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Uncertainty and Turnout

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This article develops a model that simultaneously considers individual turnout and vote choice while also accounting for uncertainty about candidates. The theoretical development of this model implies that the effects of uncertainty on turnout vary with the strength of individual preferences. Application of the model to individual choice in the 1996 American presidential election confirms that decreasing uncertainty about the character traits of the candidates decreases the probability of abstention for individuals with strong preferences but increases the probability of abstention for individuals with weak preferences.

1 Introduction

IN THIS ARTICLE I show that individual uncertainty about candidates has important implications for turnout. I accomplish this by combining the insights from two recent lines of inquiry in political science. The first concerns electoral choice and the idea that turnout and candidate preference can profitably be modeled together. The second concerns uncertainty—both its relevance for individual choice and its empirical measurement. After discussing their separate contributions to the study of electoral behavior, I argue that together they imply a complex but intuitive model of the relationship between uncertainty and turnout. In the remainder of the article I describe the substantive and statistical nature of the model and apply it to individual choice in the 1996 American presidential election.

One of the most important facts about individual electoral choice is that the act of voting is an expression of preference (Downs 1957; Riker and Ordeshook 1968), so we should expect that preferences between candidates have important effects on individual turnout decisions. Several recent papers have pursued this logic by developing models that integrate turnout with vote choice. Dubin and Rivers (1990) use a bivariate probit model with selection, where an individual's vote choice is observed only if that individual decides to turn out to vote. Born (1991) employs a nested logit structure to model individual decisions about whether or not to vote and, conditional on having decided to vote, which candidate to support. Herron (1998) models the determinants of individual preference along with the probability that individuals with a given preference will turn out to vote. Burden and Lacy (1999) build on the growing use of multinomial probit models in political science (see Alvarez

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and Nagler 1995, 1998) by including abstention as an additional choice in a multinomial probit specification of individual choice. Sanders (1999a) develops a specification in which individuals turn out to vote for their preferred candidate only if the utility difference between a pair of candidates exceeds some threshold. Though their particular specifications vary, these papers all share the common intuition that the close logical relationship between turnout and vote choice implies that they can and should be modeled together, combining the determinants of preference and turnout into a single model to explain individual behavior.

Another important consideration for individual behavior is that individuals make electoral choices in an environment of uncertainty. Researchers have long argued that perceptions of political objects may be subject to uncertainty due to some combination of the cognitive limitations of individuals, the costs of acquiring information, and ambiguity on the part of candidates. Downs (1957, p. 102) holds that political ideologies, which themselves are devices to reduce information costs, "may not be specific enough to lead unambiguously to action." In addition, Downs shows that in the presence of costly information rational individuals have incentives to be less than perfectly informed. Shepsle (1972) demonstrates that in some circumstances candidates take "lottery" positions on issue dimensions, so that voters cannot know for certain which policy the candidate will implement. Page (1978, p. 178) argues that, in addition, uncertainty arises when candidates emphasize images over issues. Enelow and Hinich (1984) decompose uncertainty into "candidate-induced uncertainty," which arises when candidates attempt to change their issue positions, and "perceptual uncertainty," which arises because of the noise inherent in political communication. Enelow and Hinich also formalize the notion that, in the presence of uncertainty, candidate positions can be represented as probability distributions, where the variance represents uncertainty. Alvarez (1997) develops theoretical models of the origins and dynamics of uncertainty about issues in campaign situations and demonstrates the relevance of issue uncertainty for individual decisions.

Until recently, though, these were primarily theoretical concerns, mainly because the quantity of greatest interest—individual uncertainty—was not directly measurable. Faced with this difficulty there have been some innovative attempts to measure uncertainty indirectly. Bartels (1986) argues that individuals will place a candidate on an issue scale when their uncertainty about that candidate's position is sufficiently small. Thus, the results from a model of survey nonresponse as a function of demographic and political characteristics of individuals can be used to construct measures of uncertainty about presidential candidates on various issue dimensions. Franklin (1991) models uncertainty as heteroskedasticity in individual perceptions of the ideological positions of incumbent Senators, where the determinants of this heteroskedasticity include individual education as well as various contextual factors related to Senate campaigns. Alvarez (1997) measures an individual's uncertainty about the policy positions of presidential candidates by calculating the dispersion of that individual's perceptions on a set of policy issues and then goes on to demonstrate that uncertainty is related to traits of individuals and candidates. While these measures represent clever solutions to the problem of inadequate data, they also demonstrate the difficulty of analyzing uncertainty in the absence of a direct measure of this important concept.

Fortunately this difficulty has been overcome. Beginning with the 1993 pilot study, National Election Studies (NES) surveys contain a set of direct measures of individual uncertainty about political objects. After survey respondents are asked a question about a candidate (either a placement on an issue scale or a character trait) they are also asked how certain they are of their placement, with the options "very certain," "somewhat certain," and "not very certain." Alvarez and Franklin (1994) demonstrate that direct measures of uncertainty about candidate issue positions are consistently related to variables measuring political information, and reflect substantive uncertainty rather than a general ambiguity

about politics, while Glasgow and Alvarez (2000) establish the validity of direct measures of uncertainty about candidate character traits. Because direct uncertainty measures have these appealing properties, and because the number and type of items with uncertainty follow-ups have been steadily increasing on the NES survey, direct uncertainty measures are extremely useful for analyzing the effects of uncertainty on turnout.

In sum, from recent work on electoral choice we have learned that models combining turnout and vote choice are possible and useful because individual turnout is affected by individual preferences over the candidates. These preferences naturally will be affected by individual perceptions of the candidates, and from the literature on uncertainty we have learned that these perceptions are subject to uncertainty. Putting this chain of reasoning together, it follows that uncertainty is relevant for turnout. In the next section I develop a model of electoral choice that recognizes this relationship.

2 Theory and Model

I suppose that in a two-candidate election[1] each elector i has utility for candidates a and b, written, respectively, as $U_i(a)$ and $U_i(b)$, and that i's behavior depends on the direction and magnitude of the utility differential $U_i(a) - U_i(b)$. When $U_i(a) - U_i(b)$ is positive and large in magnitude, then i prefers a over b; conversely, when $U_i(a) - U_i(b)$ is negative and large in magnitude, then i prefers b over a. However, when the absolute value of i's utility differential $|U_i(a) - U_i(b)|$ is small, then i may not be able to discriminate between a and b, thus expressing indifference rather than a preference (Brady and Ansolabehere 1989; Deacon and Shapiro 1975; Downs 1957; Luce 1956; Noll 1993). Following the same reasoning, even if i can form a preference for one candidate over the other, if the utility differential between a and b is sufficiently small, then a nonzero cost to the act of voting may deter i from actually casting a ballot (Downs 1957; Filer and Kenny 1980; Noll 1993; Riker and Ordeshook 1968), so that i abstains rather than voting for her preferred candidate. This implies that in a two-candidate election each elector votes for her preferred candidate only if her utility differential exceeds some turnout threshold T_i, where the threshold represents the net effect of the costs and benefits of the act of voting. This results in the following decision rule:

$$\text{vote } a \text{ if} \qquad U_i(a) - U_i(b) > T_i \tag{1a}$$

$$\text{vote } b \text{ if} \qquad U_i(a) - U_i(b) < -T_i \tag{1b}$$

$$\text{abstain} \qquad \text{otherwise} \tag{1c}$$

In the framework of a typical random utility model, we can write $U_i(a) - U_i(b) = X_i\beta + \varepsilon_i$, where X_i is a vector of independent variables, β is a parameter vector, and ε_i is a stochastic disturbance. Decision thresholds T_i vary with observable features of individuals, so that $T_i = Z_i\gamma$, where Z_i represents a matrix of independent variables and γ is a parameter vector. I describe the particular X and Z variables that affect preferences and thresholds later in this article.

For now, the possible existence of uncertainty requires careful consideration of the stochastic disturbance term ε_i. Recall that each individual's utility differential between candidate a and candidate b can be expressed as $U_i(a) - U_i(b) = X_i\beta + \varepsilon_i$. If all of the X variables are perceived perfectly (i.e., without uncertainty), then ε_i is simply an

[1] It is also possible, but more complicated, to extend this model to three-candidate elections. See Sanders (1999b) for details.

identically and independently distributed (i.i.d.) disturbance. However, in the presence of uncertainty this interpretation must change. Suppose that an individual's utility for each candidate is defined as a weighted combination of K variables, partitioned into two sets K_1 and K_2, where the set K_1 consists of variables that may be perceived by individuals with some uncertainty (for example, political or personal traits of candidates) and where the set K_2 consists of variables that are not perceived by individuals with any uncertainty (for example, traits of the individuals themselves). Because in the presence of uncertainty a candidate's position can be represented by a probability distribution (Enelow and Hinich 1984, Alvarez 1997), for a variable k in the set K_1 we can write i's perception of candidate a's position (and candidate b's analogously) as $X_{iak} + \nu_{iak}$, where X_{iak} represents the mean of the distribution and ν_{iak} is a disturbance (with mean 0 and variance σ^2_{iak}) that captures the uncertainty associated with i's perception. Because the set of variables K_2 does not contain uncertainty, for a variable k in the set K_2 we can write the candidate's position simply as X_{iak}. Finally, as is typical in random utility models of two-candidate elections, I assume that individual i's utility for candidate a also contains an i.i.d. disturbance μ_{ia}. Taking these assumptions together we can write i's utility for candidate a (and for candidate b analogously)

$$U_i(a) = \sum_{K_1} \beta_{ak}(X_{iak} + \nu_{iak}) + \sum_{K_2} \beta_{ak} X_{iak} + \mu_{ia} \tag{2}$$

Collecting terms, we have

$$U_i(a) = \sum_{K} \beta_{ak} X_{iak} + \sum_{K_1} \beta_{ak} \nu_{iak} + \mu_{ia} \tag{3}$$

From this expression we can write

$$U_i(a) = X_i \beta_a + \varepsilon_{ia} \tag{4.1}$$

where

$$X_i \beta_a = \sum_{K} \beta_{ak} X_{iak} \tag{4.2}$$

and

$$\varepsilon_{ia} = \mu_{ia} + \sum_{K_1} \beta_{ak} \nu_{iak} \tag{4.3}$$

Finally, combining the expressions for i's utility for a and b, individual i's utility differential can be written

$$U_i(a) - U_i(b) = X_i \beta + \varepsilon_i \tag{5.1}$$

where

$$\varepsilon_i = (\mu_{ia} - \mu_{ib}) + \sum_{K_1} (\beta_{ak} \nu_{iak} - \beta_{bk} \nu_{ibk}) \tag{5.2}$$

In the absence of uncertainty the last term (the summation) is missing, and ε_i is an i.i.d. disturbance. However, if some of the X variables are perceived with uncertainty, *then*

the disturbance term ε_i will contain that uncertainty. Further, if uncertainty varies across individuals, *then the disturbance term ε_i will be heteroskedastic*, requiring us to account for heteroskedasticity in a model of individual electoral choice.

Fortunately it is straightforward to do so. Given the individual decision rule and specification described above, we have

$$\text{vote } a \text{ if} \qquad X_i\beta + \varepsilon_i > Z_i\gamma \tag{6.1}$$

$$\text{vote } b \text{ if} \qquad X_i\beta + \varepsilon_i < -Z_i\gamma \tag{6.2}$$

$$\text{abstain if} \qquad -Z_i\gamma \leq X_i\beta + \varepsilon_i \leq Z_i\gamma \tag{6.3}$$

Assume that ε_i is normally distributed with mean 0 and variance $\sigma_i^2 = (\exp(W_i\eta))^2$, where W_i is a matrix of variables representing individual uncertainty and η is a parameter vector. This operationalization, which ensures that the standard deviation of the disturbance is positive, is common in heteroskedastic discrete choice models (Alvarez and Brehm 1997; Greene 1997). These assumptions generate the following choice probabilities [where $\Phi(\cdot)$ represents the cumulative normal density]:

$$P(\text{vote } a) = 1 - \Phi\left(\frac{Z_i\gamma - X_i\beta}{\exp(W_i\eta)}\right) \tag{7.1}$$

$$P(\text{abstain}) = \Phi\left(\frac{Z_i\gamma - X_i\beta}{\exp(W_i\eta)}\right) - \Phi\left(\frac{-Z_i\gamma - X_i\beta}{\exp(W_i\eta)}\right) \tag{7.2}$$

$$P(\text{vote } b) = \Phi\left(\frac{-Z_i\gamma - X_i\beta}{\exp(W_i\eta)}\right) \tag{7.3}$$

Thus, the appropriate model is a modification of the heteroskedastic ordered probit model, where the threshold values are not fixed constants but instead vary across individuals.[2]

In this specification the $X_i\beta$ term represents individual i's utility differential between candidate a and candidate b. This can be interpreted as a measure of preference direction and preference intensity. The sign of $X_i\beta$ indicates the direction of i's preference—positive if i prefers a over b and negative if i prefers b over a. Of equal importance, the magnitude (i.e., absolute value) of $X_i\beta$ represents the intensity of i's preference—larger values indicating more intense preferences and smaller values indicating less intense preferences. Thus, the X variables will be those that affect preferences between candidates. At the same time, the $Z_i\gamma$ term represents the threshold that governs the translation of preferences into action. If i's preference intensity ($|X_i\beta|$) exceeds i's threshold value, then i will vote, but if not, then i will abstain. Thus, the Z variables will be those that affect the relevant costs and benefits of the act of voting. Finally, the $W_i\eta$ term represents the uncertainty surrounding individual utility differentials. Thus, the W variables will be those that affect the uncertainty of individual perceptions of candidates. In this model all of these factors—individual preferences, the costs and benefits of voting, and uncertainty—interact to produce individual decisions.

One particularly important feature of this model is that the effect of uncertainty on turnout depends upon the level of preference intensity. This is illustrated in Fig. 1, which presents

[2]Note that if the threshold values do not vary (so that $Z_i\gamma$ is a constant), then this model collapses to a heteroskedastic ordered probit, and if, in addition, there is no heteroskedasticity (so that $\sigma_i = 1$ for all i), then the model collapses to an ordinary ordered probit.

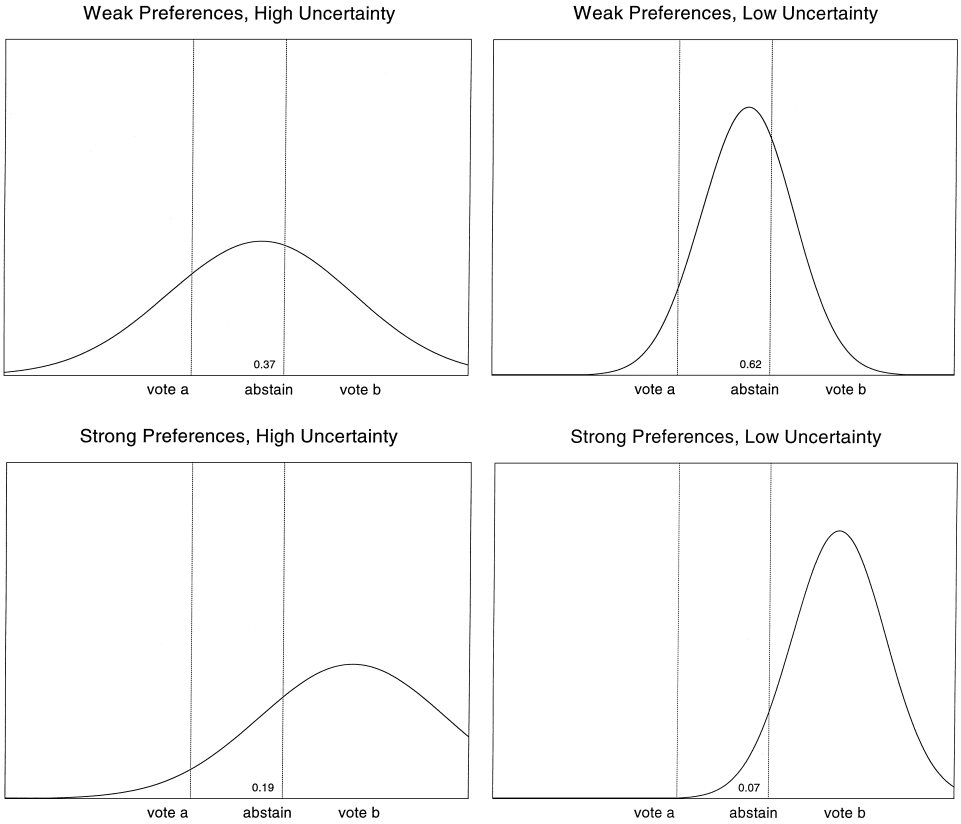

Fig. 1 Preferences, uncertainty, and abstention.

the probability of the outcomes (vote a, abstain, vote b) from the model just presented for four hypothetical cases: strong preferences with a high uncertainty, strong preferences with a low uncertainty, weak preferences with a high uncertainty, and weak preferences with a low uncertainty. In Fig. 1 each curve represents the distribution of an individual's utility differential between the candidates. The mean of the distribution indicates the strength of an individual's preference, so that preferences near the middle of the scale are weak (i.e., with utility differentials near zero), while those at the extremes of the scale represent strong preferences for one candidate or the other. The dispersion of the distributions represents individual uncertainty, as larger dispersions represent greater variance in individual utility differentials. Finally, the dotted vertical lines represent the threshold values that govern the translation of preferences into actions.

Comparing the two rows in Fig. 1 indicates that the effect of uncertainty on abstention is contingent on the strength of individual preferences. In the top row in Fig. 1, which represents the situation where an individual is nearly indifferent between the two candidates, the figure with a high uncertainty has $P(\text{abstain}) = 0.37$, while the figure with a low uncertainty has $P(\text{abstain}) = 0.62$, so that decreasing uncertainty increases the probability of abstention. In contrast, in the bottom row in Fig. 1, which represents the situation where an individual has a strong preference for candidate a, the figure with a high uncertainty has $P(\text{abstain}) = 0.19$, while the figure with a low uncertainty has $P(\text{abstain}) = 0.07$, so that decreasing uncertainty decreases the probability of abstention.

This pattern makes intuitive sense. When an individual has a strong preference for a candidate a reduction in uncertainty collapses the distribution of utility differentials around that expected strong preference, so that voting is more likely. However, when an individual is nearly indifferent between the candidates, a reduction in uncertainty moves more of the probability distribution into the middle category of abstention, thus reinforcing that individual's expected indifference and decreasing the probability of voting. Simply put, when individuals become more certain about a strong preference, they are more likely to vote, but when individuals become more certain about indifference or near-indifference, they are less likely to vote.

3 Operationalizing the Model

Appendix 1 and Appendix Table 1 present some technical aspects concerning estimation of the model presented in the previous section.[3] In particular, I run a set of simulations to demonstrate that the model's preference, threshold, and variance parameters can be estimated with the method of maximum likelihood.[4] With this established, I proceed in this section to apply the model to individual electoral choice in the 1996 American presidential election.

This analysis is based on data from the 1996 NES survey. My sample contains only individuals who are registered to vote. Including unregistered individuals in a turnout model is likely to result in misspecification, because by doing so we would fail to recognize that the unregistered are constrained to have $P(vote) = 0$. The dependent variable, *Electoral Choice*, is 0 for individuals who voted for Clinton (48.4%), 1 for individuals who did not vote (14.4%), and 2 for individuals who voted for Dole (37.2%). Individuals who voted for Perot or other minor candidates are excluded.[5]

The independent variables in the model are of three types: those that affect the turnout thresholds (i.e., the costs and benefits of the act of voting), those that affect an individual's preferences between the candidates (i.e., candidate utility differentials), and those that affect the variance of individual perceptions (and hence of individual utility differentials between the candidates). Some variables play more than one of these roles. Appendix 2 presents details on the construction of the variables used in this analysis, and Appendix Table 2 presents descriptive statistics for all variables.

The factors affecting turnout thresholds represent the costs and benefits of voting, as well as individual motivation and ability to participate. All have been used extensively in previous models of political participation (e.g., Wolfinger and Rosenstone 1980; Rosenstone and Hansen 1993). The first is individual educational attainment. The direct effects of education include providing individuals with the cognitive skills useful for understanding politics and hence participating in it, as well as bureaucratic experience that facilitates the successful completion of the procedural requirements for voting. Here, educational attainment is measured with two indicator variables, *High School Graduate* and *College Graduate*. Life experience can also provide these politically relevant skills and experiences; this is captured by the variable *Age*. In addition, Delli Carpini and Keeter (1996) show that, even after

[3] All appendices and appendix tables are available at the Political Analysis website.

[4] These simulations, and all other empirical analyses in this article, were done using Gauss.

[5] These figures vary from the 1996 election results. The distribution of the two-party vote matches closely; Clinton's actual share of the 1996 two-party vote was 54.7%, while in my sample it is 56.5%. The turnout rate among registrants in the 1996 election was 66.0%; in my sample it is 85.5%.

controlling for education, factual knowledge about politics also affects participation, so I include *Political Awareness* as a measure of respondents' factual knowledge about politics. Another relevant factor is *Income*, because individuals with a higher household income have greater access to resources that can be used to facilitate political participation.

Two forms of political efficacy are included as measures of individual motivation to participate. *Internal Political Efficacy* measures an individual's self-perceived ability to understand the political world, while *External Political Efficacy* measures an individual's perception of the influence that citizens have on government. Individuals who believe that they can meaningfully participate in politics, or that citizens' participation in politics is relevant for governmental actions, are more likely to participate. Similarly, an individual who cares about the outcome of the election can be expected to have a higher probability of participation; this is captured in the indicator variable *Cares About the Election*. In addition, according to Rosenstone and Hansen (1993), when political parties contact individuals to encourage them to vote, they subsidize some of the costs of becoming informed and getting involved, so I include an indicator variable, *Mobilized by a Political Party*. Finally, because there may be differential participation rates related to demographic traits that are not captured by the variables already mentioned, I include two indicators of demographic factors: *Black* and *Female*.

Individual preferences between the candidates are modeled with a set of long-term and short-term political factors. First, the demographic factors mentioned above as relevant for participation—*Age*, *Income*, *Black*, and *Female*—are also included as determinants of individual candidate preferences. While Achen (1992) cautions that demographic factors do not belong in models of individual political behavior, these variables may nevertheless have influence that is not captured by the other variables in the model. Long-term political preferences are measured by *Political Party*, while short-term preferences include *National Economic Performance* and *Personal Economic Situation*.

Two other short-term factors measure the effects of individual perceptions of the two candidates. *Ideological Distance Differential* is defined as follows:

$$\begin{aligned} \textit{Ideological Distance Differential} = (&|\textit{Respondent Ideology} - \textit{Clinton Ideology}| \\ &- |\textit{Respondent Ideology} - \textit{Dole Ideology}|) \end{aligned}$$

Ideological Distance Differential runs from -6 to $+6$, with -6 being the most pro-Clinton and $+6$ being the most pro-Dole. In addition, there are two questions about candidate traits in the postelection survey, as each respondent is asked to identify the degree to which "Moral" and "Gets Things Done" apply to Clinton and Dole. The variable *Character Differential* is defined as follows:

$$\begin{aligned} \textit{Character Differential} = ((&\textit{Dole Moral} + \textit{Dole Gets Things Done})/2 \\ &- (\textit{Clinton Moral} + \textit{Clinton Gets Things Done})/2) \end{aligned}$$

Character Differential runs from -3 to $+3$, with -3 being the most pro-Clinton and $+3$ being the most pro-Dole.

Because individuals can perceive candidates' ideology and character with uncertainty, in accordance with the theoretical development presented above, I account for this uncertainty in the variance component of the model. In the 1996 NES survey individuals were asked to rate their certainty about the ideological positions of each candidate as well as their

certainty about how well "Moral" and "Gets Things Done" describe each candidate. For each uncertainty question, I assign a score of 0 to the response "Very Certain," a score of 1 to the response "Somewhat Certain," and a score of 2 to the response "Not Very Certain." I then define *Ideology Uncertainty* as the average of the individual uncertainty scores associated with the ideological positions of Clinton and Dole. Analogous to my definition of *Character Differential* above, I define *Character Uncertainty* as the average of the four character uncertainty items. Because uncertainty represents the dispersion of individual perceptions around their expected value, I expect that increasing uncertainty increases the dispersion of individual utility differentials, resulting in positive coefficients in the variance component of the model.

To provide a clear test of the theoretical model of uncertainty and turnout presented above, I also control for two other possible influences of uncertainty. I include *Ideology Uncertainty* and *Character Uncertainty* as threshold variables, to test whether there is a generic effect of uncertainty that is not linked to the variance of individual utility differentials. If individuals who are more uncertain are always less likely to vote, this coefficient will be positive (because increasing uncertainty will increase decision thresholds). Finally, in the preference component of the model I include the variables *Ideological Uncertainty Differential* and *Character Uncertainty Differential*, defined (respectively) as the difference between respondent uncertainty about Dole and Clinton on the ideology and character dimensions. If, all else equal, individuals always prefer candidates whose positions are less uncertain [as described by Alvarez (1997)], then the coefficients on these variables will be negative (because increasing values reflect higher uncertainty about Dole relative to Clinton). However, if the only effect of uncertainty is on the variance of individual utility differentials, then these preference and threshold effects of uncertainty will be insignificant.

4 Results

Table 1 presents maximum-likelihood estimates of the model presented above using data from the 1996 presidential election. Note that in this model positive coefficients on the "preference variables" indicate increasing preferences for Dole relative to Clinton; positive coefficients on the "Threshold Variables" indicate increasing thresholds, meaning a decrease in the probability of voting; and positive coefficients on the "variance variables" indicate increasing uncertainty.

Looking at the particular coefficients, Table 1 indicates that, among the demographic variables in the model, none has a significant impact on individual preferences, but increasing *Age* and *Income* both increase the probability of voting (again, note that negative coefficients on the threshold variables decrease individual decision thresholds, thus making abstention less likely). The coefficients on the other threshold variables indicate that individuals who graduated from high school, have higher political awareness, have higher external efficacy, care about the outcome of the election, or are mobilized by a political party are also more likely to vote. Table 1 also indicates that, as expected, Republicans are more likely to vote for Dole, and individuals who have positive evaluations of the national economy are more likely to vote for Clinton. Finally, both *Ideological Distance Differential* and *Character Differential* are statistically significant and in the expected positive direction.

The variables of primary interest are those expressing the relationship between uncertainty and turnout: *Ideology Uncertainty* and *Character Uncertainty*. Table 1 shows that the uncertainty variables do not have statistically significant effects on individual preferences

Table 1 Maximum-likelihood estimates from the 1996 model

Variable	*Coefficient*	*Standard error*
Preference variables		
Constant	0.058	0.287
Age/100	−0.463	0.376
Income	−0.067	0.060
Black	−0.300	0.423
Female	−0.115	0.114
Political party	0.324**	0.047
National Economic Performance	−0.294**	0.094
Personal Economic Situation	0.014	0.055
Ideological Distance Differential	0.249**	0.040
Character Differential	0.642**	0.092
Ideological Uncertainty Differential	−0.060	0.102
Character Uncertainty Differential	0.070	0.110
Threshold variables		
Constant	2.222**	0.419
Age/100	−1.138**	0.291
Income	−0.107**	0.045
Black	0.566	0.407
Female	0.003	0.075
High School Graduate	−0.272*	0.129
College Graduate	−0.006	0.094
Political Awareness	−0.358*	0.173
Internal Political Efficacy	−0.016	0.034
External Political Efficacy	−0.073**	0.030
Cares About the Election	−0.251**	0.096
Mobilized by a Political Party	−0.200**	0.085
Ideology Uncertainty	−0.071	0.073
Character Uncertainty	0.086	0.094
Variance variables		
Ideology Uncertainty	−0.072	0.080
Character Uncertainty	0.231*	0.121
N	1093	
Correctly predicted:		
Null model (Clinton)	48.3%	
Full model	80.1%	
Reduction in error	61.5%	

Note. Dependent variable equals 0 for individuals who voted for Clinton, 1 for individuals who did not vote, and 2 for individuals who voted for Dole. $^{*}p < .05$ (one-tailed). $^{**}p < .01$ (one-tailed).

or decision thresholds.[6] And while *Ideology Uncertainty* does not have a statistically significant effect on the variance of individual utility differentials, *Character Uncertainty* is statistically significant (with $p < .05$, one-tailed) and in the expected positive direction. This indicates that the effect of uncertainty, in particular, *Character Uncertainty*, is to increase the variance associated with individual utility differentials.

[6]Nor are they jointly significant. I cannot reject the null hypothesis that all four terms are zero ($p = .70$).

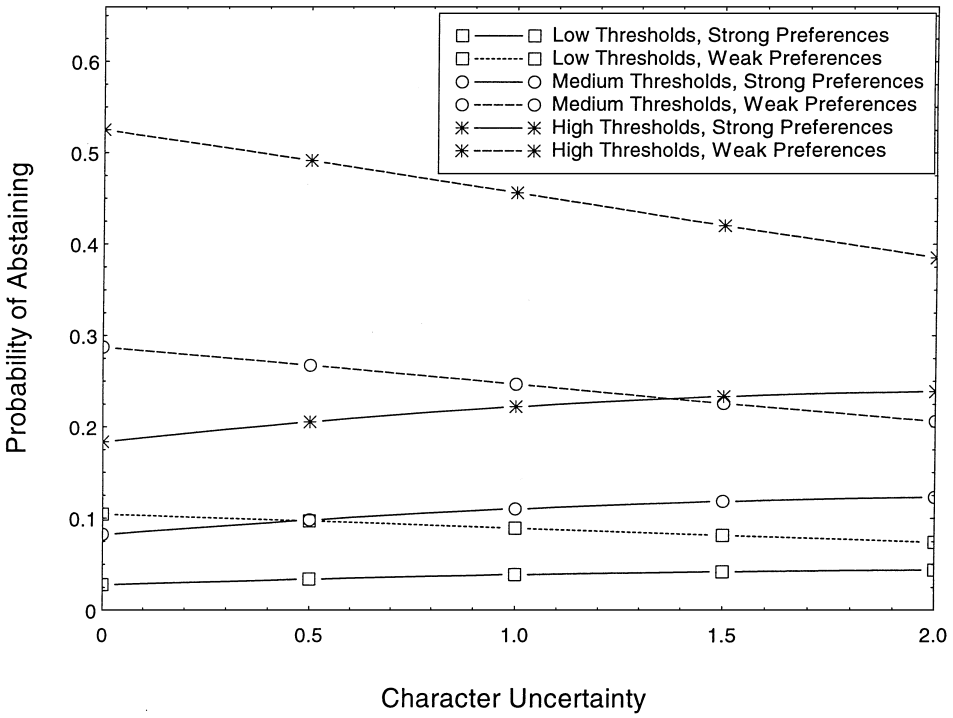

Fig. 2 Character uncertainty and abstention.

Figure 2 demonstrates the substantive magnitude of this relationship and the nature of the interactive effects of preference intensity and uncertainty on the probability of abstention. *Character Uncertainty*, which ranges from 0 to 2, is on the X axis, and the probability of abstention is on the Y axis. Figure 2 includes situations of low, medium, and high thresholds and, for each threshold level, strong and weak preferences. Threshold levels are identified by calculating $Z_i\hat{\gamma}$ from the data and estimated parameters; the 20th percentile of this distribution constitutes a low threshold, the 50th percentile constitutes a medium threshold, and the 80th percentile constitutes a high threshold. Levels of preference intensity are identified by calculating the estimated utility differentials $X_i\hat{\beta}$ from the data and estimated parameters; the 50th percentile of the resulting distribution constitutes a weak preference, while the 80th percentile constitutes a strong preference (the 20th percentile would also constitute a strong preference, in the opposite direction).

As expected, for each threshold level the probability of turnout increases with the strength of preferences, and for each level of preference strength the probability of turnout decreases with increasing thresholds. More interestingly, Fig. 2 confirms that the relationship between uncertainty and turnout looks like the theoretical relationship presented in Fig. 1. At all threshold levels, for individuals with strong preferences decreasing uncertainty decreases the probability of abstention, while for individuals with weak preferences decreasing uncertainty increases the probability of abstention. For example, a voter with high thresholds and strong preferences abstains with probability 0.24 when she is completely uncertain about character; this falls to 0.18 when she is completely certain. However, a voter with high thresholds and weak preferences abstains with probability 0.39 when she is completely uncertain about character; this rises to 0.53 when she is completely certain. The magnitude of the effects increase as the threshold values increase, because in the presence of

low thresholds abstention is always a relatively unlikely option. Still, the pattern is clear: decreasing uncertainty decreases the probability of abstention for those with strong preferences, while decreasing uncertainty increases the probability of abstention for those with weak preferences.

5 Discussion and Conclusion

The first conclusion to be drawn from this study is that combining fields of inquiry that are normally considered separately can be a profitable enterprise. As discussed in the Introduction, we have learned a great deal by studying electoral choice and by studying uncertainty. However, models of turnout generally have not considered the importance of uncertainty and models of uncertainty generally have not considered its importance for turnout. Exploring the joint implications of these previously distinct literatures therefore has the potential to yield important insights into political behavior.

Generating these insights, though, requires an advance in political methodology. The starting point is a model of individual behavior that recognizes the uncertainty surrounding individual perceptions as well as the process of translating preferences into electoral actions. Once we allow for uncertainty, this theoretical development indicates that individual electoral choice should be modeled with a variant of the heteroskedastic ordered probit model where the threshold values vary across individuals. Fortunately it is possible to develop and implement a model that is perfectly suitable for the substantive task at hand.

Finally, this article demonstrates that these methodological advances can result in important substantive insights. My empirical results confirm the theoretical importance of uncertainty and demonstrate that its relevance comes from its effect on the variance of individual utility differentials. Interestingly, though, uncertainty on the character dimension is relevant, while uncertainty on the ideology dimension has no effect. This likely reflects the continuing importance of the character issues that have confronted President Clinton since before the 1992 election. Studies of additional elections, past and future, will help illuminate the effects of perceptions and uncertainty regarding character and ideology. For now, though, it is clear that just as character was an important factor in the 1996 election, uncertainty about character was an important component of individual electoral behavior.

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