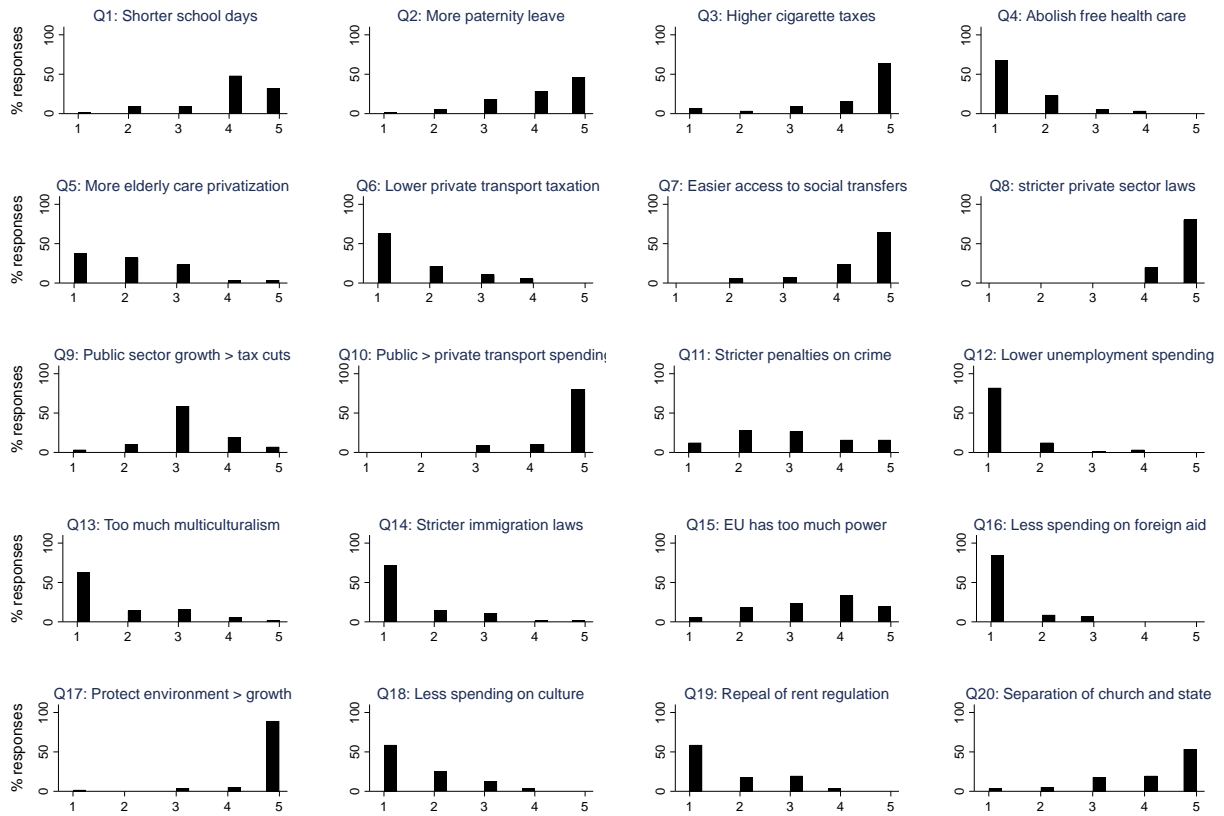


**Figure 4b: The distribution of candidate positions in the Radical Party (Radikale Venstre)**



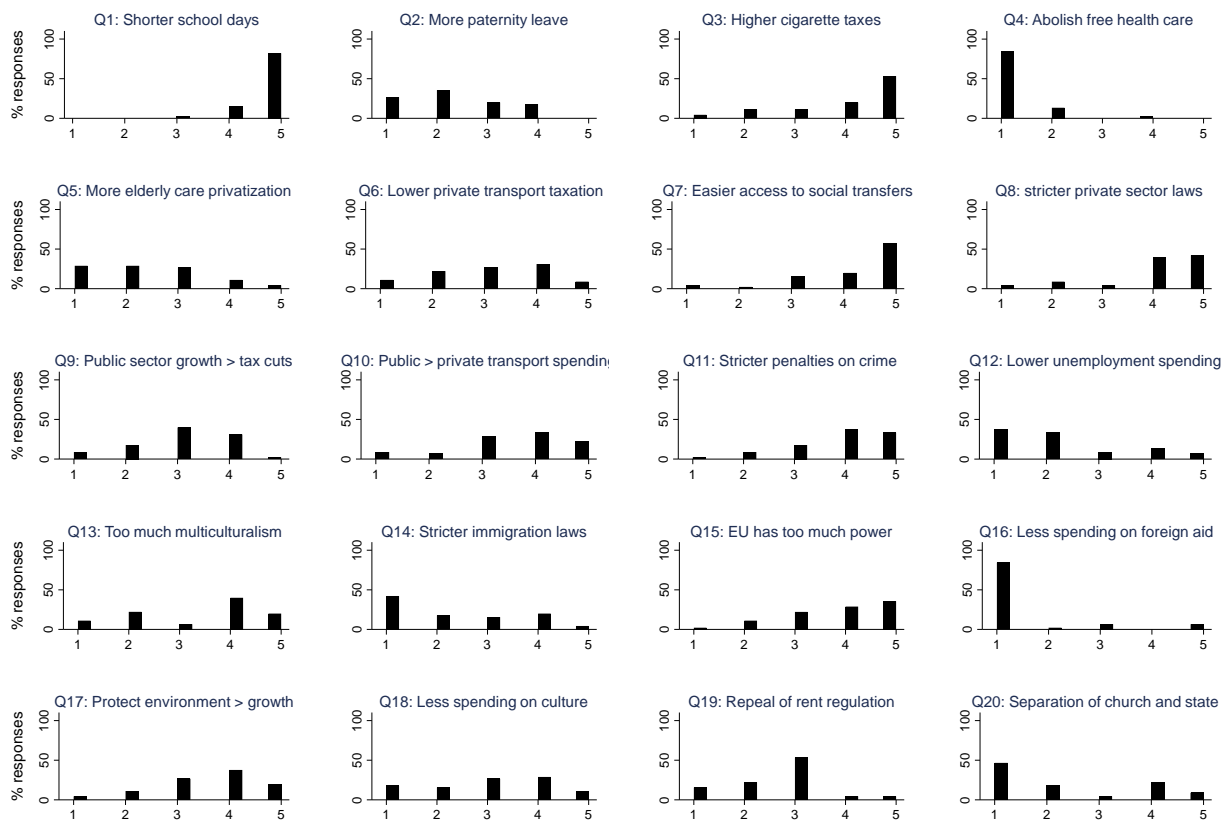
Horizontal axis: 1 = Completely disagree, 2 = Partially disagree, 3 = Neither/or, 4 = Partially agree, 5 = Completely agree

**Figure 5b: The distribution of candidate positions in the Alternative (Alternativet)**



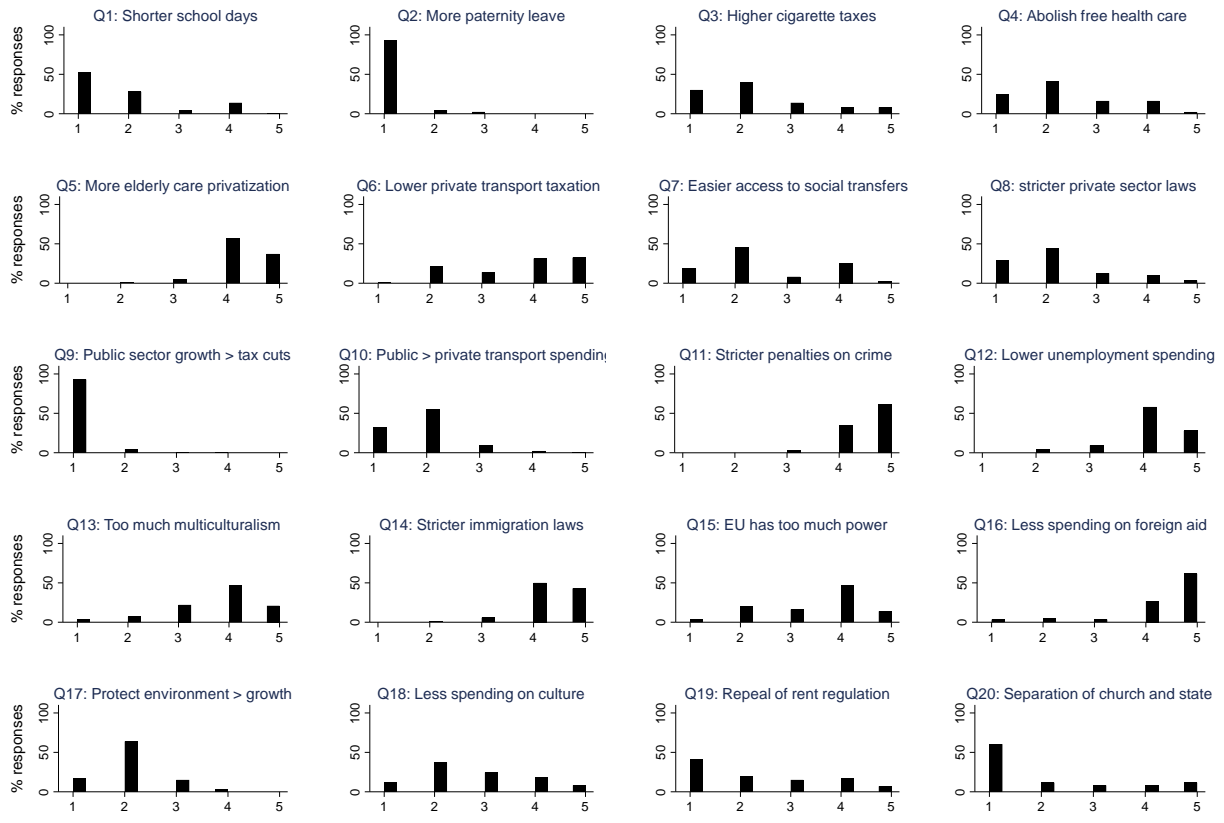
Horizontal axis: 1 = Completely disagree, 2 = Partially disagree, 3 = Neither/or, 4 = Partially agree, 5 = Completely agree

**Figure 6b: The distribution of candidate positions in Christian Democratic Party (Kristendemokraterne)**



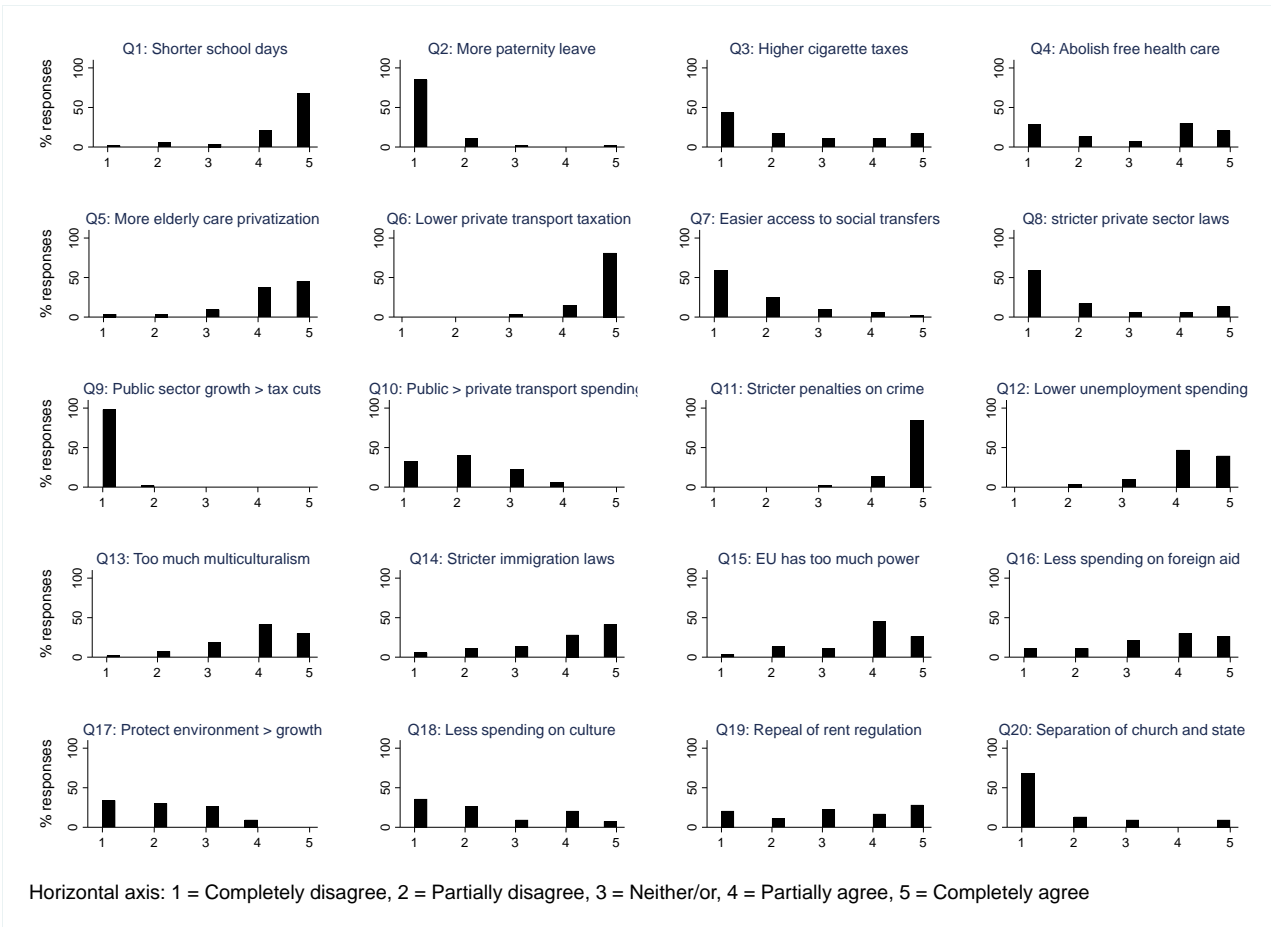
Horizontal axis: 1 = Completely disagree, 2 = Partially disagree, 3 = Neither/or, 4 = Partially agree, 5 = Completely agree

**Figure 7b: The distribution of candidate positions in the Liberal Party (Venstre)**

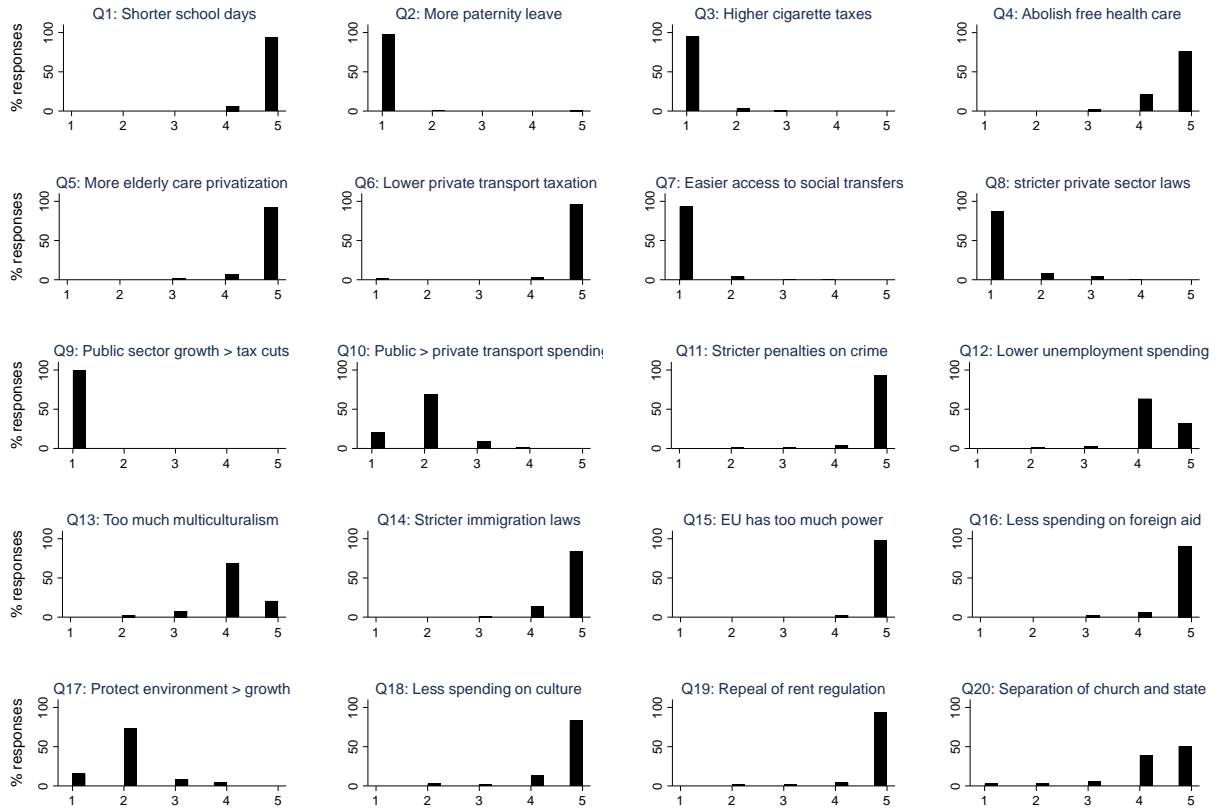


Horizontal axis: 1 = Completely disagree, 2 = Partially disagree, 3 = Neither/or, 4 = Partially agree, 5 = Completely agree

**Figure 8b: The distribution of candidate positions in the Conservative Party (Det Konservative Folkeparti)**

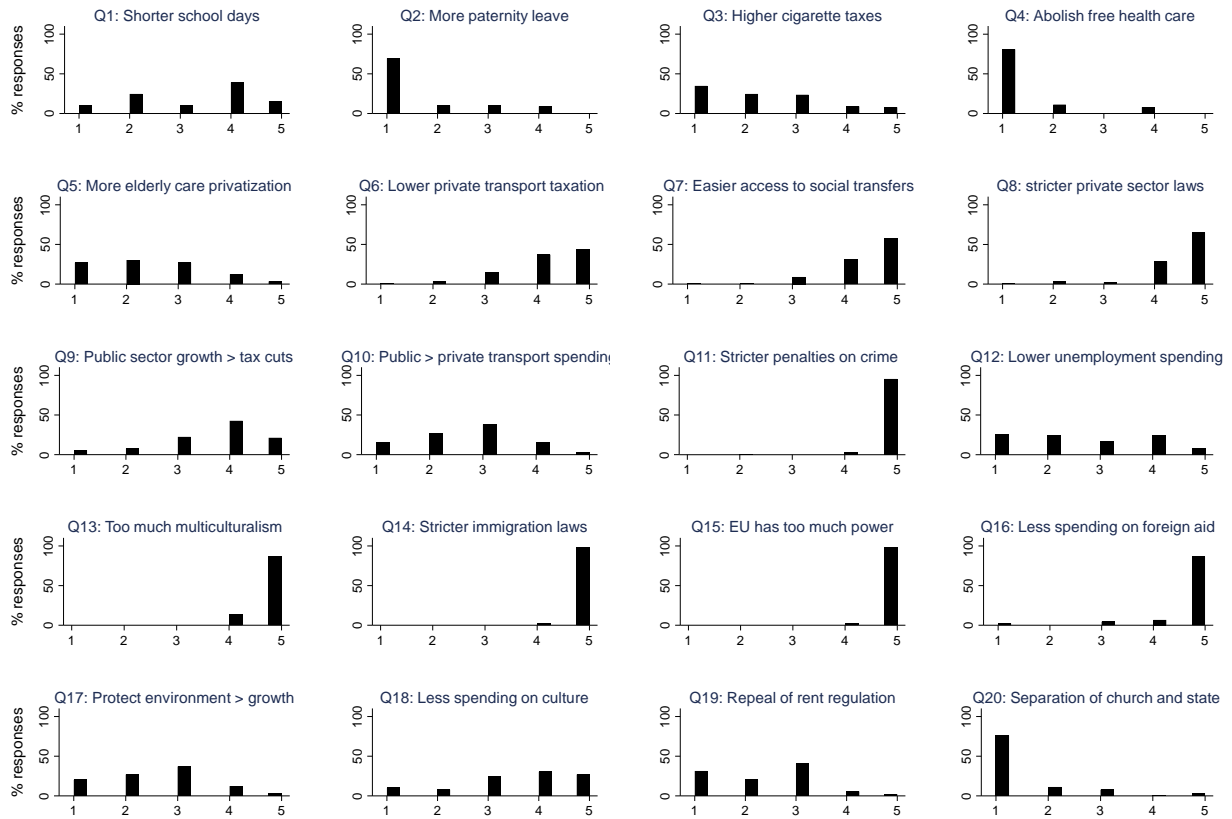


**Figure 9b: The distribution of candidate positions in the Liberal Alliance (Liberal Alliance)**



Horizontal axis: 1 = Completely disagree, 2 = Partially disagree, 3 = Neither/or, 4 = Partially agree, 5 = Completely agree

**Figure 10b: The distribution of candidate positions in the Danish People's Party (Dansk Folkeparti)**



Horizontal axis: 1 = Completely disagree, 2 = Partially disagree, 3 = Neither/or, 4 = Partially agree, 5 = Completely agree

## Appendix C

SSI's sampling comes from an internet access panel population, which is a group of pre-screened respondents who have previously expressed willingness to participate in surveys against financial compensation. Furthermore, the sample was balanced on age and gender in order to make it more similar to the actual demographic composition of Danish citizens, and on region in order to ensure that there was a sufficient number of respondents in each district.

Given this sampling procedure there are two ways in which the survey is plausibly unrepresentative of the Danish citizen population. First, it is possible that certain demographic groups are under- or over-represented in the survey (the demographic distribution of respondents is shown in Table 1c). Second, it is possible that individuals who take the survey are systematically different from individuals in the Danish citizen population who share a similar demographic status. As I explain below the concerns associated with the former possibility are significantly reduced due to the use of MRP methods. The concerns associated with the latter possibility are not much different from similar concerns associated with traditional phone based surveys, and, if true, should generally bias the results toward null findings.

The concern about the demographic distribution of the SSI sample being different from the demographic distribution in the Danish population is reduced when using MRP methods because the two MRP stages account for the issue. Specifically, the first MRP stage estimates an effect for each demographic category, and the second stage then weights those estimates according to how those categories are distributed in the actual population using census data. Consequently, the effect of a demographic group being under represented in the SSI sample is simply that the estimate for that group gets less precise (and, if the group is over-represented, then the estimate gets more precise than it would be in a perfectly representative sample holding the number of survey



respondents constant). However, under- or over-represented groups should not systematically drive estimates of aggregate district positions on political issues upward or downward.

The second possibility that sample respondents are systematically different from population citizens holding their demographic status constant, on the other hand, could result in biased estimates if true. In other words, it is possible, for example, that highly educated people who decide to take part in SSI's internet panel have systematically different issue positions than highly educated people in the Danish population. However, this concern is not much different from the concern that exists in traditional phone based surveys that citizens who decide to answer the phone and the interviewer's questions are systematically different from citizens who do not make that decision, holding their demographic status constant. Furthermore, if such a bias exists in the sample then it should bias the results against covariation between my dependent and independent variables because the district level estimates of issue agreement would generally either be too high or too low. Yet, the empirical analysis finds a clear and direct relationship between the MRP based estimates of district positions and candidate positions. Finally, it is important to note that the relationships between respondent categories and issue positions were highly intuitive. For example, respondents with a lower level of education clearly favored law and order measures more than citizens with a higher education, and older citizens were more skeptical of multiculturalism than younger citizens.

**Table 1c: Demographic distribution of respondents in 2015 mass survey**

<b>Democgraph category</b>	<b>Obs.</b>
<i>Vote choice: Unity List</i>	87
<i>Vote choice: Socialist People's Party</i>	74
<i>Vote choice: Alternatives</i>	17
<i>Vote choice: Social Democrats</i>	221
<i>Vote choice: Radicals</i>	27
<i>Vote choice: Christian Democrats</i>	11
<i>Vote choice: Conservatives</i>	50
<i>Vote choice: Liberals</i>	161
<i>Vote choice: Liberal Alliance</i>	38
<i>Vote choice: Danish People's Party</i>	180
<i>District: Bornholms Storkreds</i>	10
<i>District: Fyns Storkreds</i>	120
<i>District: Københavns Omegns Storkreds</i>	136
<i>District: Københavns Storkreds</i>	186
<i>District: Nordjyllands Storkreds</i>	142
<i>District: Nordsjællands Storkreds</i>	103
<i>District: Sjællands Storkreds</i>	216
<i>District: Sydjyllands Storkreds</i>	179
<i>District: Vestjyllands Storkreds</i>	64
<i>District: Østjyllands Storkreds</i>	206
<i>Education: Primary and lower secondary</i>	173
<i>Education: Upper secondary education</i>	162
<i>Education: Vocational education</i>	310
<i>Education: Short tertiary education</i>	114
<i>Education: Medium length tertiary education</i>	289
<i>Education: Bachelor's degree</i>	124
<i>Education: MA degree or equivalent</i>	160
<i>Education: Doctorate degree</i>	14
<i>Age: 18-24</i>	143
<i>Age: 25-34</i>	170
<i>Age: 35-44</i>	217
<i>Age: 45-54</i>	231
<i>Age: 55-64</i>	263
<i>Age: &gt;65</i>	328
<i>Gender: Male</i>	693
<i>Gender: Female</i>	669

## **Appendix D**

This appendix shows the results from the 1<sup>st</sup> and 2<sup>nd</sup> MRP stages. The first (multilevel regression) stage consists of 5 separate analyses where I use a multilevel model to estimate the relationship between vote choice and demographic categories on the probability that the dependent variable takes a “1”, a “2”, and so forth. I run separate analyses in order to maximize the flexibility in the relationship between those variables, and the results from each of those analyses are shown in Table 1d-5d. The second stage poststratifies the estimates according to the actual demographic composition in each district as well as the actual percentage of voters in each district that voted for each party. The distribution of the mean level values over districts is shown in Table 6d.

**Table 1d: Random intercept variance for each variable in the multilevel regression stage: Pr(1)**

<b>Independent variable</b>	<b>Q7</b>	<b>Q9</b>	<b>Q10</b>	<b>Q11</b>	<b>Q12</b>	<b>Q13</b>	<b>Q15</b>	<b>Q16</b>	<b>Q17</b>	<b>Q18</b>
Vote choice	1.21	4.678	1.801	<.001	1.55	0.864	0.276	2.341	0.807	0.722
District	0.26	0.172	<.001	0.01	<.001	<.001	0.259	<.001	<.001	0.022
Education	0.12	0.154	<.001	<.001	0.04	0.138	<.001	0.405	<.001	0.136
Age	0.26	0.154	<.001	0.570	<.001	<.001	0.094	0.112	0.161	0.134
Gender	<.01	0.156	0.049	<.001	0.007	0.062	0.012	0.008	0.131	<.001

**Table 2d: Random intercept variance for each variable in the multilevel regression stage: Pr(2)**

<b>Independent variable</b>	<b>Q7</b>	<b>Q9</b>	<b>Q10</b>	<b>Q11</b>	<b>Q12</b>	<b>Q13</b>	<b>Q15</b>	<b>Q16</b>	<b>Q17</b>	<b>Q18</b>
Vote choice	0.936	0.588	0.671	1.316	0.311	1.175	0.362	0.623	0.347	0.098
District	<.001	0.050	<.001	<.001	<.001	<.001	<.001	<.001	<.001	0.022
Education	<.001	<.001	<.001	<.001	0.004	0.168	0.156	0.016	<.001	0.088
Age	0.083	<.001	0.096	0.116	0.005	0.075	<.001	0.001	0.014	<.001
Gender	<.001	0.003	0.005	0.192	<.001	0.061	<.001	<.001	0.003	0.012

**Table 3d: Random intercept variance for each variable in the multilevel regression stage: Pr(3)**

<b>Independent variable</b>	<b>Q7</b>	<b>Q9</b>	<b>Q10</b>	<b>Q11</b>	<b>Q12</b>	<b>Q13</b>	<b>Q15</b>	<b>Q16</b>	<b>Q17</b>	<b>Q18</b>
Vote choice	0.140	0.041	0.184	0.201	0.018	0.166	0.247	0.248	0.073	0.043
District	0.011	0.024	<.001	<.001	<.001	<.001	<.001	0.070	<.001	<.001
Education	0.043	<.001	<.001	0.062	<.001	<.001	<.001	<.001	<.001	<.001
Age	0.160	0.009	<.001	0.081	0.034	0.010	0.061	<.001	<.001	<.001
Gender	<.001	0.022	<.001	0.039	0.012	0.001	<.001	<.001	<.001	<.001

**Table 4d: Random intercept variance for each variable in the multilevel regression stage: Pr(4)**

<b>Independent variable</b>	<b>Q7</b>	<b>Q9</b>	<b>Q10</b>	<b>Q11</b>	<b>Q12</b>	<b>Q13</b>	<b>Q15</b>	<b>Q16</b>	<b>Q17</b>	<b>Q18</b>
Vote choice	0.083	0.418	0.053	0.211	0.447	0.105	<.001	0.110	0.112	0.112
District	0.012	0.035	0.044	0.007	0.020	0.021	<.001	0.001	0.010	<.001
Education	<.001	<.001	<.001	0.032	<.001	<.001	<.001	<.001	<.001	0.047
Age	<.001	0.005	<.001	0.036	0.010	<.001	<.001	<.001	<.001	0.016
Gender	<.001	0.080	<.001	<.001	<.001	<.001	<.001	<.001	0.002	<.001

**Table 5d: Random intercept variance for each variable in the multilevel regression stage: Pr(5)**

<b>Independent variable</b>	<b>Q7</b>	<b>Q9</b>	<b>Q10</b>	<b>Q11</b>	<b>Q12</b>	<b>Q13</b>	<b>Q15</b>	<b>Q16</b>	<b>Q17</b>	<b>Q18</b>
Vote choice	1.104	1.696	1.622	0.538	1.063	0.766	0.679	2.071	1.230	0.293
District	0.028	<.001	0.249	<.001	0.086	0.043	0.009	<.001	0.069	<.001
Education	0.047	<.001	<.001	0.076	<.001	0.089	0.053	0.104	0.024	0.017
Age	0.574	0.055	0.068	0.192	0.006	<.001	0.001	0.033	0.052	0.034
Gender	<.001	0.013	0.020	0.034	0.046	<.001	<.001	<.001	<.001	<.001

**Table 6d: Mean district voter position**

<b>District</b>	<b>Q7</b>	<b>Q9</b>	<b>Q10</b>	<b>Q11</b>	<b>Q12</b>	<b>Q13</b>	<b>Q15</b>	<b>Q16</b>	<b>Q17</b>	<b>Q18</b>
Bornholms Storkreds	3.978	3.182	3.390	4.242	2.979	3.733	3.695	3.473	3.271	3.320
Fyns Storkreds	3.989	3.117	3.194	4.234	2.782	3.737	3.741	3.610	3.216	3.323
Københavns Omegns Storkreds	3.727	3.198	3.776	4.152	2.995	3.575	3.663	3.503	3.390	3.311
Københavns Storkreds	3.806	3.228	3.851	3.956	2.870	3.319	3.555	2.968	3.615	3.185
Nordjyllands Storkreds	3.789	3.000	3.125	4.221	3.019	3.897	3.744	3.579	3.106	3.353
Nordsjællands Storkreds	3.769	2.931	3.525	4.234	3.109	3.789	3.677	3.405	3.230	3.335
Sjællands Storkreds	3.834	2.994	3.150	4.274	2.910	3.711	3.701	3.609	3.236	3.364
Sydjyllands Storkreds	3.767	2.968	3.018	4.347	3.121	3.880	3.745	3.786	3.148	3.415
Vestjyllands Storkreds	3.674	2.982	3.091	4.249	3.168	3.944	3.707	3.585	3.168	3.383
Østjyllands Storkreds	3.801	3.101	3.166	4.154	3.211	3.815	3.691	3.376	3.308	3.284

## Appendix E

This appendix shows the parameter coefficients that are used to obtain the substantive results shown in the main paper. Specifically, the parameter coefficients that are used to produce substantive effects in Figures 1-3 are shown in Table 1e, and the parameter coefficients that are used to produce substantive effects in Figures 4-5 are shown in Table 2e.

When interpreting these results it is important to note that raw interaction coefficients are notoriously uninformative in non-linear models because constitutive terms may significantly interact in determining the probability of outcomes even in the absence of a statistically significant interaction term (Ai and Norton 2003; Berry, DeMeritt, and Esarey 2010). Accordingly, the interaction parameter for district voter positions and issue salience is not statistically significant in Table 1e, but the substantive effects of this interaction are statistically significant nonetheless, which is shown in Figure 2 in the main paper. Likewise, the parameter coefficient for the interaction between district voter positions and the niche party variable is not significant, but the substantive effect of the interaction are statistically significant, which is shown in Figure 5 in the main paper.

Finally, Figures 1e – 3e show that the substantive effects of the district voter position slopes for niche and mainstream parties are not only statistically different from one other when the party leader position is extreme as shown in Figure 5 in the main paper, but also statistically distinguishable (at the  $p < .1$  threshold) when the party leader partially (dis)agrees with an issue statement or gives the “neither/or” statement. The procedure for calculating these substantive effects are described in the main paper on pages 18.

**Table 1e: Candidate positions, party leader positions, district voter positions, and issue salience**

Parameter	Model 1
Mean district issue position	0.487*** (0.104)
Issue salience	-2.115* (0.965)
Party leader position	0.961*** (0.051)
Mean district issue position*issue salience	0.032 (0.278)
Party leader position*issue salience	0.617*** (0.106)
Cut point 1	3.195 (0.398)
Cut point 2	4.145 (0.400)
Cut point 3	4.940 (0.401)
Cut point 4	6.033 (0.404)
Random intercept variance: Issues	0.045
Random intercept variance: District-issues	0.002
Random intercept variance: Party-issues	0.267
Random intercept variance: District-Party-issues	0.002
Obs. <sup>a</sup>	6,200

\*\*\*p<.001, \*\*p<.01, \*p<.05, two tailed test.

The model uses an ordered probit estimator

<sup>a</sup>Distributed over 10 issues, 10 districts, 8 parties and 620 candidates

Candidates from The Alternative Party and the Christian Democrats are not included because candidates from these parties not issue party magazines

**Table 2e: Candidate position taking in niche and mainstream parties**

Parameter	Model 1
Mean district issue position	0.619*** (0.112)
Niche party	0.487 (0.655)
Party leader position	0.898*** (0.059)
Mean district issue position*issue salience	-0.326 (0.174)
Party leader position*issue salience	0.288*** (0.084)
Cut point 1	3.565 (0.429)
Cut point 2	4.466 (0.429)
Cut point 3	5.243 (0.431)
Cut point 4	6.276 (0.433)
Random intercept variance: Issues	0.023
Random intercept variance: District-issues	0.002
Random intercept variance: Party-issues	0.361
Random intercept variance: District-Party-issues	0.005
Obs. <sup>a</sup>	7,190

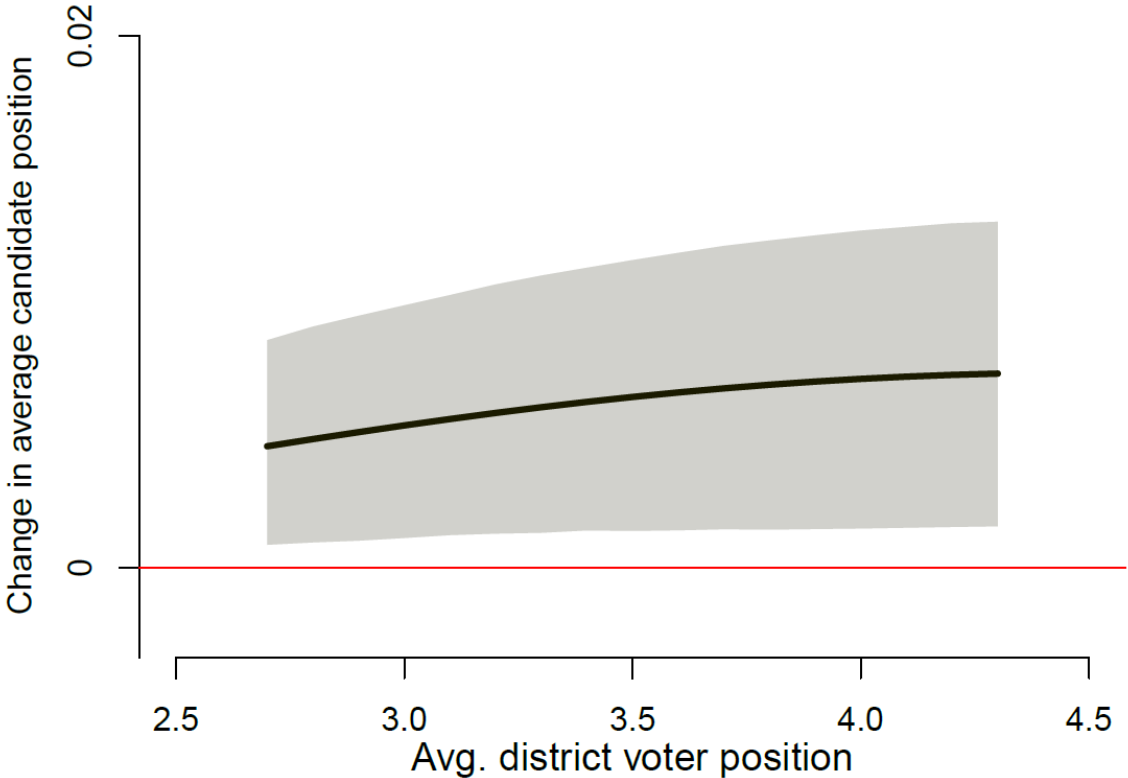
\*\*\*p<.001, \*\*p<.01, \*p<.05, two tailed test.

The model uses an ordered probit estimator

<sup>a</sup>Distributed over 10 issues, 10 districts, 10 parties and 719 candidates

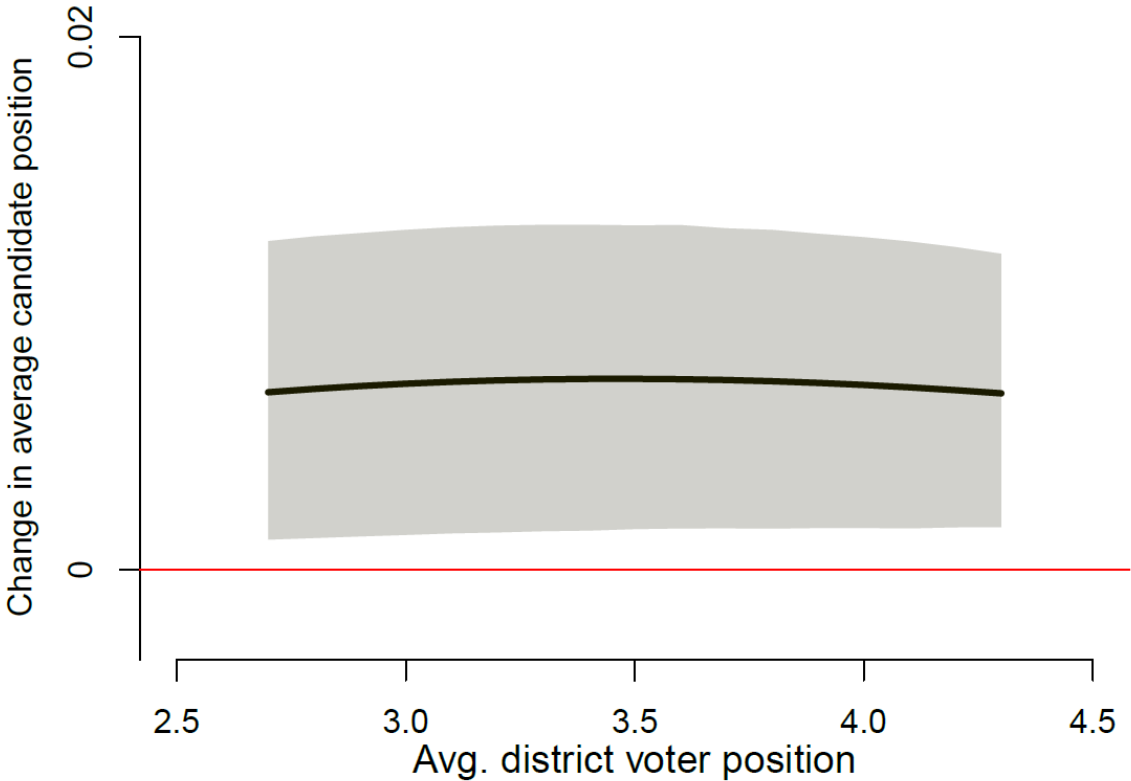


**Figure 1e: Marginal effect of .1 increase in mean district voter position for mainstream vs. niche party candidates when party leader position = 2**



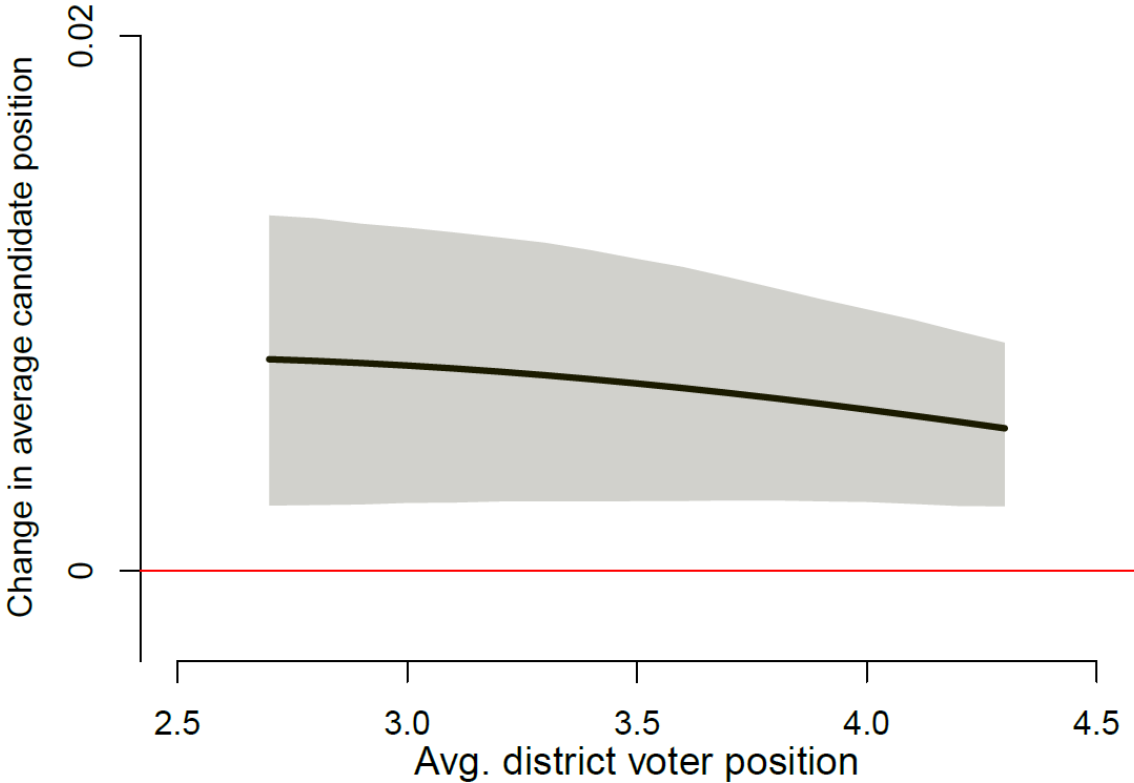
Note: The shaded area represents 90% confidence intervals

**Figure 2e: Marginal effect of .1 increase in mean district voter position for mainstream vs. niche party candidates when party leader position = 3**



Note: The shaded area represents 90% confidence intervals

**Figure 3e: Marginal effect of .1 increase in mean district voter position for mainstream vs. niche party candidates when party leader position = 4**



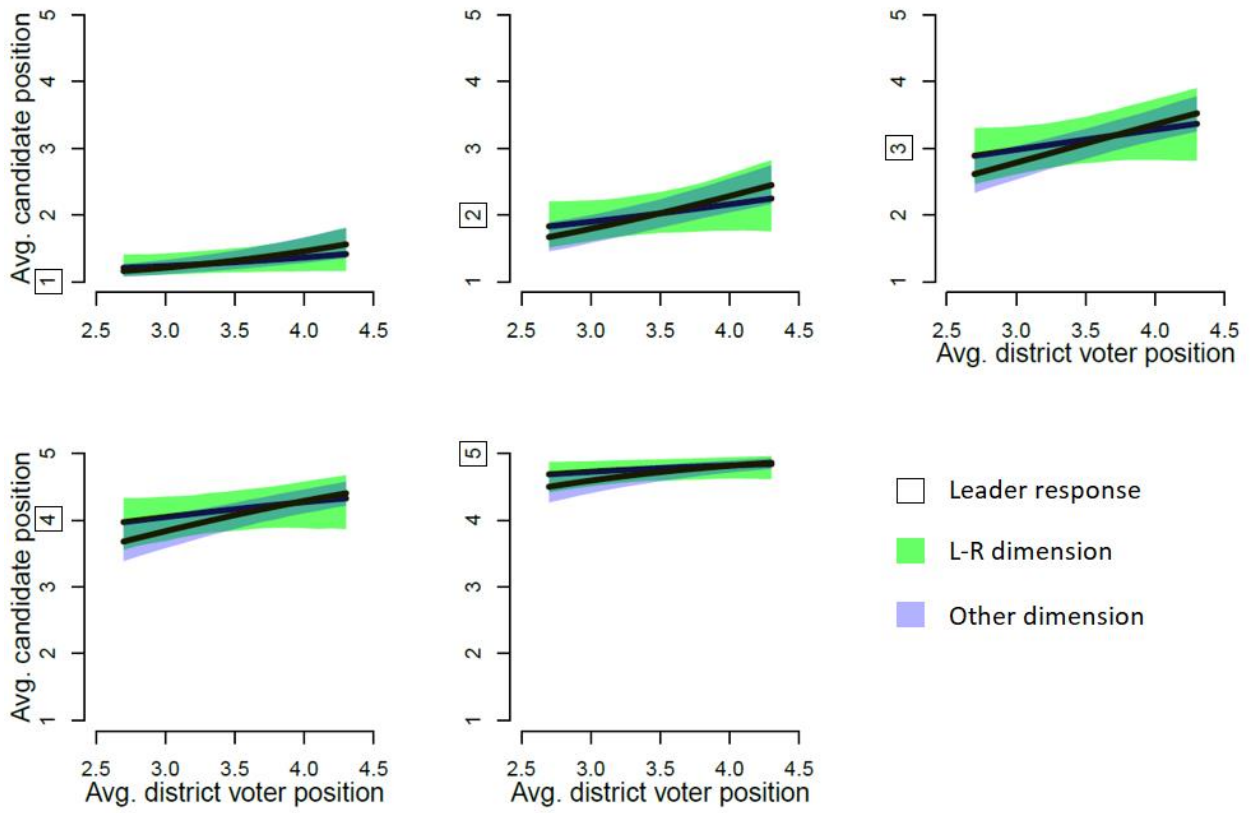
Note: The shaded area represents 90% confidence intervals

## Appendix F

This appendix shows the substantive results when the niche party variable is replaced with ‘issue dimension’, ‘government’, and ‘district unification’ variables, respectively. The issue dimension variable is coded as a “1” for issues that are on the left-right economic dimension (issues 7, 9 and 12 in Appendix A), and “0” otherwise. The government variable is coded as a “1” for the Social Democrats and the Radicals (“0” otherwise). The district unification variable is coded as a “1” for the district-issues with a standard deviation in the highest 50<sup>th</sup> percentile (“0” otherwise). As the figures show there is no evidence that either of these variables systematically condition candidate position taking. To be sure, the slope is weaker for parties in the government than opposition parties, but the confidence intervals are so large (due to the fact that there are only two government parties) that the differences are not statistically significant.

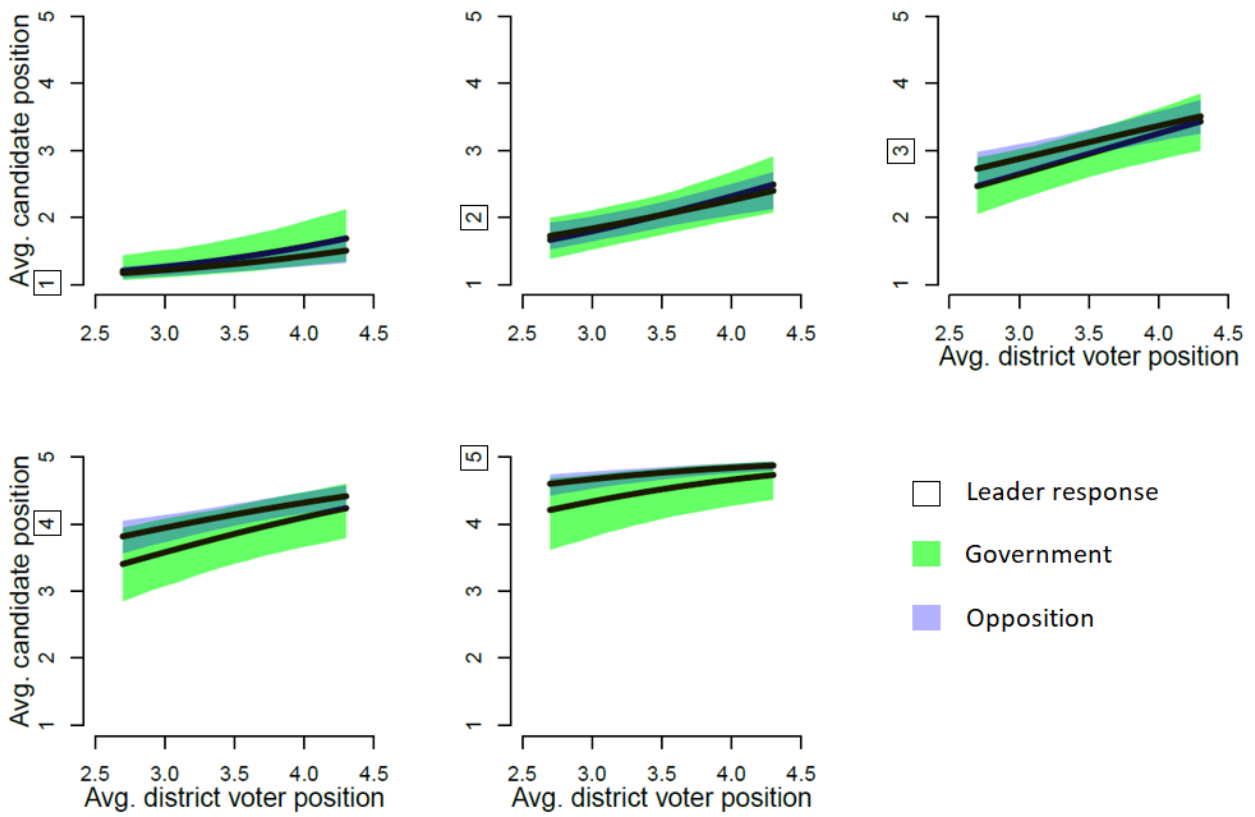
Finally, Figures 4f and 5f collectively analyze the interaction between party types and issue salience. Specifically, Figure 4f illustrates the relationship between district voter positions and candidate positions on salient and non-salient issues for niche parties. Figure 5f illustrates the same relationship for mainstream parties. The results in Figure 4f illustrate that niche party candidates are not responsive to the mean district voter on either salient or non-salient issues. Interestingly, however, they are more likely to diverge from their party leader’s position on non-salient issues, which may indicate that they respond to some other principal such as the position of the mean district-party voter. Unfortunately, I cannot test this possibility in this paper because it would require census data on individual vote choices in order for the poststratification stage of the MRP procedure to work. It would be interesting for future research to explore, though. As expected, the results in Figure 5f show that mainstream candidates are responsive to mean district voter preferences, but more so on non-salient issues.

**Figure 1f: Candidate position taking on left-right and other issues**



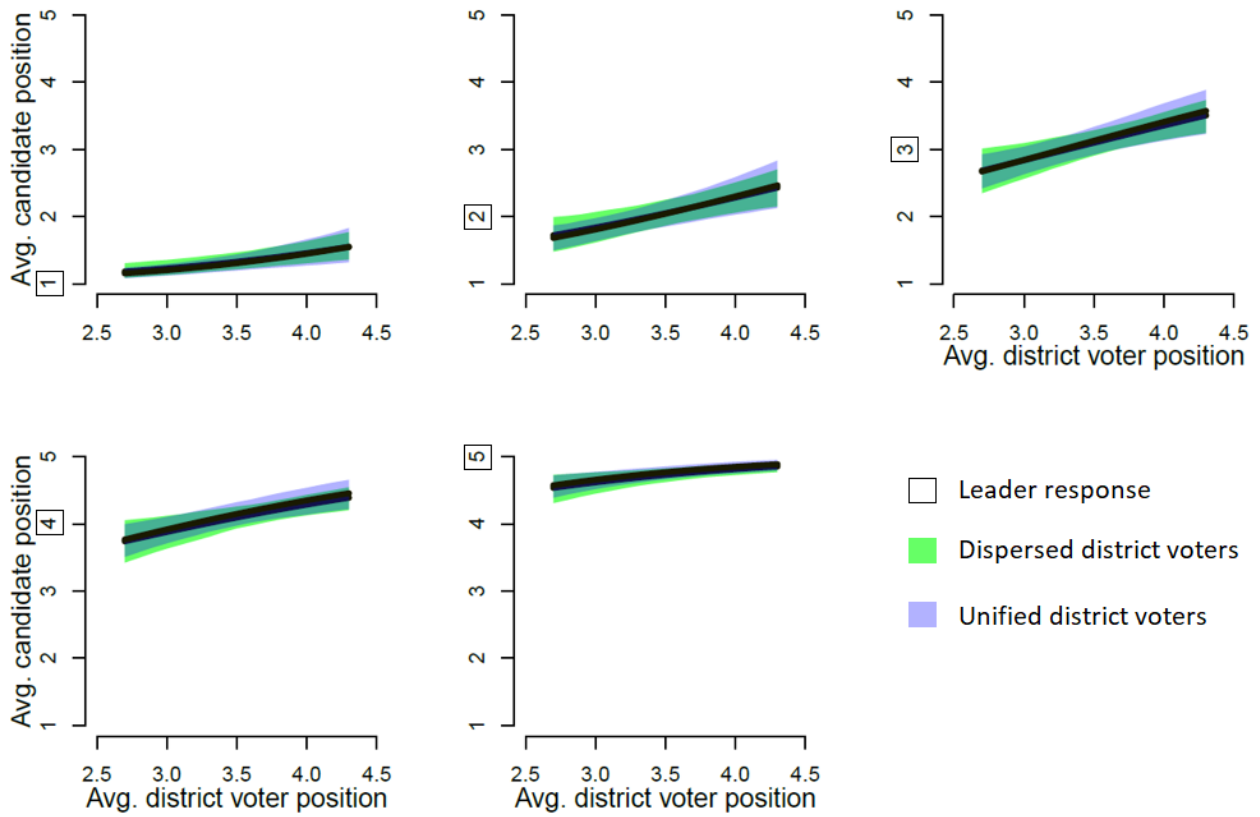
Note: Shaded areas represent 95 percent confidence intervals. The results are obtained using an ordered probit estimator.

**Figure 2f: Candidate position taking in government and opposition parties**



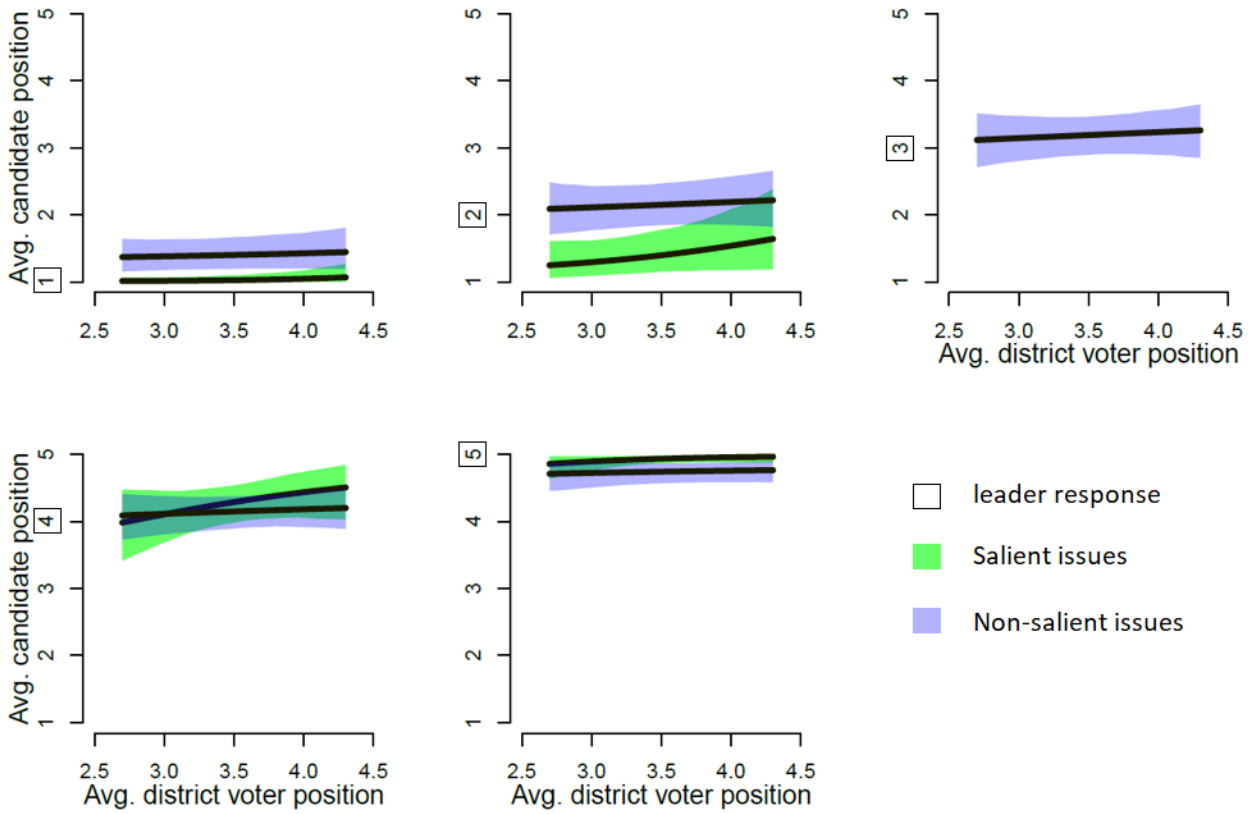
Note: Shaded areas represent 95 percent confidence intervals. The results are obtained using an ordered probit estimator.

**Figure 3f: Candidate position taking on issues with unified and dispersed district voters**



Note: Shaded areas represent 95 percent confidence intervals. The results are obtained using an ordered probit estimator.

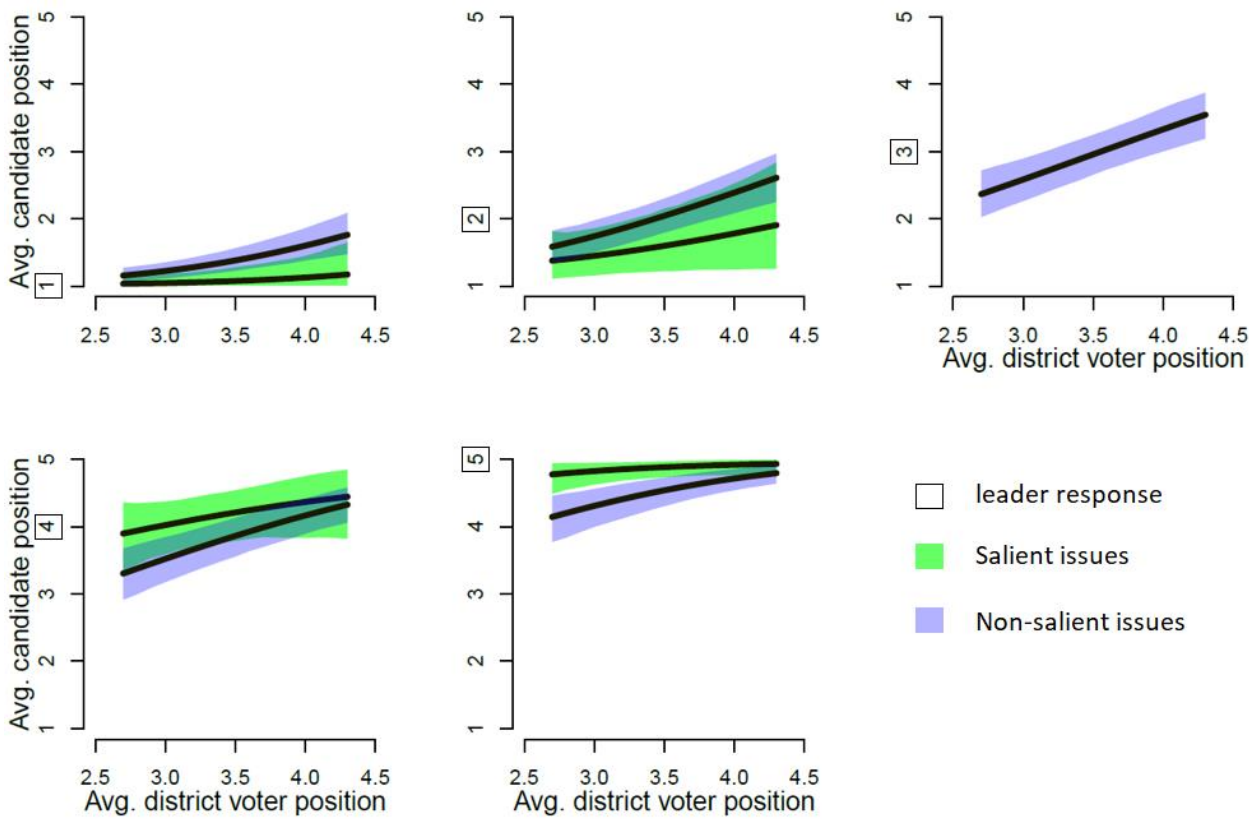
**Figure 4f: Candidate positions and issue salience within niche parties**



Note: Shaded areas represent 95 percent confidence intervals. The results are obtained using an ordered probit estimator.



**Figure 5f: Candidate positions and issue salience within mainstream parties**



Note: Shaded areas represent 95 percent confidence intervals. The results are obtained using an ordered probit estimator.