8

Micro-Level Evidence for Retrospective Voting

This chapter tests the basic assumption used for the macro-level analysis of retrospective voting in Chapter 9. A micro-level analysis of retrospective voting can investigate the possibility that an ecological fallacy might be associated with the macro-level analysis. The individual survey data used in this chapter were kindly made available to the author by the Turkish Social, Economic and Political Research Foundation (TÜSES) and Veri Araştırma (Data Research) Ltd., which jointly conducted an opinion survey. The survey was conducted in April 2002 for a structured sample of 1,807 individuals across the country. The data set included several questions and answers directly related to retrospective voting, such as the party that the voter supported in the previous general election, the party that the voter intended to vote for if general elections were held on the day of the interview, the voter's evaluation of the national economy and his/her household's economic situation during the last 12 months and in the coming 12 months. The data set also included the voter's evaluation of society and politics in the last 12 months and in the future. Since the publication that resulted from the above survey was intended to reveal the profile of party support in Turkey, it did not address the question of retrospective voting. It is worthwhile then to make use of the survey data and explore the relationships that have not yet been touched upon.

8.1. Methodology and Data

The macro-level retrospective voting model in the following chapter uses national economic conditions as the major independent variables. It is not clear, however, whether voters respond to changes in national economic conditions per se or to changes in their personal economic conditions that can be aggregated into macroeconomic change. Nor was it possible to test the effect of voters' expectations of the

personal and national economy in the near future on their support for the incumbent. This chapter thus addresses two major questions that can not be put forth in the macro-level analysis. First, are voters' decisions based on the economic conditions of their households or on national economic conditions? Do sociopolitical conditions also count? Second, do future evaluations of the economy affect voting decision, or only past evaluations?

In the following, the logit model is used to answer the above questions. The binary dependent variable is the voter's support (= 1) or nonsupport (= 0) for the incumbent. The independent variables include the voter's evaluation, on an ordinal scale from one to five (but treated as continuous in the model), of (1) the household economic situation during the last 12 months and the next 12 months, (2) the national economy during the last 12 months and the next 12 months, and (3) society and politics during the last 12 months and the next 12 months. The logit model predicts whether changes in the independent variable(s) significantly affect the possibility of the binary dependent variable taking a value of one (in this case, support for the incumbent) instead of a value of zero. The effect of each independent variable is measured by the odds ratio, by which a unit change in the independent variable multiplies the odds of occurrence against nonoccurrence (Tabachinick and Fidel 2001, pp. 548–49).

Summary statistics of the survey data are shown in Table 8-1. There are two major features of this data. First, public intolerance toward the incumbent was very high. When asked which party they would vote for if general elections were held on that day, only 15.8 percent ($n = 215$) of respondents with valid responses[1] ($n = 1,359$) chose any of the incumbent parties. The data from TÜSES-Veri Araştırma thus suggested that there would be a severe electoral punishment of the governing parties in the coming general election. In fact, in the general election of November 2002, the three incumbent parties combined gained only 14.7 percent of the valid votes, although the two figures are not directly comparable.

Second, voter evaluation of the economy and society in the recent past was generally low, but more optimistic for the near future. Those who responded that their household's economic situation had become either worse or much worse in the last 12 months accounted for 85.1 percent of the sample. The corresponding rates for the national economy and society-politics were 91.3 percent and 90.2 percent, respectively. The very low evaluation, especially of the last 12 months, can be explained by the economic crisis that occurred in February 2001. Triggered by a financial crisis and a flight of short-term capital (hot money), there was a massive currency devaluation of 40 percent on February 23,[2] which struck the Turkish economy just as it had posted the lowest annual per capita GDP growth rate since the Second World War, at negative 9.3 percent.

Technically speaking, due to the extraordinary economic conditions, the response data from the survey were not normally distributed but were positively skewed (to the right). For both the past and future evaluation data, the median value was not 3 ("No change") but 2 ("Worse"). The skewness, however, was stronger for past evaluations (Figure 8-1) than future evaluations (Figure 8-2). The stronger skewness for the past evaluation is expected to make its explanatory power weaker than for the future

TABLE 8-1

SUMMARY STATISTICS OF THE SURVEY DATA ($N = 1,807$)

Dependent Variable		0: No[a]		1: Yes		Missing: Don't know[b]	Total
Support for the incumbent		1,144 (63.3)		215 (11.9)		448 (24.8)	1,807 (100.0)
Independent Variable	1: Much worse	2: Worse	3: No change	4: Better	5: Much better	Missing: Don't know	Total
Household economy							
Past	508 (28.1)	1,030 (57.0)	211 (11.7)	52 (2.9)	6 (0.3)	0 (0.0)	1,807 (100.0)
Future	286 (15.8)	720 (39.8)	511 (28.3)	248 (13.7)	12 (0.7)	30 (1.7)	1,807 (100.0)
National economy							
Past	651 (36.0)	999 (55.3)	87 (4.8)	53 (2.9)	14 (0.8)	3 (0.2)	1,807 (100.0)
Future	375 (20.8)	737 (40.8)	389 (21.5)	261 (14.4)	19 (1.1)	26 (1.4)	1,807 (100.0)
Society-politics							
Past	644 (35.6)	986 (54.6)	105 (5.8)	52 (2.9)	13 (0.7)	7 (0.4)	1,807 (100.0)
Future	388 (21.5)	731 (40.5)	423 (23.4)	219 (12.1)	17 (0.9)	29 (1.6)	1,807 (100.0)

Source: Compiled by the author from the TÜSES-Veri Araştırma data set. For the original questions (translated into English by the author), see Appendix VII.

Notes: Parentheses are row percentages.

[a] Abstention ($n = 306$) is included here since the declaration of abstention at this stage is an explicit expression of the rejection of the incumbent (as well as the opposition).

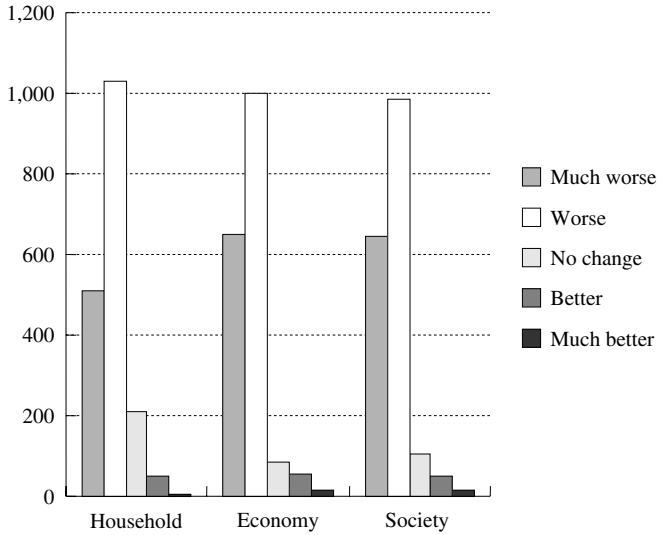
[b] No answers ($n = 166$) and "undecided" responses ($n = 282$).

evaluation, ceteris paribus. For the past evaluation, since the great majority of people thought that the economy had deteriorated, there was little difference in evaluation. If there are only small variations in an evaluation, it cannot sufficiently account for the changes in the dependent variable. The future evaluation was more varied and thus is potentially better able to account for variations in the dependent variable, ceteris paribus.

The micro-level data also provided evidence for the assumption that voters held the government responsible for economic performance. The overwhelming majority of the respondents (91.3 percent, $n = 1,649$) answered that the incumbent was responsible for their household economic situation. Although none of the questions asked whether voters held the government responsible for the *national* economy, it seems very likely that they also held the government accountable for the national economy especially since it is more directly influenced by government policy than is the household economy.

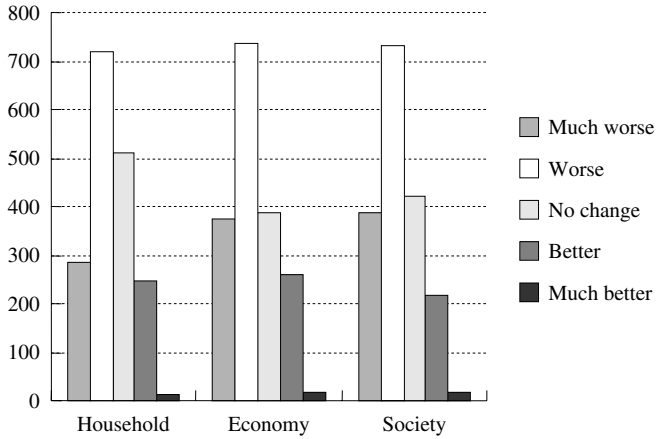
In the following analysis, separate bivariate logit models are run before testing the multivariate logit models. This is because the independent variables are significantly cross-correlated (Table 8-2). Pearson's r is 0.43 on average for the six cross-correla-

Fig. 8-1. Voter Evaluation of the Last 12 Months



Source: Compiled by the author from the TÜSES-Veri Araştırma data set.

Fig. 8-2. Voter Evaluation of the Next 12 Months



Source: Compiled by the author from the TÜSES-Veri Araştırma data set.

tions. The cross-correlation is particularly high for the two pairs of economy and society ($r = 0.80$ for the pair for past evaluations and $r = 0.88$ for the pair for future evaluations). It is thus necessary to gauge the effect of each independent variable first at its face value before controlling for the other variables.

TABLE 8-2

CROSS-CORRELATION OF INDEPENDENT VARIABLES ($N = 1,759$)

	Household past	Household future	Economy past	Economy future	Society past	Society future
Household past	1					
Household future	0.4383	1				
Economy past	0.3682	0.3233	1			
Economy future	0.2841	0.4829	0.4051	1		
Society past	0.3614	0.2956	0.8017	0.3606	1	
Society future	0.2973	0.4539	0.3802	0.8766	0.3935	1

Source: Compiled by the author from the TÜSES-Veri Araştırma data set.
Note: Entries are Pearson's correlation coefficients. All are statistically significant at the 0.001 level.

TABLE 8-3

SUMMARY RESULTS OF BIVARIATE LOGIT MODELS

Independent Variable	Odds Ratio	Std. Error	z	$p > \|z\|$	N
Household past	1.598275	0.160136	4.68	0.001	1,359
Household future	1.508120	0.119551	5.18	0.001	1,342
Economy past	1.509866	0.139521	4.46	0.001	1,356
Economy future	1.515776	0.110855	5.69	0.001	1,348
Society past	1.594628	0.145730	5.11	0.001	1,354
Society future	1.494938	0.111778	5.38	0.001	1,344

Source: Calculated and compiled by the author from the TÜSES-Veri Araştırma data set.
Note: The dependent variable is support for the incumbent. The independent variable is the voter evaluation of the item for the last twelve months or for the next twelve months.

8.2. Bivariate Logit Models

The results of the six separate bivariate logit models, as summarized in Table 8-3, show that all the independent variables are significantly ($p < 0.001$) predictive of voter punishment of the incumbent. The odds ratio of 1.598 for the household economy in the past, for instance, suggests that a unit change in the evaluation scale (for instance, from one to two) of household economic situation increased the likelihood of the voter supporting the incumbent by 1.598 times. In other words, if voter A's evaluation of his or her household's economic situation in the last 12 months was 1 ("Very bad") and voter B's evaluation was 2 ("Bad"), then voter A's probability of punishing (i.e., not supporting) the incumbent was 1.598 times higher than voter B's.

At this stage, if a significant overlap among the six independent variables is accepted, it can be argued that the household economy, the national economy, and sociopolitical conditions, both in the recent past and in the near future, affected voting decisions. The odds ratio is particularly high for the past household economy and past

sociopolitical conditions. The results seem to indicate that evaluations of the past weighed more heavily rather than those of the future. The standard error, however, is consistently larger for any past evaluation than for any future evaluation. This made the past evaluations slightly less significant statistically than future evaluations, although the six odds ratios are all statistically significant at the 0.001 level. One might suspect that the more skewed distribution of past evaluations, compared with that of future distributions, contributed to the larger standard errors. The next section more rigorously analyzes the relative importance of the individual variables by incorporating some or all of them into one equation.

8.3. Multivariate Logit Models

Which variables are relatively more important than others in determining voters' decision? Answers can be found from a preliminary multivariate logit model that incorporate all six independent variables, Model 1, and the final multivariate logit model, Model 2, which drops the statistically insignificant independent variables through a backward selection procedure.

Model 1 (Table 8-4) shows the effect (odds ratio) of each independent variable when other variables are controlled for. In other words, it is cleared of the effect of spurious relationships. The results show that the household economy in the last 12 months was the single most important determinant of retrospective voting ($p = 0.047$), followed by the household economic situation in the future ($p = 0.085$). Other potentially important variables are society-politics during the last 12 months ($p = 0.106$) and the national economy for the next 12 months ($p = 0.136$). The other two variables are far below the conventionally most lenient 0.10 level of statistical significance. These results give the impression that voters were more concerned with their own economic conditions than with the national economy and sociopolitical conditions when deciding whether or not to support the incumbent.

TABLE 8-4

MULTIVARIATE LOGIT MODEL 1: FULL MODEL

Independent Variable	Odds Ratio	Std. Error	z	$p > \|z\|$
Household past	1.262714	0.148303	1.99	0.047
Household future	1.183282	0.115698	1.72	0.085
Economy past	0.936174	0.152300	−0.41	0.685
Economy future	1.256139	0.192101	1.49	0.136
Society past	1.291575	0.204730	1.61	0.106
Society future	1.044479	0.160617	0.28	0.777

Source: Calculated and compiled by the author from the TÜSES-Veri Araştırma data set.

Notes: 1. The dependent variable is support for the incumbent. The independent variable is the voter evaluation of the item for the last 12 months or for the next 12 months.

2. Number of observations = 1,331; Likelihood-ratio $\chi^2(6) = 51.14$; Prob > $\chi^2 = 0.001$; Log likelihood = −554.69618; Pseudo $R^2 = 0.0441$

This interpretation requires caution, however. In particular, the compulsory inclusion of all independent variables, some of which are highly cross-correlated, substantially reduces the odds ratios of these variables. It may be recalled that the evaluation of the national economy and that of society and politics are highly cross-correlated, both for the "past" pair ($r = 0.80$) and for the "future" pair ($r = 0.88$) (see Table 8-2). It is thus necessary to rid the model of one of the two variables that are strongly correlated with each other. Removing such a variable increases the odds ratios of the other variable that has been retained.

The final model, Model 2 (Table 8-5), eliminates irrelevant independent variables through the backward selection procedure while adopting the logit model. The backward selection procedure, one of the three versions for independent-variable selection, starts with the full model containing all independent variables and then repeatedly removes the independent variable whose partial regression coefficient, or partial odds ratio for the logit model, is the least significant, until the model ends up with only the independent variables above a given level of statistical significance.

Model 2 is found to retain, at the 0.05 significance level, three independent variables, i.e., the household economic conditions during the last 12 months, the national economy for the next 12 months, and sociopolitical conditions during the last 12 months. In sum, these three independent variables have stronger explanatory power than the three variables that were removed from the full model. These findings are consistent with those obtained from the previous separate bivariate logit models.

A comparison among these three independent variables does not make sense since parameter estimates are susceptible to the effect of significant cross-correlation. The relatively low odds ratio and statistical significance for the past sociopolitical evaluation is probably due in part to its relatively high cross-correlations with the past household economic situation evaluation ($r = 0.361$) and with the future national economy evaluation ($r = 0.361$) whereas the cross-correlation between the past household economic situation and the future national economy is lower ($r = 0.284$) than the above two cross-correlations.

TABLE 8-5

MULTIVARIATE LOGIT MODEL 2: FINAL MODEL

Independent Variable	Odds Ratio	Std. Error	z	$p > \|z\|$
Household past	1.338328	0.148611	2.62	0.009
Economy future	1.374629	0.110663	3.95	0.001
Society past	1.246398	0.130600	2.10	0.036

Source: Calculated and compiled by the author from the TÜSES-Veri Araştırma data set.

Notes: 1. The dependent variable is support for the incumbent. The independent variable is the voter evaluation of the item for the last twelve months or for the next twelve months. Independent variables with a level of statistical significance lower than 0.05 were removed by backward stepping.

2. Number of observations = 1,331; Likelihood-ratio $\chi^2(3) = 47.94$: Prob > $\chi^2 = 0.001$; Log likelihood = −556.29588; Pseudo $R^2 = 0.0413$

8.4. Summary

This chapter examined two major questions of retrospective voting relying on individual survey data: (1) whether voters' decisions were based on household economic conditions, national economic conditions, or other sociopolitical conditions and (2) whether future evaluations of the economy affected voting decisions, apart from past evaluations. Both the separate bivariate logit models and multiple logit models provided consistent results to these questions. First, the household, the national economy, and society-politics were all important determinants of voter support for the incumbent, whether cross-correlation was controlled for or not. Second, past evaluations were more important for the household economy and sociopolitical conditions than were future evaluations. Only for the national economy was future evaluation more meaningful than past evaluation.

The above findings revealed important features of retrospective voting that could only be analyzed at the micro level. First, the personal economy and the national economy both had independent and common effects on voting decision. In relative terms, voters gave consideration to the personal economy for retrospective voting and the national economy for prospective voting. Second, both the economy (personal and national) and sociopolitical conditions mattered when individuals decided whether to vote for the incumbent or not. While there was a very strong correlation between the evaluation of the national economy and sociopolitical conditions, each variable still had a significant independent effect on voting decisions.

Notes

1 Valid responses are all responses excluding "Don't know" responses.
2 On that day, Turkey abandoned the predetermined crawling peg system, introduced in January 2000 as a part of the disinflation program, and reverted to a floating exchange regime.