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UKRAINE'S 1999 PRESIDENTIAL ELECTION:
A SPATIAL ANALYSIS[1]

The article is devoted to a metric multidimensional spatial analysis of the 1999 Ukrainian presidential election. Using data from a nation-wide pre-election poll, we estimate the spatial positions of the eight leading candidates along with respondent ideal points in that same space. Our conclusions are that although we see the same substantive issues reflected in these estimates as in the 1998 parliamentary contests (nationalism and attitudes toward market reform), and although, again as in 1998, both the Western and Eastern halves of the country agree largely in their perceptions of the candidates' relative positions (with the usual and expected biases in overall preferences), the spatial recovery here seems considerably less «stable» than in 1998. We also find differences in candidate relative positions that seem inexplicable in terms of the substantive issues that dominated the 1998 contests. We attribute these differences to the fact that in 1999, respondents relied to a far greater extent than they did in 1998 when evaluating the alternatives before them on factors other than «spatial issues» — notably, the idiosyncratic characteristics of the candidates.

There are two competing conceptualizations for nearly any election. In the first voters are seen as basing their decisions largely on the personal characteristics of the candidates — their reputations for honesty, their image as competent administrators, the intangibles of personality, ethnic identification, and so on. In the second view, although voters my not be seen as concerned with specific issues or a coherent ideology, they are presumed to be motivated by a combination of the two — a combination in which they see themselves and the candidates as favoring liberal or conservative policies, as favoring further government intervention in the economy or less, or as being pro-labor or pro-capital. Their assessments may be retrospective or prospective, but in this second view it is generally convenient to conceptualize voters as mapping their issue preferences, along with the candidates or parties they confront in an election, into an «ideological» or criterion space — a spatial model — that orders an otherwise complex political universe for them [8]. A considerable literature has developed, moreover, that employs this conceptualization to model elections in order to understand the general strategic imperatives that operate on candidates and parties, to theorize about the consequences of imperfect information within electorates, and to assess the implications of alternative way of aggregating votes into final outcomes (see, for instance, [4, 5, 6, 11]).

Of these two views, we might reasonably assume that the first will better describe elections when vo-

ters must chose from among a list of specific individuals as in a presidential contest, when the parties associated with those candidates are ill-formed as in a newly emerging democracy and voters must rely on a candidate's personal characteristics rather than established party platforms, or when, because of the evolving and ephemeral nature of parties, party labels and the organizations they represent are more closely associated with well-known personalities than with any discernable and historically based ideological position. The second conceptualization, in contrast, normally best fits parliamentary contests, especially those that entail party lists and proportional representation, where the campaign focuses on issues rather than the foibles of specific individuals, and where the parties themselves have established platforms that can be described, even if in only some vague way, as pro- or anti-business, pro- or anti-labor, pro- or anti-some specific ethnic group, and so on. In this instance the personal character of candidates is submerged beneath party labels and the ideological content of those labels.

Between 1998 and 1999 Ukraine's electorate appears to have experienced both types of elections. Although announced on relatively short notice so that several «parties» could form and offer lists for the PR component of the contest only a few months before the actual balloting — indeed, could be labeled a party only in the loosest sense of the word [12] — the 1998 parliamentary contest also involved parties with some history, including the Communists, the

nationalist Rukh, and a spin-off from the old Communist party, the Agrarians. The 1999 presidential election seemed a sharp contrast. One established party, Rukh, split and in effect offered two candidates (Hennady Udovenko and Yuri Kostenko), the incumbent, President Leonid Kuchma, disavowed any party attachment, one opponent, Yevhen Marchuk, had been Kuchma's Prime Minister and former first vice-head of the KGB in Ukraine, and although the Communists had their official candidate (Petro Simonenko), the field was crowded with several fellow travelers, including the head of the Socialist Party and former parliamentary speaker Olexandr Moroz (the same Moroz that later linked Kuchma to the death of journalist Heorhiy Gongadze) and the current speaker Olexandr Tkachenko. Adding to this mix was Natalia Vitrenko, who advocated rolling reform back to a pre-Stalinist era after splitting from Moroz's party, proclaiming that he and his party (and others) had «sold out to the West and the IMF» and strayed from true Marxist-Leninist principles.

An earlier spatial analysis of Ukraine's 1998 parliamentary elections based on a national sample of respondents revealed a reasonably coherent two dimensional structure that corresponds closely to the second conceptualization of electoral competition [7].[2] Briefly, the first dimension mapped the parties between left and right, pro-versus anti-market reform, and, owing to the correlation of attitudes within the electorate, also captured attitudes towards relations with Russia. The second dimension, while correlating somewhat with the first and upon which the parties showed little variation (with the exceptions of the United Social Democratic Party, USDP, and the Social Democratic Party, SDP), served largely to differentiate among those respondents who favored reform yet remained ardent Ukranian nationalists versus those who favored reform but held a «relaxed» attitude toward Russia, relations with Russia and the use of the Russian language in everyday and official discourse. Interestingly, this third constellation of opinion — pro reform and a relaxed attitude towards Russia — seemed, at least in the minds of our respondents at the time, under-represented by the primary contending parties. Although, judging by the recovered spatial positions of the parties and the electorate's estimated distribution of preferences in that space, both the SDP and USDP appealed somewhat to this part of the electorate, the positions of both parties seemed too far to the left (Communist and Socialist-Peasants Party) so that no party succeeded in taking full advantage of this potential source of electoral support.

Our analysis revealed several additional patterns in the preferences and perceptions of respondents.

First, although respondents in Eastern Ukraine were, on average, more conservative economically and politically than their Western counterparts (hardly a surprising result), a separate analysis of respondents from East and West revealed the same basic spatial map, the same recovered relative configuration of parties, and approximately the same functional form for the distribution of respondent ideal points. Thus, although there is a clear ideological difference between East and West, both halves in 1998 at least viewed politics through the same conceptual lens. Respondents in the separate parts of Ukraine may on average have had different preferences, but they evaluated matters in terms of the same issues and saw their electoral alternatives using equivalent conceptual schemes. Second, the overall distribution of estimated respondent ideal points «covered» the issue space and the recovered positions of the candidates relatively uniformly, without specific clusters at any one point or region (see Figures la and lb in [7], p. 157). Thus, we have a picture here of an electorate with a «normal» distribution in both the statistical and normative senses. And finally, although the

Figure 1a: Spatial recovery using Q1
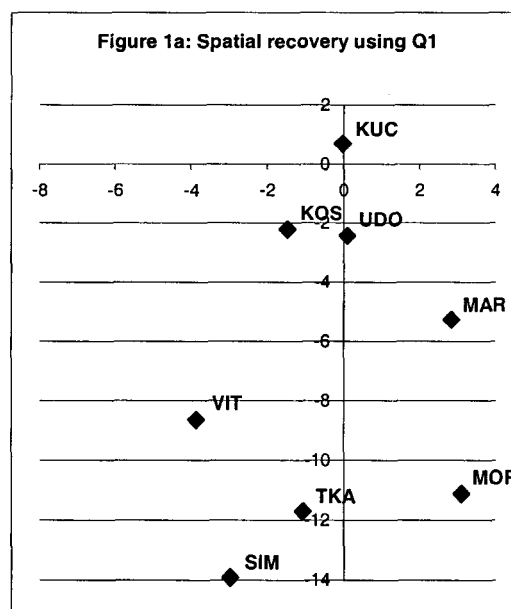
accuracy of its predictions could not match a simple question such as «if the election were held today, for whom would you vote?», a prediction of the vote share for the ten most competitive parties based on the estimated spatial positions of the candidates and ideal points of respondents closely approximated (within a few percentage points) the eventual vote distribution across parties.

This paper reports on a parallel study applied to the 1999 Ukranian presidential election so that we can see what constancy there is in the that electorate

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[2] Both our 1998 study and the one reported here are based on national surveys conducted by the Kiev International Institute of Sociology at the University of Kiev-Mohyla Academy.

Figure 1b: Spatial recovery using Q2
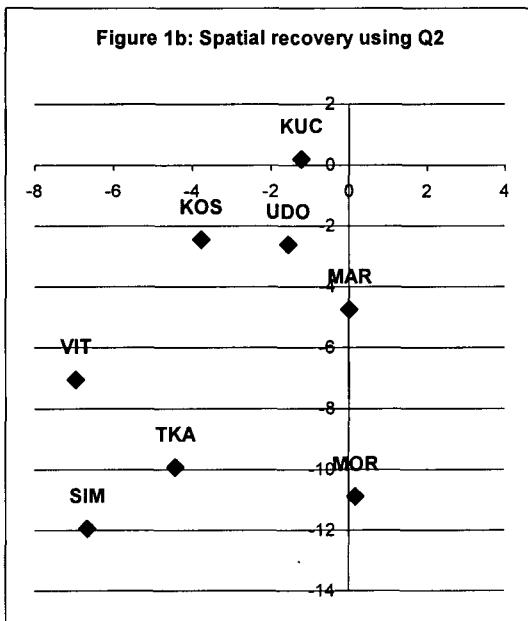
from one year to the next, whether there is any evidence that voters evaluated the alternatives in the presidential election differently than they did when the alternatives were parliamentary parties, and whether any candidate succeeded in bridging the gap between East and West. Our methods are largely the same as before — the application of a metric statistical scaling procedure, which adapts the methodology of factor analysis to the assumption that voters can be described by a Euclidean utility function in a multidimensional issues space and that the alternatives they confront (parties or candidates) can be located in that space, that is designed to recover that space along with estimates of the positions of those candidates or parties and each respondent's ideal point in it.[3] Thus, rather than review those methods here, in the next section we proceed directly to the analysis of the data presented to us by our 1999 pre-election survey.

1. The General Structure of Perceptions and Preferences

Our 1999 presidential survey consisted of 1521 respondents,[4] but of these only somewhat more than 900 provided useful data in terms of scalable attitudes towards the candidates, with two questions in particular suitable for our scaling methodology. Briefly, the methodology assumes that respondents can grade each candidate on the basis of the utility they associate with the candidate's position in a multidimensional issue space, where that utility is a function of the Euclidean distance between a per-

son's ideal and that position. Utility, in turn, is measured by the answers given to questions that allow a respondent to grade each candidate along some scale that varies from strong approval to strong disapproval. In 1999 respondents were queried about eight candidates — Vitrenko (VIT), Kostenko (KOS), Kuchma (KUC), Moroz (MOR), Marchuk (MAR), Simonenko (SIM), Udovenko (UDO), and Tkachenko (TKA) — who together accounted for 92.5 % of the vote,[5] and two questions in particular are suitable for analysis using a spatial methodology:

Q1: *I will ask you about some candidates. To what extent would you be satisfied or dissatisfied if__won the election?*

1. Extremely unsatisfied
2. Almost fully not satisfied
3. Mostly not satisfied
4. More unsatisfied than satisfied
5. Difficult to say
6. More satisfied than unsatisfied
7. Mostly satisfied
8. Almost fully satisfied
9. Extremely satisfied

The second question addressed the «issue» of Ukraine's relatively rough transition to a democratic market economy — a transition that has brought few benefits to large sectors of society and, at the same time, seems to have left the country in economic and political disarray:

Q2: *How would you estimate the ability of_to put the country in order?*

Very low
Low
Mostly low
Rather low than high
Difficult to say ... neither low nor high
Rather high than low
Mostly high
High
Very high

Of course, not all respondents graded every candidate and in many cases voters failed to differentiate among all or most of the candidates. Following procedures equivalent to those used to analyze the 1998 parliamentary data, we proceed as follows: First, after eliminating all respondents who failed to grade at least one candidate, if a respondent failed to grade a particular candidate, that candidate was assigned a score equal to the average of all scores given to graded candidates by the respondent in question. Thus, if a respondent only graded two candidates with, say, scores of 3 and 7, the remaining

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[5] For a description of that procedure see, in addition to Hinich et all (1999), especially the appendix to Enelow and Hinich (1984).

[4] The respondent pool was actually larger than this number. However, early in the interview, each respondent was asked whether or not they intended to vote in the forthcoming presidential election. If they answered «definitely not», they were not asked the questions that serve as input into our analysis.

[5] The survey was implemented prior to Tkachenko's withdrawal from the contest.

candidates were assigned a score of 5 (=(3+7)/2). Finally, after computing these averages (and taking their integer component), we eliminate all candidates who failed to differentiate among at least two candidates with distinct scores (notice that by this procedure, if a respondent only initially grades one candidate, that respondent is eliminated). This left us with a sample of 973 respondents with respect to the first question and 938 with respect to the second.

At this point in the analysis a decision must be made as to which candidate should serve as the «pivot». As explained elsewhere [7], the underlying assumption of our analysis is that if the score given by respondent j to candidate k is s_{jk}, and if we let d_{jk} denote the Euclidean distance between j and k in the criterion space, then we assume that

$$s_{jk} = K - d_{jk}$$

where K is an arbitrary constant. However, notice that if x_j is a vector that represents the respondent's ideal point in n dimensions and c_k is a vector that denotes the candidate's position in that same space, then

$$d_{jk} = x_j'x_j + 2x_j'c_k - c_k'c_k$$

and

$$s_{jk} = K - x_j'x_j + 2x_j'c_k - c_k'c_k$$

The difficulty here, however, in statistical estimation of candidate positions is the quadratic term $x_j'x_j$ in this expression. But notice that if we choose one candidate in particular, say $k = 0$, and, since the choice of the criterion space's origin is arbitrary, set that candidate's position at the origin (i.e., if we set $c_0 = 0$), then we can subtract that candidate's score to eliminate the term $x_j'x_j$. That is,

$$s_{jk} - s_{j0} = 2x_j'c_k - c_k'c_k$$

The question then becomes which candidate should be used as the pivot, the difficulty being that if we use a candidate who is relatively unknown and ungraded by a great many respondents, we are compounding errors. Our general finding here (which is similar to what occurred in the 1998 study) is that, at least with respect to the recovery of candidate positions, our results are insensitive to the candidate selected, provided only that it is a candidate graded by a «sufficient» number of respondents (i.e., Kuchma, Vitrenko, Simonenko, Marchuk, Moroz). In the analysis that follows, then, we pivot on the candidate with the fewest non-responses — Kuchma (just as in 1998 we pivoted on the Communist party, when then had the fewest non-responses).

Turning now to the recovery of candidate positions, Figures 1a and 1b reveal that it matters little whether we apply our methodology to Question 1 or Question 2.[6] Both figures are interesting in several

respects. First, before we attempt to give the two dimensions portrayed here any substantive interpretation, we note that contrary to our initial expectations, Kuchma is NOT in the center of the policy space, but actually on one side of it relative to the other candidates. Second, notice the rather horizontally distant placement of Moroz from Simonenko. These figures, of course, are somewhat distorted since, to present them, the horizontal and vertical dimensions are not drawn to scale. Were we to do so we would, in effect, find two primary clusters of candidates — Vitrenko, Simonenko, Moroz and Tkachenko in one cluster, and Marchuk, Kostenko, Udovenko and Kuchma in the second. Nevertheless, the structure of the scoring given to the candidates by the respondents requires that two dimensions rather than one be recovered so that Moroz can be differentiated within his cluster and Marchuk within his.

It is important to note now that this representation contrasts sharply with what we obtain through other methods. Briefly, our survey also asks respondents two questions that pertain to what seemed the most salient substantive issues of the campaign.

Q3: *In this card the main points of view on the economic system in Ukraine are presented. Read them and please tell us which one do you consider the most correct?*
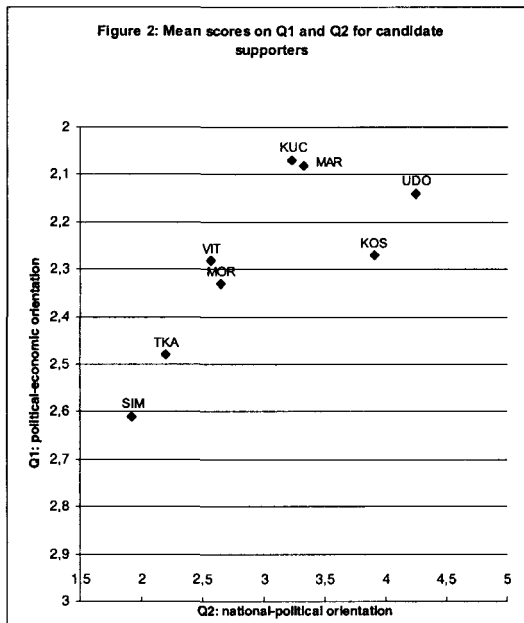
1. Restore state control over the economy without any private business.

2. Restore state control over the economy, keeping some possibilities for private business.

3. Create equal possibilities for state control over the economy and for private business.

4. Give preference to private business, keeping some possibilities for state control over the economy.

5. Give freedom to private business with no interference by the state.

Q4: *How would you like to see relations between Ukraine and Russia develop?*

1. The same as with all other states, including closed borders, visas and customs.

2. Ukraine and Russia should remain independent friendly states with open borders, without visas and customs.

3. Ukraine and Russia must unite in a single state.

In addition, respondents were also asked for whom they would vote if the election were held today. If we then calculate the mean response on each of the preceding two questions for the supporters of each candidate, we obtain the configuration of mean positions shown in Figure 2 [9]. In some respect this figure is easier to interpret than Figures 1a and 1b.

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[6] There is an inherent rotational ambiguity to these recovered spatial maps, which our methodology estimates to be on the order of 80 degrees (in which case Simonenko would anchor down the left-most position on the horizontal dimensions and Kuchma the right-most position. However, rather than rotate the maps by this amount, we later let our analysis of issue related responses label the dimensions for us.
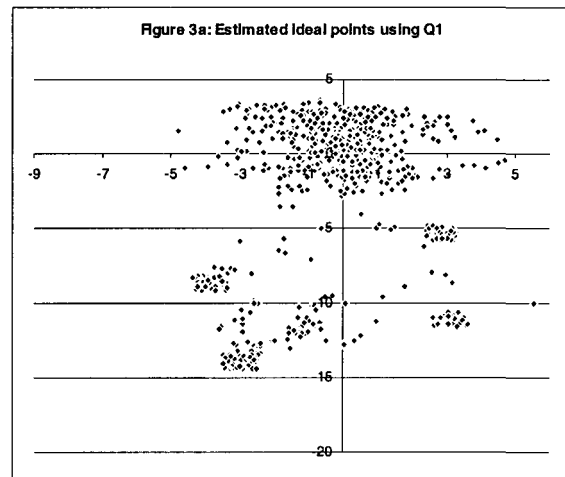
Figure 2: Mean scores on Q1 and Q2 for candidate supporters

mated ideal from the candidate's estimated spatial position. Thus, since these clusters correspond nearly identically to candidate positions,[7] we can get some sense of the proportion of the electorate who gave the candidate they ranked «best» (usually someone other than Kuchma, Udovenko, and Kostenko) a high score such as 8 or 9. Interestingly, we see a slightly different pattern with respect to Q2, which pertains to bringing order to the country. Although the primary clusters here are essentially identical to what we see in Figure 3a, notice the small cluster of ideals in the lower left corner of Figure 3b. This cluster corresponds to a set of respondents who in fact gave Kuchma the worst possible score (=1 on Q2),

Figure 3a: Estimated Ideal points using Q1

First, Simonenko and Udovenko's supporters take opposite positions on the issue of Ukranian relations with Russia, whereas those respondents who indicate an intention to vote for Kuchma or Marchuk are closely matched and on average take a moderate position on relations but the more liberal position (in the classical sense) on the state's role in the economy. And unlike the separation we see between Vitrenko and Moroz in Figures la and lb, in Figure 2 their supporters are closely matched.
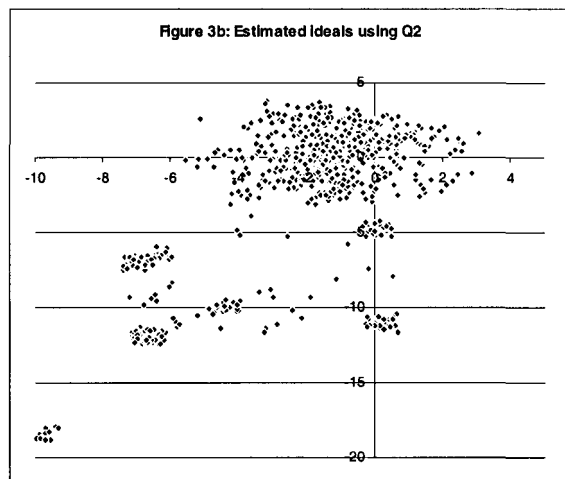
Although we shouldn't confuse the disparate nature of the preceding figures — Figure 2 is simply a summary of voter opinions on two specific substantive issues whereas the candidate positions portrayed in Figures la and lb are the product of a procedure derived from a formal model of voter preferences that allows candidate positions and voter ideals to be estimated from a more general and not necessarily issue-specific evaluation of the candidates. However, methodology aside, we should ask how we can reconcile these seemingly disparate results? To begin, then, consider Figure 3a, which graphs the 973 estimated voter ideal points using Question 1, and, comparing this figure to Figure la, notice the clear clustering of ideals around the spatial positions of Vitrenko, Simonenko, Tkachenko, Moroz and Marchuk. Otherwise, ideal points are distributed in a «cloud» with Kuchma near or at its center.

There is a ready explanation for this clustering of respondents. Specifically, these are respondents who rank one candidate the uniquely worst possibility (scoring that candidate a 1) and who rank another uniquely the best. However, the lower the score of the «best», the further will be that respondent's esti-

but, while uniquely favoring Simonenko, nevertheless gave him a less than enthusiastic ranking (e.g., 5 or 6). We have here, then, a set of respondents — admittedly small — who rank Simonenko quite high
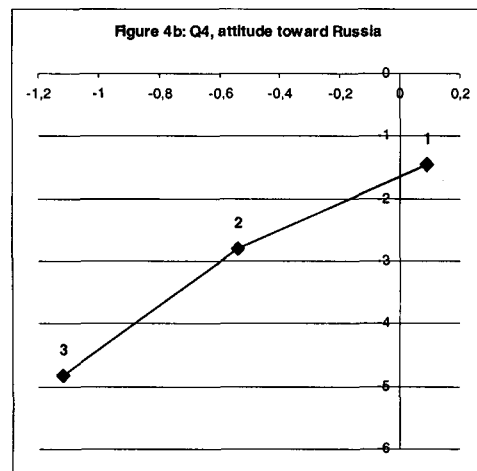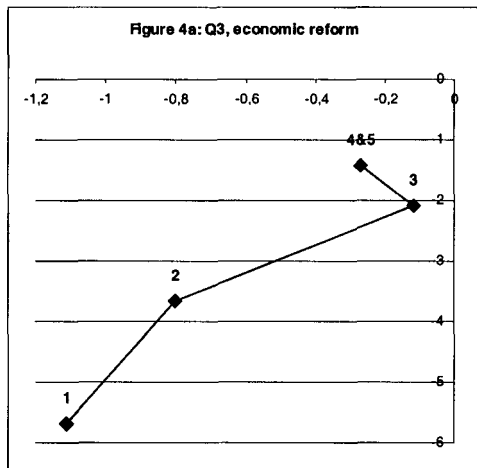

Figure 3b: Estimated Ideals using Q2

in terms of the satisfaction they would have derived had he been elected, but who at the same time do not score him high on the likelihood that he can bring order to the country. And interestingly, none of the

[7] The cloud portrayed in this figure about each candidate's position is, in fact, denser than what is shown. However, to give some sense of the density of points, we add a small random perturbation to each such voter's estimated ideal in order to create a bit of dispersion for purposes of giving us a sense of the density of ideals around a specific point.

other candidates appears to possess a base of core supporters with these divided attitudes.

2. *Interpreting the Dimensions*

The preceding discussion does not help us explain the differences between Figure 2 and the spatial maps offered in Figures 1a and 1b. Indeed, Figures 3 a and 3b raise the question as to why the so many respondents are clustered around Vitrenko and Moroz's positions, yet appear to hold similar attitudes on questions Q3 and Q4. However, notice that thus far we have not attempted any substantive interpretation of the dimensions in our spatial recovery. To that end, then, we can reexamine questions Q3 and Q4, and in particular, see how respondents with different ideal points answered these questions. Thus, using Q1 as the basis of our estimate of respondent ideals, Figure 4a graphs the mean ideal point of those respondents who answered 1(n = 239), 2 (n = 226), 3 (n = 293), and 4 or 5 (n = 167) to question Q3, while Figure 4b graphs similar means for those who answered 1 (n = 170), 2 (n = 515) or 3 (n = 267) to question Q4.

ciently that there is, in effect, but a single issue — essentially a diagonal line running through the space. This story is repeated, moreover, if we consider the respondents' attitudes towards Ukraine's general performance and their position in it. Here we have two questions to consider:
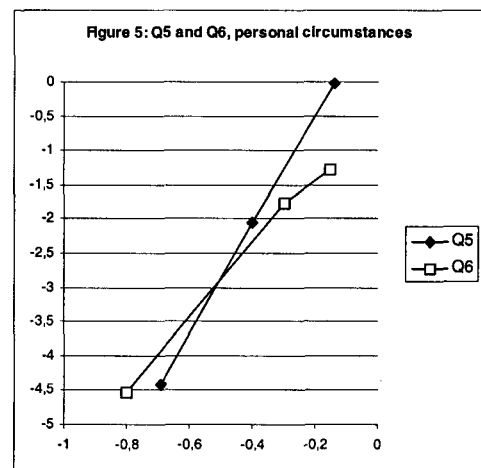
Q5: *To what extent are you satisfied or not satisfied with the current situation in Ukraine?*

Q6: *To what extent are you satisfied with how your life is going.*

   1. Absolutely not satisfied.
   2. Rather not satisfied than satisfied.
   3. Rather satisfied than satisfied.
   4. Fully satisfied [8].

Figure 5 graphs the mean ideal points of the responses to these questions, and as we can see, this figure is a near replay of Figures 4a and 4b, with respondents at or near Simonenko's position being the most dissatisfied with Ukraine's current circumstances and their own quality of life.

Neither the mapping of the ideal points with respect to questions 3 and 4 or questions Q5 and Q6
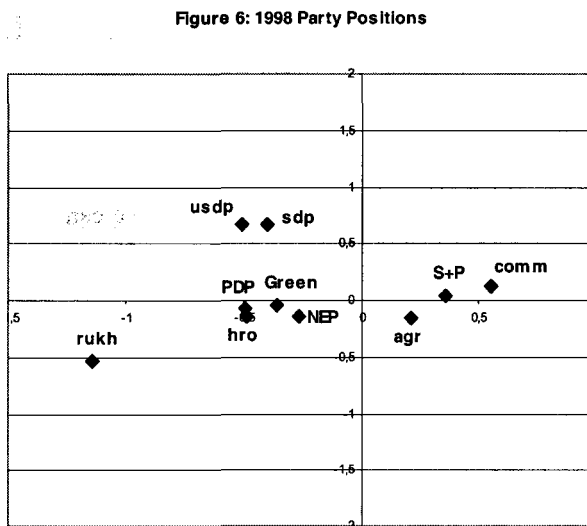

Figure 4a: Q3, economic reform

Figure 5: Q5 and Q6, personal circumstances

Figure 4b: Q4, attitude toward Russia

are surprising, but the implication of Figures 4a, 4b and 5 together is that there is essentially a single «issue» in Ukranian politics — or rather that there are many issues, but that they correlate sufficiently highly in the minds of the electorate as to make political competition nearly unidimensional. This is not to say that one candidate or another cannot, with some skill and effort, untangle these issues so as to divide and «pick off» elements of their opponents' support. But thus far, for one reason or another, none of the candidates in the 1999 presidential contest appears to have been successful in doing this, although the dispersion of Vitrenko, Moroz, and Marchuk from the line connecting Kuchma and Simonenko (which corresponds roughly to the lines shown in the preceding three figures) suggests that at least these three candidates have, with some minimal suc-

Both figures tell essentially the same story: Specifically, the means on both issues correlate suffi-

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[8] Respondents were actually given a response somewhat intermediate between 2 and 3, namely «difficult to say.» We chose here, however, to delete these responses and treat them as «don't know» or «didn't answer».

cess in the minds of the electorate, attempted such a strategy.

This overall unidimensional character to the issues is, in fact, close to what we observed with respect to the 1998 parliamentary contest. Figure 6 reproduces the recovery of party positions in that election, and shows, with the exception of the USDP and SDP, the parties lined up on essentially a single

Figure 6: 1998 Party Positions

basis of the question «if the election were held today, for whom would you vote» Figure 7 portrays these eight means and reveals an interesting fact. Specifically, notice that although the mean positions of the supporters of six of the candidates corresponds

Figure 7: Means of candidate supporters

dimension. This dimension, in turn, correlates highly with the same substantive issues addressed by questions Q3 through Q6, with one exception. Specifically, as we note earlier, the second dimension in 1998 usefully distinguished between respondents who prefer a relaxed attitude towards relations with Russia versus those who do not, whereas here, in our 1999 data, we fail to detect any such issue within the electorate. This is not to say that respondents who prefer a continuation of reforms do not differ in their attitudes towards relations with Russia, but only that they apparently saw no alternative among the presidential candidates that allowed them to differentiate according to such a criterion, in which case that criterion would not appear in the analysis. Thus, although his comment pertained more to the controversy swirling around the death of journalist Gongadze and the response of the Kuchma administration to it, Arel's ([1], p. 59) comment that «democracy, economic reforms, and national identity in Ukraine are symbiotically linked» applies as much to the electorate's perception of things as anything else.

What remains a puzzle, however, is both the dispersion of the candidates on two dimensions as compared to the parties in 1998, and the difference between the recovered positions of the candidates and Figure 2. Here, however, we can begin to gain insight into both matters by considering the mean estimated ideal points of voters (using question Q1) who support the different candidates. Briefly, on the
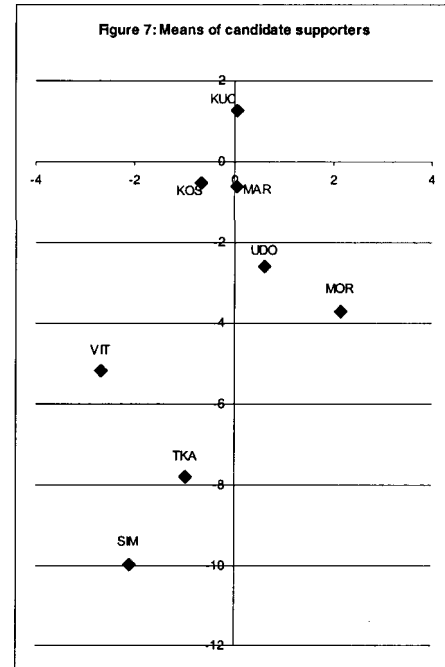
approximately to the recovered positions of those candidates (Kuchma, Vitrenko, Simonenko, Tkachenko, Kostenko and Udovenko), the mean ideal points of Moroz and Marchuk are moved considerably. In particular, Marchuk's supporters are close to Kuchma whereas Moroz's supporters would have him distance himself somewhat from Simonenko and Tkachenko.

We can only speculate as to why the (mean) positions of the supporters of these two candidates are, unlike those who indicate an intention to vote for someone else, different from the candidates themselves. The hypothesis we offer is that respondents are evaluating candidates on the basis of some nonspatial considerations in addition to spatial ones. In particular, it seems reasonable to suppose that a substantial share of respondents who support Marchuk are doing so not because of some perceived issuebased difference between Marchuk and, say, Kuchma, but because they dislike Kuchma. Marchuk's supporters, in other words are little different from Kuchma's in terms of attitudes towards reform and Russia, but they nevertheless grade Kuchma low on questions Q1 and Q2 for reasons other than these policies, thereby pushing Marchuk out in the recovered spatial representation of candidate positions that Figures 1a and 1b report. Indeed, the 55 supporters of Marchuk in our sample give Kuchma an average score on Q1 of 2.3 — lower even than the score they give to Moroz and on a par with the score they give to Udovenko (see Table 1). Indeed, 24 of them, or

Table 1. **Average score on Q1**

	Vitrenko	Kostenko	Kuchma	Marchuk	Moroz	Simonenko	Tkachenko	Udovenko
Vitrenko supporters (N = 149)	7.0	2.8	2.2	2.9	3.3	3.7	3.1	2.7
Kuchma supporters (N = 333)	3.7	3.6	7.7	3.8	3.0	2.6	2.8	3.6
Simonenko supporters (N = 156)	3.8	2.9	1.8	3.3	4.2	7.3	4.3	2.5
Marchuk supporters (N = 55)	1.6	2.2	2.3	5.2	3.1	2.0	1.6	2.3
Moroz supporters (N = 68)	2.3	2.3	2.0	3.4	6.0	3.1	3.0	2.4

terms of her conservatism; yet she presented the electorate with a sufficiently «distinct» platform (to say the least), that it would be impossible to locate her near any of these candidates, regardless of her supporter's preferences on specific policies. As we shall see in the next section, some support for this supposition is provided by looking at Ukraine's western and eastern parts separately.

nearly half, award Kuchma the lowest score possible on this question. Similarly, Moroz's support is, to a certain extent, a midway point between the avowed Communist party candidates, Simonenko and Tkachenko, and those candidates at least unopposed to a continuation of the reforms. Once again, however, a dislike of Kuchma among these respondents moves Moroz out and closer to Simonenko and Tkachenko in Figures 1a and 1b (the average score they award Kuchma on Q1 is 2.0 — the lowest average score they give to any candidate) — with 32 of 68 awarding him the lowest score of 1.

The sizeable gap between Vitrenko and Moroz in Figure 7 as well as Figures 1a and 1b is a bit more difficult to explain, especially in light of Figure 2, which places these candidates near each other. Again, however, we need to keep in mind the inherent complexity of our multidimensional scaling algorithm. The correlation between scores for these two candidates is near zero (.09), which means that our statistical methodology has some freedom in terms of their placement relative to each other. But here we should note that despite the similarity in Moroz and Vitrenko's supporters on questions Q3 through Q6, Moroz's supporters, perhaps remembering her defection from his party, on average score Vitrenko only slightly better than Kuchma (2.3 versus 2.0) and otherwise lower than all other candidates. We can also speculate that Vitrenko's advocacy of some genuinely extreme positions, including if necessary a forced resurrection of Marxist ideology within Ukraine, left many respondents at a quandary as to how to score her, in which case an overall pattern of scores on questions Q1 or Q2 dissimilar from any other candidate would cause the algorithm to move her away from all candidates. Respondents did tend to see her on a par with Simonenko, Tkachenko and Moroz in

3. *Regional Variation*

If we look back once again to our analysis of the 1998 parliamentary election survey, we see that despite the apparent ideological differences between the westerns and eastern halves of Ukraine on the issues of reform and relations with Russia, respondents in both halves saw the parties and issues in the same terms. That is, if we recover the issue dimensions and party positions after separating respondents by geography, we get essentially identical spatial maps, except that the mean preference of respondents differed in both samples in the expected way — respondents in the East were closer to the spatial positions of the Communist, Socialist-Peasant, and Agrarian parties than were respondents in the West, whereas those in the West were generally closer to Rukh, the PDP, Hromada and NEP. Figures 8a and 8b report that the same similarity in evaluative

Figure 8a: Candidate positions, West
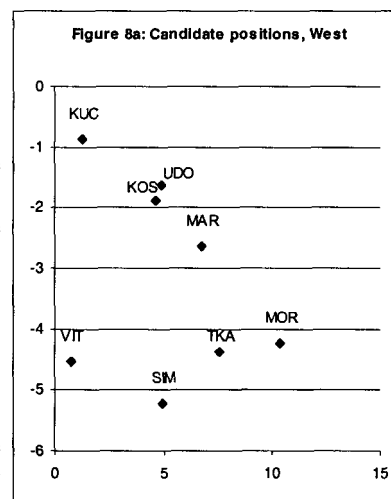
criteria applies to the 1999 Presidential contest.[9] There is, of course, some variation: the East puts Simonenko and Tkachenko at nearly the same point but appears to differentiate between Kostenko and Udov-

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[9] The regions classified as West are as follows: Kiev city, and the 12 oblasts — Kyivska, Vinnitska, Volynska, Zhytomirska, Zakarpatska, Ivano-Frankivska, Lvivska, Rivnenska, Ternopilska, Khmelnitska, Cherkaska, and Chernivetska.

Figure 8b: Candidate positions, East

Figure 9: Mean Ideal points by oblast
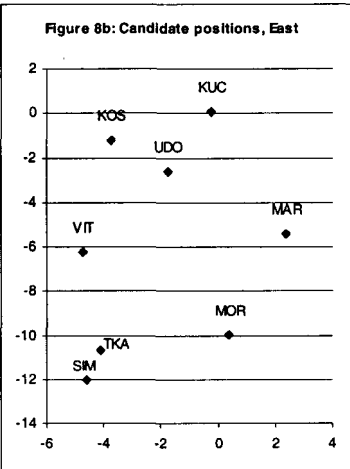
enko, whereas the West does the opposite.[10] Owing to statistical errors, however, these differences are unimportant."

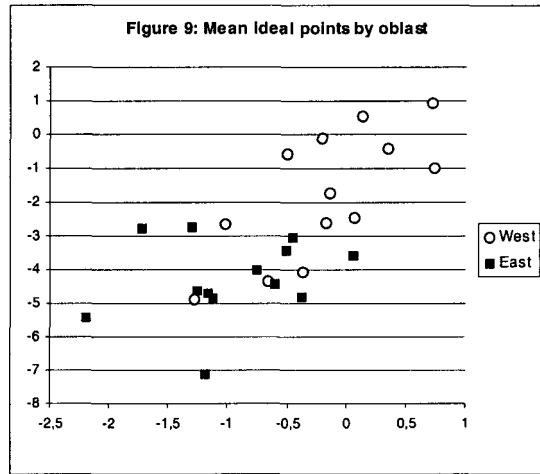Ukraine's East-West divide can be seen in a different way insofar as respondents themselves are concerned. First, if we calculate the percentage of ideal points closest to each candidate (eliminating Tkachenko), we get the results shown in Table 2.[12]

Table 2. Percent of ideals closest to each candidate

	West	East	Overal[13]	Actual[14]
Vitrenko	16	14	11.3	11.9
Kostenko	4	4	4.4	2.3
Marchuk	9	3	4.7	8.8
Moroz	5	4	4.3	12.2
Simonenko	10	20	15.4	24.0
Udovenko	2	7	7.6	1.3
Kuchma[15]	55	48	52.2	39.4

Thus, we see Kuchma's considerably greater strength in the West, as compared to Vitrenko, Moroz and Simonenko's strength in the East, and twice as many ideal points are closest to Simonenko among respondents living in the East as compared to the West.

These differences, moreover, are reflected in the distribution of ideals within each region. Figure 9 graphs the mean estimated ideal point for each of Ukraine's 26 regions and shows the separation between East and West parts of Ukraine. Indeed, if we draw the convex hull of the means of the Eastern oblasts, only two Western regions fall into it — with the most «imbedded» case being Cherkasskaya oblast (which in fact is Central one). And if this oblast is excluded, then only three Eastern regions fall into the convex hull of the Western oblast means. Although one can hardly be surprised by such results, it is clear that the East-West divide that has characterized Ukranian politics in the past [2, 3, 10] not only persisted through the 1999 presidential contest, but that there is little evidence of its erosion.

Before concluding, there is one additional observation that we might offer with respect to Figures 8a and 8b. Specifically, recall our conjecture that neither the Communist electorate nor Kuchma's supporters considered Vitrenko a viable alternative. And indeed, notice, when we compare her position in these two figures, we can see that, in the East, she is moved away from Simonenko, whereas in the West she is moved away from Kuchma in the direction of Simonenko — almost as if the supporters of Simonenko and Kuchma are «pushing» her into the opposing camp. Earlier, in fact, we noted the enmity that appears to exist among Moroz's supporters with respect to the scores they give Vitrenko. However, we can also say that there seems to be more «pushing away» on the part of Vitrenko's supporters as anything else. Looking back again at Table 1, which

[10] The recoveries are equivalent in another sense as well — the percent variance accounted for by the eigenvalues of each dimension. In the case of the East, these percentages are, from the first to the third dimensions respectively, 81%, 7% and 4% whereas for the West they are 78 %, 7 % and 5 %.

[11] Readers should also ignore the somewhat different orientations of the candidates with respect to the axes, including the differences between these orientations and Figure 1 owing to the rotational ambiguity of a spatial recovery. Thus, although Figjres 4a, 4b and 5 tell us something about the substantive content of the dimensions in Figure 1 since ideals and candidate positionsderive from the same recovery, these three figures cannot be applied to Figures 8a and 8b, since rotations vary.

[12] Notice the considerable over-estimation of Kuchma's actual vote and the under-estimation of Simonenko's and Moroz's. Of course, after having eliminated respondents who failed to score more than one candidate as well as those who indicated that they would not vote, there is no reason to believe that our sample is, except in the broadest sense (in the sense of telling us how the electorate generally perceives the election) representative for predictive purposes of the electorate as a whole.

[13] Note that the percentages recorded in «overall» are not simply the average of those reported for East and West. Each column is based on its own separate recovery of the candidate positions and voter ideals, with Overall using all data, East only those voters in the eastern oblasts, and West only those in the western oblasts. Estimation error will cause estimates from the combined sample (Overall) to differ from any average of the two separate subsamples.

[14] As a percentage of the vote received by these eight candidates.

[15] We should note here that our methodology does tend to over estimate the vote share of the candidate serving as pivot.

reports the overall average score respondents gave each of the candidates among the supporters of Vitrenko, Kuchma, Simonenko, Marchuk, and Moroz, notice that although Simonenko's supporters give Vitrenko an average score only slightly less than Moroz and Tkachenko, Vitrenko's supporters do not fully return the favor — although they give Simonenko a score that is equivalent to what she receives from his supporters, the support her «voters» give to Moroz and Tkachenko drops off considerably. Kuchma's supporters, on the other hand, inexplicably score Vitrenko on a par with Kostenko, Marchuk and Udovenko, which thereby allows our spatial methodology to move her closer in the direction of Kuchma, especially among Kuchma's supporters, than we might otherwise suppose by looking at the scoring reported by Vitrenko's support. Nevertheless, the fact remains that in both the Eastern and Western halves of Ukraine, Vitrenko appears to be something of an outsider not merely because of her positions, but also because of her somewhat unusual ability to impress people that she believes her own words and her promises.

4. *Conclusions*

The preceding «explanation» for Vitrenko and Moroz's positioning in our spatial maps, and our earlier discussion of the apparent inconsistency between Figure 2 and Figures 1a and 1b, suggest that the responses to questions Q1 and Q2 are picking up something other than the respondents' preferences on issues and their evaluation of the candidates on them. Specifically, it suggests that the personal characteristics of the candidates — characteristics that need not have a component to them directly measured by any question in the survey — played a role in people's evaluations of the candidate that was not present in the 1998 election. This is not to say that issues such as Ukraine's relations with Russia or the pace of economic reform diminished in importance between 1998 and 1999, but only that voters used criteria in addition to these issues when judging each candidate's qualifications as president.

What makes estimation difficult here is that we cannot exclude the possibility that different voters might employ wholly different additional criteria. Our methodology assumes that although respondents might hold different preferences, they all operate in essentially the same criterion space. However, it is

reasonable to suppose that, for example, some respondents saw Vitrenko as an outsider by her positions, others evaluated her by her public speaking skills, and still others evaluated her differently simply because she was the only woman in the field. Similarly, we can only guess at how those respondents who supported Rukh in 1998 judged Kostenko in light of his role in the fracturing of that party. Rumblings of corruption swirled around Kuchma's administration even before recent post-election events dominated the headlines, although it is admittedly difficult to say how much blame they assigned to Kuchma versus the belief that all politicians are inherently corrupt. The fact is that there are any number of «issues» voters might use to evaluate candidates — «issues» that concern only subsets of the electorate, that are applied to only a subset of candidates, and which need not map into a single issue so as to yield a spatial interpretation. Our guess is that unlike the 1998 parliamentary contest, in which party positions «made sense» with respect to the issues, the 1999 presidential election combined the two conceptualizations of elections outlined in the introduction to this essay. Voters chose on the basis of issues that have concerned Ukraine since the dissolution of the Soviet Union and even before. But at the same time, they also allowed their evaluations of candidates to be affected by some non-spatial criteria. The sharp divergence in Kuchma's scores on question Q1 between his supporters and those of his opponents reported in Table 1, and which account for his spatial placement outside the convex hull of the positions of other candidates, almost certainly cannot be wholly explained by such substantive issues as Ukraine's national identity and his position on economic reform. Those scores also reflect the our respondents' assessments of his personal qualities. This, of course, is only normal in a society in which the candidates' partisan attachments are weak or nonexistent, in which the differences between them are often too subtle to be appreciated by anyone except political insiders, in which the electorate generally believes that no one has the will or means to pull the country out of its economic morass, and in which the candidates themselves compete on the basis of personality, reputation, and the ostensible inadequacies and personal deficiencies of their opponents.

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ПРЕЗИДЕНТСЬКІ ВИБОРИ 1999 РОКУ В УКРАЇНІ: ПРОСТОРОВИЙ АНАЛІЗ

Стаття присвячена метричному багатовимірному просторовому аналізу президентських виборів 1999 р. в Україні. З використанням даних загальнонаціонального передвиборного опитуванння оцінюються просторові позиції восьми головних кандидатів та ідеальні точки респондентів у тому ж самому проблемному просторі. Зроблено висновок, що хоча в цих оцінках відбиті такі ж основні проблеми, як і під час парламентських виборів 1998 р. (націоналізм і ставлення до ринкових реформ), і хоча знову, як і в 1998 р., сприйняття відносних положень кандидатів у західній і східній частинах країни значною мірою збігаються (при звичайних та очікуваних відхиленнях у загальних пріоритетах), просторове відображення тут видається значно менш «стабільним», ніж у 1998 р. Виявлені також такі відмінності у відносних позиціях кандидатів, що залишаються непоясненими в термінах основних проблем, які домінували у виборах 1998 р. Зроблена спроба пояснити ці розбіжності за рахунок того, що у 1999 р. набагато більшою мірою, ніж у 1998-му, при оцінці альтернативних кандидатів респонденти враховували скоріше не «просторові проблеми», а інші чинники, особливо — специфічні характеристики кандидатів.