

Statistical Analysis of Uncertainty, “Incoherence” and the Effects on Voting

General Uncertainty and Correlation with Party Support

Following Alvarez (1997) and Magaloni (1997), I define voter uncertainty as the extent of dispersion of respondents’ placement of the party around the “true” position of the party. Like Alvarez and Magaloni, I treat the mean placement of each party as the true position and compute uncertainty as:

$$v_{ij} = \frac{1}{k} \sum_{k=1}^K (P_{ijk} - T_{jk})^2$$

where v_{ij} represents the extent of voter uncertainty; P_{ijk} is the placement of respondent i of party J on each of k issues; and T_{jk} is the mean position of party J on the issue. I drop non-responses from the analysis but, like Alvarez and Magaloni, I treat respondents who answer “I don’t know” as “maximally uncertain,” therefore giving them a score of ten squared.

I examine levels of uncertainty about the policy positions of the parties, while controlling for a larger number of variables. Running a series of OLS regression models, I examine the correlates of uncertainty for each of the three parties while controlling for sociodemographic features that might shape respondents’ level of certainty. I expect that more educated voters will have lower levels of certainty. I expect that urban voters’ more frequent interactions with the new parties will also lead them to be less uncertain. I also include 0-1 dummy variables, indicating which party the respondent voted for in the PR balloting in 1996. Because I expect less uncertainty from voters about the party they supported, I predict a large negative coefficient, in particular, on the variable for the party being examined in the dependent variable. For example, I expect a particularly large negative coefficient on “Voted for DPJ” in the “Uncertainty Regarding DPJ” model.

Table 9.c lists the results. All the values are statistically significant and in the expected direction. The positive coefficient for gender indicates that women were markedly more uncertain about parties’ issue positions. The negative coefficients for Education and Urban residence indicate that, as expected, the more educated and the more urban a voter is, the more likely that voter will be less uncertain about the parties’ positions. Most striking, although there is little difference in the size of the coefficients between the three vote choice variables in the NFP model, there are fairly sizable differences in coefficients in the LDP and DPJ models. That is, there is a fairly strong correlation between support for the LDP and greater certainty about the LDP, but there is an even stronger correlation between support for the DPJ and certainty about the DPJ’s positions.

[Table 9.c about here]

Voter Perceptions of Party Incoherence and Vote Choice

I also ran three sets of probit models, with vote choice as a dependent variable to test the importance of uncertainty in determining how people actually voted in 1996. Because “uncertainty” may be due to nothing more than the newness of the parties, I place special emphasis in these models on voters’ perception of party incoherence, a factor that, as I note in the text of Chapter 7, is unlikely to be a natural outgrowth of party newness.

For a number of methodological reasons, these models are not ideal in terms of generating perfectly accurate estimates of the impact of any of the variables in the models.

Nevertheless, my intent here is not to offer a fully specified model that can demonstrate the precise strength of the relationship between uncertainty and voting for a party. Rather, I am simply concerned with indicating whether a sense by voters that a particular party is incoherent appears to lead to a lower probability of voting for that party, even when other variables are controlled for.¹

The first model predicts the vote for the LDP, so vote choice is coded 1 if the respondent voted for the LDP and 0 otherwise. The second model predicts the vote for the NFP, so a vote for the NFP is coded 1 and all others are 0. Finally, the third model predicts voting for the DPJ, so vote choice is coded 1 for the DPJ and 0 for any other vote. The independent variables include all those from the multinomial probit analysis in Appendix 6d. However, the three models predicting vote choice here also include the respondent's uncertainty score regarding the party in question (*Uncertainty*), her expression of how well she felt she knew the party (*How Well Know*), and most important, whether she thought the party had no programmatic "center" (was merely a coalition of dissimilar politicians) or not (*Party Has No Center*). While *Uncertainty* and *How Well Know* are likely to be strongly influenced by how new a party is, as I indicate in the text of Chapter 7, there is much less reason to think that *Party Has No Center* is. Presumably, voters who see a party that is composed of a number of different parties (a) will be more likely to see it as incoherent in this way and, insofar as party coherence matters to them, (b) will then be more likely to vote against the party. For each model, I compute the *Uncertainty*, *How Well Know*, and *Party Has No Center* only for the party in question. For example, in the LDP model, the three uncertainty variables are computed only for respondents' impressions of the LDP.

My main concern here is with the sign on the three uncertainty variables. I expect that as voters grow more uncertain about a party, they also grow less likely to vote for the party. Therefore, I expect a negative coefficient on all three of the variables.

[Table 9.d about here]

Table 9.d lists the results of the three probit models. In all three models, the coefficients for all three measures of uncertainty about parties are negative, indicating a correlation (albeit a non-significant one in places) between uncertainty and *not* voting for that party. In short, voters really do appear less likely to vote for parties that they are uncertain about.

Most striking, *Party Has No Center* is negative and statistically significant in the LDP and NFP models, indicating that voter perceptions of party incoherence reduced the likelihood of support for those parties. Surprisingly, the variable is non-significant in the DPJ model. Most

¹ Ideally, I would run models that are identical to the multinomial probit models I presented in Chapter 8. Moreover, to isolate fully the extent to which uncertainty shapes vote choice, I would need to utilize appropriate instrumental variables. (See Alvarez [1997] for similar work with the two-stage probit least squares model.) That is, there is a circular relationship between uncertainty and vote choice. Voters are less likely to vote for a party about which they feel uncertain, but they are also less likely to feel uncertain about a party that they support. Therefore, neither OLS nor probit is the most suitable approach to isolating the link between uncertainty and party support. Unfortunately, no variable in the JEDS data set appears suitable to serve as an instrument in this case. For this reason, I focus on presenting a simple model that can give a sense of the correlation between uncertainty about a given party and support for that party.

likely, this is due to an extreme version of the newness factor: The DPJ was only a few weeks old at the time of the 1996 election, so voters were probably shaped more by their general confusion about the party than by their sense of it being incoherent. This speculation is supported by the fact that the two uncertainty variables (Uncertainty and How Well Know) are statistically significant in the DPJ model (whereas, with the exception of How Well Know in the NFP model, they are non-significant in the other two models).

Details of Differences in the Results

“[V]oters were more uncertain about the positions of the NFP and DPJ on all three of the issues mentioned above.” The differences are statistically significant at the .05 level.

“NFP voters’ level of certainty regarding their own party was roughly the same as their sense of certainty about the LDP.” The difference is not statistically discernible from zero.

“Interestingly, DPJ voters felt markedly more certain about all three parties, with little difference in the level of certainty.” Here too the difference is not statistically discernible from zero.

“DPJ voters had *markedly* higher education levels than other party voters.” On a 7-point scale (with 1=elementary school education and 7=graduate school education), Socialist and Communist voters had an average score of 3.37; LDP voters had an average score of 3.22; NFP voters’ score was 3.39; and DPJ voters’ average score of 4.01. The difference between the DPJ and the other parties is statistically significant at .01 levels.

“[U]rban voters were markedly more likely than rural ones to emphasize party and national issues.” The difference is statistically significant at the .01 level.

“[A]mong the groups that systematically supported the new parties, there was much lower uncertainty. An analysis of the JEDS data set indicates that young voters were more certain about the new parties than older voters were. Those who supported the liberalization of the agricultural market were more certain about the new parties than those who were more protectionist. Those who supported decentralization were more certain than “anti-decentralizers.” And those who were less supportive of subsidies were more certain than pro-subsidy voters.” Each of these differences between groups is statistically significant at the .01 level.

Table 9.c – Correlates of Uncertainty Regarding the LDP, NFP, and DPJ Policy Positions

	Uncertainty Regarding LDP	Uncertainty Regarding NFP	Uncertainty Regarding DPJ
N	1390	1387	1385
R-Sq	0.1073	0.1162	0.1079
Adj. R-Sq	0.1034	0.1124	0.1041
Gender	16.213*** (1.832)	18.223*** (1.961)	15.597*** (2.119)
Education	-3.449*** (0.656)	-3.929*** (0.701)	-4.763*** (0.757)
Urban	-2.760** (1.108)	-2.880** (1.185)	-3.170** (1.280)
Voted for LDP	-12.537*** (2.247)	-11.641*** (2.406)	-9.210*** (2.600)
Voted for NFP	-8.498*** (2.534)	-11.879*** (2.708)	-8.290** (2.924)
Voted for DPJ	-10.625*** (3.064)	-12.612*** (3.275)	-19.467*** (3.535)
Constant	27.744*** (4.373)	32.471*** (4.686)	45.001*** (5.063)

Values represent OLS coefficients with standard errors in parentheses.

*p<.05 (one-tail), **p<.05 (two-tail), ***p<.01 (two-tail)

Data from JEDS96.

Table 9.d – Probit Models of the PR Vote in 1996, A Rough Test of the Impact of Uncertainty

Number of Obs.	1022	887	703
LR Chi-Squared (22)	171.86	38.80	34.99
Prob>Chi-Sq.	0.000	0.001	0.003
Pseudo R-Sq.	0.141	0.045	0.057
Log Likelihood	-524.581	-415.440	-289.125
Variable	Vote For LDP	Vote For NFP	Vote For DPJ
Party Has No Center	-0.373** (0.155)	-0.304*** (0.102)	-0.008 (0.126)
Uncertainty	-0.002 (0.002)	-0.002 (0.002)	-0.003* (0.002)
How Well Know	-0.039 (0.065)	-0.155** (0.074)	-0.308*** (0.088)
Union	-0.499*** (0.165)	-0.038 (0.155)	0.056 (0.177)
Age	0.008** (0.003)	0.0004 (0.004)	-0.010** (0.010)
Liberalization	-0.036 (0.261)	0.124*** (0.046)	0.026 (0.055)
Subsidy	0.261** (0.115)	-0.128 (0.136)	-0.092 (0.152)
Decentralization	-0.252* (0.138)	0.228* (0.136)	0.227 (0.149)
LDPinc	0.161* (0.098)	-0.062 (0.108)	0.032 (0.128)
NFPinc	-0.032 (0.096)	0.060 (0.106)	-0.112 (0.128)
DPJinc	-0.180 (0.159)	0.067 (0.157)	-0.051 (0.193)
Leftinc	-0.268 (0.210)	0.119 (0.217)	-0.511 (0.320)
Economy	-0.037 (0.058)	-0.050 (0.064)	-0.002 (0.073)
SOL	-0.138*** (0.049)	0.178*** (0.054)	0.002 (0.064)
Ideology	0.183*** (0.023)	-0.010 (0.024)	-0.027 (0.028)
Constant	-1.236*** (0.389)	-1.041** (0.427)	0.405 (0.516)

Results are coefficients with standard errors in parentheses.

*p<.05 (one-tail); **p<.05 (two-tail), ***p<.01 (two-tail)

Data from JEDS96.