

# Determinants of Voting Behavior: An Analysis of the 1997 County Magistrate and City Mayoral Elections in Taiwan\*

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*This paper is an effort to study factors affecting voting decisions in Taiwan, based on survey data obtained shortly after the thirteenth election of county magistrates and city mayors in Taiwan in November 1997. Our research findings indicate that the most important factor affecting voting decisions is "issue orientation," followed by "candidate orientation" and "party identification." In addition, these three factors are interrelated and their influences on voting decisions are highly overlapping. These findings should be attributed to the structure of voters in Taiwan. Generally speaking, the Kuomintang (KMT) and the Democratic Progressive Party (DPP) have each had a fixed 20 percent voter support, and the New Party (NP) has its own fixed level of supporters (about 5 percent). Because of their different ideological outlook, ethnic identity, and independence/unification position, these voters not only affirm candidates of the party to their favor but also negate other parties' candidates. To this 45 percent of the voters, the concepts of "issue orientation," "candidate orientation," and*

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\*This paper is based on the survey data gathered from "An Analysis of Factors in the Victory of Candidates in the Thirteenth Election of County Magistrates and City Mayors," a research project commissioned by the National Science Council. This project was an effort to examine the reasons behind candidate victory from the perspective of the candidates. In this article, efforts will be made to examine the voting decisions from the perspective of voters, with the aim of verifying our research findings through a different research approach. This research is based on data related to the twenty-one counties and cities in Taiwan Province, excluding those in Kinmen and Matsu.

*"party identification" are almost synonymous. Unlike voters with partisan preference, some other voters—about 40 percent of the electorate—care more about candidates' political views and competence than the party they belong to. The remaining 15 percent of voters neither especially favor any party nor have a clear understanding about the political proposals and competence levels of the candidates; instead, they are often canvassed to vote by local ballot brokers. The voting behavior of this bloc may be used to explain some of the phenomena left unexplained by the model used in this research project.*

**KEYWORDS:** logistic regression; binary variable; indicator-variable; reference category; social-psychological approach; voting orientation

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Among the twenty-one seats captured in the thirteenth election of county magistrates and city mayors in Taiwan held on November 29, 1997, the Kuomintang (KMT) took only six seats, the Democratic Progressive Party (DPP) twelve, and the nonpartisans three. While the low record of seats won by the KMT may be a result of internal strife within that party,<sup>1</sup> this remarkable decrease could be an indication of the people's dissatisfaction with the ruling party, as major criminal cases have frequently been reported, transportation problems have not yet been improved, cross-Strait relations have made no headway, and social welfare policy has not kept up with the people's aspirations. In that election, the KMT obtained only 42.06 percent of the vote, a little lower than the record of 43.47 percentage garnered by the DPP.

In this election, there were seventy-six candidates running for only twenty-one seats. The grueling match included a great flood of candidate

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<sup>1</sup>The KMT had problems in nominating candidates in eight out of twenty-one counties and cities. For example, the party nominated two each in Taichung County and Tainan City in order to field even one candidate per contested seat. In six other counties/cities, KMT members other than the party-nominated candidates ran for the seats even at expense of violating party discipline. In Taipei County, Hsinchu County, Miaoli County, Taichung County, Keelung City, and Tainan City, the total vote for candidates with KMT membership was higher than that for other parties' candidates. Thus, had it not been for intraparty strife, the KMT should have been able to win twelve rather than six seats in these county/city elections. This would have resulted in the seats for the DPP being cut by five to only seven, and the seats for nonpartisans being cut by one to only two. Thus, the DPP's victory was a result of the KMT's disunity.

banners, news media coverage of campaign news, TV call-in programs on election campaigns, campaign speeches, and dining parties (on those occasions, the candidates and their assistants hurled invectives against their opponents and circulated documents propagating their own proposals). Alleged election briberies were also reported. In short, through all these activities, the candidates hoped to present their best side while exposing the weaknesses of their opponents in order to capture as many votes as possible.

Were these election campaigns helpful to shape candidate image and to propagate their political views? What are the major factors affecting voting decisions in Taiwan? These are questions of our major concern. We conducted a telephone survey regarding voting decisions shortly after the election, with an effort to study the electoral behavior in Taiwan.

### **Literature Review**

In the United States, researches on voting behavior were first made in the 1920s. Generally speaking, the ecological approach was adopted before the 1940s to undertake a macro-analysis of the election activities. Later, the Columbia School scholars tried to examine the impact of mass media on voting decisions. To their surprise, however, they found that the news media had only limited impact on voting decisions. Meanwhile, they found that what had really affected election results were three social factors: religion, social and economic status, and place of abode.<sup>2</sup> These scholars later developed the sociological approach in the study of election behavior. They pointed out in 1954 that the following factors had an impact on people's voting decisions: the primary organizations, suborganizations, one's social and economic status, and the political and economic structure in society.<sup>3</sup>

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<sup>2</sup>Paul F. Lazarsfeld, Bernard R. Berelson, and Hazel Gaudet, *The People's Choice: How the Voter Makes Up His Mind in Presidential Campaign* (New York: Columbia University Press, 1944).

<sup>3</sup>Bernard R. Berelson, Paul F. Lazarsfeld, and William N. McPhee, *Voting: A Study of Opinion Formation in a Presidential Campaign* (Chicago: University of Chicago Press, 1954).

The Michigan School, well known since the 1950s, has held a somewhat different view. They maintained that although social factors have had some impact on voting results, the most important factors are really voters' inner motives, personality characteristics, and political attitudes. The school worked out the so-called social-psychological approach to the study of voting behavior. Their 1954 book, *The Voter Decides*, pointed out that the most important variables affecting people's voting behavior are party identification, issue orientation, and candidate orientation.<sup>4</sup> In 1960, they published another book entitled *The American Voter*, further elaborating their viewpoints on voting behavior. Based on data collected on the U.S. presidential elections in 1948, 1952, and 1956, they worked out the model of "funnel of causality." The core of the framework of this model centers on party identification, with social factors as exogenous variables for the formation of voters' party identification. Also, the election campaigns and the propagation effect (through news media or other channels) have also played a role in affecting voting decisions.<sup>5</sup> In 1966, Angus Campbell and others published another book entitled *Election and the Political Order*. As a summation of the Michigan School research findings on voting behavior, this book pointed out that the result of major elections in the United States had been decided by voter party identification.<sup>6</sup>

Although the orientations and variables used in the ecological, sociological, and social-psychological approaches have been found to be related to voting decisions, scholars of these three schools have failed to present a clear picture of the cause-and-effect relationships, as well as the sequencing of these variables that they have used.

Generally speaking, the ecological approach has been criticized for using only collective materials and for simply describing general electoral phenomena rather than seeking to offer a reasonable explanation of the phenomenon. In addition, this school of research has not made a micro-

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<sup>4</sup>Angus Campbell, Gerald Gurin, and Warren E. Miller, *The Voter Decides* (Evanstone: Row Peterson and Company, 1954).

<sup>5</sup>Angus Campbell et al., *The American Voter* (New York: John Wiley & Sons, 1960).

<sup>6</sup>Angus Campbell et al., *Election and the Political Order* (New York: John Wiley & Sons, 1966).

analysis of voters and candidates. The sociological approach has been criticized for having merely described voting inclination based on different social and economic backgrounds but having failed to have given satisfactory explanations regarding voting behavior. The social-psychological approach is by far the most widely accepted for the study of voting behavior. However, this approach failed to give answers to the following questions: Which of the three variables—party identification, issue orientation, and candidate orientation—has had the most significant impact on voting decisions? Which variable is the core of the theoretical framework of such an approach?

Campbell, who first used the social-psychological approach, holds the view that party identification is a long-term and stable factor affecting voting behavior while voter issue orientation and their evaluation of the candidates are only short-term, changeable factors which tend to be influenced by party identification. In his opinion, the importance of these three factors is ranked in the order of "party identification," "candidate orientation," and "issue orientation."<sup>7</sup> This viewpoint has been shared by some scholars like Arthur S. Goldberg<sup>8</sup> and others. But Norman H. Nie and others argued that issue orientation has now taken the place of party identification as the most important factor affecting voting decisions. These scholars said that the change in voting style in the United States from the 1950s to the 1970s has resulted in such a development, a phenomenon which became apparent beginning in 1964.<sup>9</sup> John E. Jackson also holds the view that voter party identification is based on attitude toward policy issues, and the change in attitude toward policy issue or the change in the party's policy proposals may result in change of party identification.<sup>10</sup> Benjamin I. Page and Calvin C. Jones pointed out that issue orientation and candidate evaluations are interrelated and these two factors together have

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<sup>7</sup>Campbell, *The American Voter*.

<sup>8</sup>Arthur S. Goldberg, "Discerning a Causal Pattern Among Data in Voting Behavior," *American Political Science Review* 60 (1966): 913-22.

<sup>9</sup>Norman H. Nie, Sidney Verba, and John R. Petrocik, *The Changing American Voter* (Cambridge, Mass.: Harvard University Press, 1976).

<sup>10</sup>John E. Jackson, "Issues, Party Choices, and Presidential Votes," *American Journal of Political Science* 19 (1975): 161-85.

great impact on one's party identification.<sup>11</sup>

In his book entitled *Interpreting Elections*, Stanley Kelley, Jr. developed a theoretical framework emphasizing the importance of "candidate orientation." In his opinion, voters usually vote for the candidates they favor. If there is no such candidate, they tend to choose the candidates nominated by the party they identified with. If there is neither a favorable candidate nor a preferred party, voters may choose one at random or simply abstain from voting.<sup>12</sup> In other words, candidate orientation is the most important factor influencing voting decisions, followed by party identification, with no room left for issue orientation. Gregory B. Markus and Philip E. Converse also think that voter "evaluation of candidates" is the most important factor explaining voting behavior. Their opinion is that the "evaluation of candidates" is the result of the interaction of "issue orientation," "party identification," and "candidates' characteristics."<sup>13</sup> Many other researches also agree with such a viewpoint.<sup>14</sup>

However, Herbert B. Asher argued that the concepts of "issue orientation" and "evaluation of candidates" are overlapping and that the overemphasis on the importance of the "evaluation of candidates" may sometimes overlook the role of "issue orientation."<sup>15</sup> Anthony Downs, Richard G. Niemi, and Herbert F. Weisberg put forth another theoretical framework called the "rational model," arguing that after a comparison of the cost and expected benefits, voters tend to choose the candidates who are expected to be able to provide the greatest personal benefit. As a result, they vote for candidates whose policy proposals can best satisfy their needs.<sup>16</sup>

<sup>11</sup>Benjamin I. Page and Calvin C. Jones, "Reciprocal Effects of Policy References, Party Loyalties, and the Vote," *American Political Science Review* 73 (1979): 1071-89.

<sup>12</sup>Stanley Kelley, Jr., *Interpreting Elections* (Princeton, N.J.: Princeton University Press, 1983).

<sup>13</sup>Gregory B. Markus and Philip E. Converse, "A Dynamic Simultaneous Equation Model of Electoral Choice," *American Political Science Review* 73 (1979): 1050-70.

<sup>14</sup>John H. Kessel, *Presidential Campaign Politics: Coalition Strategies and Citizen Response* (Homewood, Ill.: The Dorsey Press, 1980); Arthur Miller et al., "Schematic Assessments of Presidential Candidates," *American Political Science Review* 80 (1986): 521-40.

<sup>15</sup>Herbert B. Asher, "Voting Behavior Research in the 1980s: An Examination of Some Old and New Problem Areas," in *Political Science: The State of the Discipline*, ed. Ada W. Finifter (Washington, D.C.: American Political Science Association, 1983), 339-88.

<sup>16</sup>Anthony Downs, *An Economic Theory of Democracy* (New York: Harper & Row, 1957);

In the Republic of China on Taiwan, scholars also have different opinions regarding voting decisions. For example, in their study of the election in Taipei, Hu Fo and Yu Ying-lung maintained that issue orientation is the most important factor affecting voting decisions.<sup>17</sup> But in later research, they discovered that voters care more about candidates' competence, achievements, and knowledge.<sup>18</sup>

In his summary of twenty-one research reports prepared by ROC scholars before 1985, Chen Yi-yan concluded that factors affecting voting decisions were: candidate orientation (55 percent), issue orientation (30 percent), and party orientation (15 percent), and that traditional relationship orientation (including kinship, neighbor, and other social ties) is declining. But he also admitted that there are still disputes over the relative weight of issue orientation versus party orientation as well as the accuracy of the conclusion that the role played by traditional relationship is declining.<sup>19</sup> In his research on the Legislative Yuan and National Assembly elections of 1986, Chen found that the importance of voting orientation has differed across elections. In the Legislative Yuan election, the ratio of the importance of each factor was as follows: issue orientation, 16 percent; candidate orientation, 54 percent; party orientation, 13 percent; traditional relationship, 8 percent; personal interest, 2 percent; random voting, 3 percent; and "don't know" or declined to answer, 4 percent. In the National Assembly election, the ratio was as follows: issue orientation, 13 percent; candidate orientation, 41 percent; party identification, 18 percent; traditional relationship, 15 percent; personal interest, 3 percent; random voting, 5 percent; and "don't know" or declined to answer, 5 percent.<sup>20</sup> Liang Shih-wu, Hawang Hsiou-

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Richard G. Niemi and Herbert F. Weisberg, eds., *Controversies in Voting Behavior*, second edition (Washington, D.C.: Congressional Quarterly, 1984).

<sup>17</sup>Hu Fo and Yu Ying-lung, "Voter Alignment: A Structural and Type Analysis," *Zhengzhi xuebao* (Political Science Journal) (Taipei), no. 11 (1983): 225-79.

<sup>18</sup>Hu Fo et al., *Xuanmin de toupiao xingwei: Minguo qishiba nian zenge lifawei yuan xuanju de fenxi* (Electors' voting behavior: An analysis of the 1989 election of supplementary legislators) (Taipei: Central Election Commission, 1993).

<sup>19</sup>Chen Yi-yan, "A Retrospect and Prospect of the Voting Behavior in Our Country," *Si yu yan* (Think and Talk) (Taipei) 23, no. 6 (1986): 557-85.

<sup>20</sup>Lei Fei-lung et al., *Zhuanxingqi shehuizhong de toupiao xingwei: Taiwan diqu xuanmin de keji zhenghe yanjiu* (The voting behavior in a transitional society: An integrated study of



duan, and Fu Heng-teh also have emphasized the importance of candidate orientation.<sup>21</sup>

Wu Tung-hsiung's "7-5-3-5" voting model argues that out of every twenty persons who have the right to vote, seven (or 35 percent) do not vote unless there is a major incident; five (or 25 percent) vote for the ruling party; three (or 15 percent) vote for the opposition parties; and five (or 25 percent) do not have fixed voting targets.<sup>22</sup> In his theory, party orientation seems to play a greater role. In his article "Looking for Factional Voters," Chen Ming-tung pointed out that about 20 percent of the voters were canvassed to vote by local ballot brokers despite not having much understanding about politics, having no special predilection for any political party, not attending campaign speeches, and having no interest in the election process and results.<sup>23</sup> His research findings indicate that factional orientation also plays an important role in voting decisions. Chin-ming Ho worked out a model of factors leading to the victory in the 1992 Legislative Yuan election. According to the survey results of that model, 11.7 percent of the electorates cast their vote purely out of consideration for policy issues; 9.61 percent over candidate competence; 9.42 percent due to factional affiliation; 4.97 percent over party identification; 49.64 percent due to two, three, or four of the above factors; and 14.66 percent for none of the above factors.<sup>24</sup> This research finding indicates that the three factors of party identi-

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voters in the Taiwan area), part 2 (Taipei: Election Study Center, National Chengchi University, 1987).

<sup>21</sup>Liang Shih-wu, "A Prediction of the 1994 Mayoral Election in Taipei: A Verification of the Model Predicting Candidates' Image," *Xuanju yanjiu* (Election Studies) (Taipei) 1, no. 2 (1994): 97-130; Hawang Shiow-duan, "The Key to the Victory and Defeat: The Importance of the Candidates' Special Feature and Competence in the Presidential Election," *ibid.* 3, no. 1 (1996): 103-35; Fu Heng-teh, "Factors on Voting Decisions: Structural, Social-Psychological, and Rational (A Study of the 1996 Presidential Election)," in *Mairu xinshiji de Taiwan zhengzhi* "xueshu taolunhui lunwenji" (Collection of papers presented at the symposium "Taiwan's Politics upon Entering into the New Century" (Taipei: Chinese Political Science Association, 1997), 1-5-1—1-5-25.

<sup>22</sup>Wu Tung-hsiung, *Jiangou "xingxiang toupiao" yuce moshi de yanjiu* (A study on the construction of the model predicting the "voting decisions by image"), a research project commissioned by the National Science Council in 1993.

<sup>23</sup>Chen Ming-tung, "Looking for Factional Voters" (Paper presented at the Symposium on Democratization, Party Politics, and Election which was sponsored by National Taiwan University, 1994).

<sup>24</sup>Chin-ming Ho, *Houxuanren shengxuan yinsu fenxi: Erjie liwei xuanju ge'an yanjiu* (An



fication, issue orientation, and candidate orientation are overlapping, and that voting decisions are affected not merely by a single factor.

From the above, it seems that most scholars in the Republic of China have regarded candidate orientation the most important factor affecting voting behavior. Local scholars have probably reached this conclusion due to the research materials and approaches used. In past years, research materials on Taiwan's voting behavior have mainly been centered on the election of people's representatives. Since these elections are multi-votes (that is, more than one seat has been opened for a group of candidates in each electoral district) and both the KMT and the DPP have nominated more than one candidates in each electoral district, many voters find it difficult to say whether their vote is a result of party orientation, candidate orientation, or issue orientation. According to Wu Tung-hsiung, about 25 percent of the voters in Taiwan are diehard supporters of the KMT while 15 percent are supporters of the opposition party. However, since each party has nominated several candidates, and parties have held almost identical views on many policy issues, voters—who have only one vote each—cannot easily decide whether they cast their vote purely due to considerations of party identification, issue orientation, or candidate orientation. Strictly speaking, the 40 percent of the voters with party affiliation are party-oriented when casting their vote. However, if the questionnaire is not well designed to cover the interaction of two or more factors, voters may sometimes be judged as having been affected by candidate orientation, issue orientation, or traditional relationship orientation. Therefore, this paper is an attempt to make a more thorough study on orientations affecting the voting decisions in Taiwan.

## **Research Approach**

### *The Framework of Analysis*

In this paper, voting decisions are the target variables while the de-

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analysis of factors leading to candidates' victory in the election: A case study of the second Legislative Yuan election) (Doctoral dissertation, Sun Yat-sen Graduate Institute for Policy Studies, National Sun Yat-sen University, 1996).

cisive factors affecting the voting decisions are the explanatory variables. Generally speaking, voting decisions are made for either the candidate or the party. For the study of the 1997 election of county magistrates and city mayors in Taiwan, we have been unable to use candidates as the variable because there were different candidates in different electoral districts.<sup>25</sup> However, we found possible the use of party affiliation as an analytical index because voters in all electoral districts can be classified as affiliating with either the KMT, the DPP, the New Party (NP), the Taiwan Independence Party (TAIP), other party, or even no party. Therefore, in this article the party has been used as an index and the party affiliation is used as a target variable. Because candidates of the NP, TAIP, and other parties in the 1997 election of county magistrates and city mayors were limited in number, we, therefore, have grouped them as other candidates. Thus, in our study of voting decisions, voters are classified into three groups, being those who in general voted for the KMT candidates, the DPP candidates, and others. In our analysis, efforts have been made not only to examine the relations between each explanatory variable and voting decisions but also the impact of all the explanatory variables as a whole on the target variables. However, since voting decisions are categorical variables, they cannot be analyzed by linear regression. Thus, this paper has used the logistic regression. However, since the dependent variables that can be used in the logistic regression should be binary variables, we have had to transfer the trinary categorical variables into the following three binary variables: voting for the KMT candidates (those who voted for the KMT candidates = 1, those who did not vote for the KMT candidates = 0), voting for the DPP candidates (those who voted for the DPP candidates = 1, those who did not vote for the DPP candidates = 0), and voting for others (those who voted for others = 1, and those who did not vote for others = 0).

As far as the explanatory variables are concerned, generally speaking,

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<sup>25</sup>When using an analytical variable to study individual cases, the nature of these cases in relation to this variable should be presented in numerical form (or in the form of categories), and the corresponding values should be consistent in category and scope so that a proper analysis can be carried out. For example, in this research, "candidate choice" cannot be used as a variable because in different electoral districts, there were different candidates.

the social structural factors have had influence on people's voting behavior, as is pointed out by the sociological approach studies. This paper has used the following five social structural factors to examine voting behavior in Taiwan: gender, age, educational background, family income, and ethnic identification.

Research undertaken by the social-psychological approach pointed out that party identification, issue orientation, and candidate orientation are the most important variables affecting people's voting decisions. Such a judgment is to be verified in this paper. In recent years, people's attitude toward unification/independence has almost become synonymous with their political identification. Generally speaking, those advocating unification tend to vote for the KMT or the NP while those favoring Taiwan independence vote for the DPP or the TAIP. Therefore, the impact of unification/independence position on voting decisions is also considered in our examination.<sup>26</sup> The impact of election campaigning on election results has also been examined in this paper to make our analysis more complete.

Although the "rational choice model" has also become widely accepted in recent years, some scholars maintained that such factors are not as influential as social-psychological ones on voting decisions.<sup>27</sup> However, we have included in our research model a major focus of the rational choice model, that is, the issue orientation. The framework of our analysis in this paper, therefore, is shown by graph 1.

### *Data Collection*

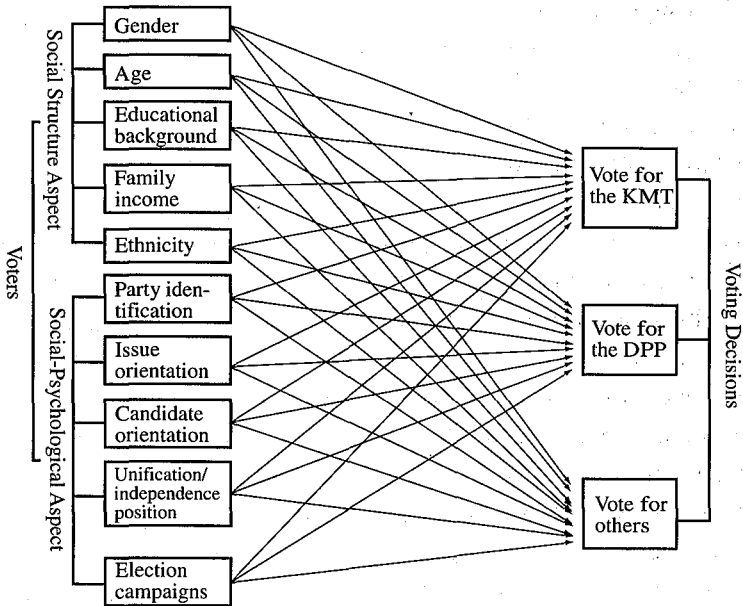
We have selected eleven variables (including one target variable and ten explanatory variables) for analysis, and the data related to these variables were collected through telephone interviews during the period from November 30 to December 7, 1997 shortly after the election of county

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<sup>26</sup>"Ethnic identity" is another synonym for the political identification of voters in Taiwan. It is closely related with the "unification/independence position." In our study of the social structural aspect, we have used the "ethnic group" variable which is also closely related to "ethnic identity." As "ethnic group" and "unification/independence position" can, to some extent, be used to replace "ethnic identity," we have decided not to use "ethnic identity" as a variable.

<sup>27</sup>Hawang, "The Key to the Victory and Defeat"; Fu, "Factors on Voting Decisions."

**Graph 1**  
**The Analysis Framework (Supposition Model) of This Research**



magistrates and city mayors. A total of 1,069 effective samples (keeping the rate of sampling error within 3 percent and a confidence interval of 5 percent) have been obtained out of a random sampling of 1,600 interviewees in twenty-one cities and counties throughout Taiwan. The samples that have not been used include those that have not provided two-thirds of the information required, those who refused to answer or forgot their voting decisions, those who did not cast their vote, and aborigines.<sup>28</sup> Contents of the questionnaire are as follows:

<sup>28</sup>We have rejected using samples that do not make known the candidates that have been voted for because such samples cannot be used to analyze the major question of voting decisions. The samples of the dozen aborigines have also been rejected because they are too small in number and the inclusion of them may affect the validity of the multi-variable analysis. In the two parts of "age" and "family income," the average value has been used because the information about these two is incomplete. For samples that have not indicated the data on "party identification," "policy orientation," "candidate orientation," and "election campaigns," we have grouped them in the category of "not indicating their opinion."

1. *Gender*: Classified into the two categories of male and female.
2. *Age*: In addition to actual age, five groups were classified (20-29, 30-39, 40-49, 50-59, and above 60).
3. *Educational background*: Five levels were classified—"primary school or below," "junior high," "senior high," "junior college," and "college or above."
4. *Family income*: In addition to actual income, three groups were classified (those below NT\$500,000, those between NT\$500,000 and NT\$1,000,000, and those above NT\$1,000,000).
5. *Ethnic groups*: Originally, four ethnic groups (Fulao, Hakka, mainlanders, and aborigines) were classified, with the last group being deleted due to too small of a sample group.
6. *Party identification*: The question given for measurement was "Which party do you usually support more, the KMT, the DPP, other parties, or no special party (including those who have no opinion and have not answered the question)?"
7. *Issue orientation*: The question given was "Which candidate's policy proposal is most agreeable to you, the KMT candidate,<sup>29</sup> the DPP candidate, others, or no opinion (including 'don't know' or decline to answer)?"
8. *Candidate orientation*: The question given was "Which candidate has the best image (including 'don't know' or decline to answer)?"
9. *Unification/independence position*: The question given was "Do you prefer unification or Taiwan independence?" The choices include "unification," "maintaining the status quo," "Taiwan independence," and "no opinion" (including no opinion and decline to answer).
10. *Election activities*: The question given was "Which candidate most frequently conducted election campaigns (including 'don't know' or decline to answer)?"
11. *Voting decisions*: The question given was "Which candidate did

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<sup>29</sup>In Taichung County and Tainan City, the KMT has nominated two candidates each. Therefore, the two in each of these places are categorized as KMT candidates. This is also used in such items as "candidate orientation," "election campaigns," and "voting decisions."

you vote for: the KMT candidate, the DPP candidate, or other candidate?" (Samples that did not vote, forgot the candidates they voted for, or refused to answer were deleted).

In Taiwan, voters have their different views on the concepts of candidate image, policy proposals, and election campaigns,<sup>30</sup> and their judgment on a candidate is based on their subjective views. Because of this reason, the measurement questions used in this research are: "Which candidate do you think has the best image?" "Which candidate's policy proposals are most agreeable to you?" and "Which candidate do you think has most frequently conducted election campaigns?" In most other studies, the first responsibility is to define the contents of these concepts; for example, "image" has been defined as including the candidate's knowledge, morality, charm, competence, enthusiasm, courage to speak out for the people, attitude in serving the people, and contribution to society. Next, these categories are used to work out questions for voters to answer. The final task is to judge their attitude toward candidates, based on respondent answers. In fact, most voters do not really understand the candidates, and when one concept is further segmented, find making a judgment on candidates even more difficult. As a result, the examination of voting decisions through segmented concepts may not be able to present a real picture of voting behavior.

When asked which candidate has the best image, most voters probably do not really know; they cast their vote based on their incomplete understanding of the candidates. Therefore, in our study, we examined voters' subjective viewpoint on candidates instead of their impression on candidates in detail.

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<sup>30</sup>Most voters in Taiwan have only a vague understanding of the concept of "candidate's image." Generally speaking, voters make an overall evaluation, and sometimes even a prejudiced and sentimental judgment, on candidates. For example, to most DPP supporters, all KMT candidates are considered as having relations with sinister gangs, consortiums, or local factions, while DPP candidates are considered as having the courage to speak out and fight for the people. Likewise, anti-DPP mainlanders criticized the DPP candidates as being indulged in violence and "having no class." This same subjective evaluation has also occurred in the candidates' "policy proposals" and "election campaigns."

### *Statistical Method*

First, the  $X^2$  test will be used to examine the representation of the samples, then the distribution of each variable will be described by frequency distribution, and finally a multi-variable analysis will be made through logistic regression to examine voting decisions.

## **Results of Analysis**

### *Examination of the Representation of Samples*

Table 1 is a structural comparison between the samples and the population. Among the population data, the number of voters in various cities and counties and the number of votes for each party were based on the statistics published by the Central Election Commission, while the data on the gender and age was based on the statistics carried in no. 56 of *Taiwansheng tongji nianbao* (Statistical yearbook of Taiwan province). There is no comparison of educational background, family income, and ethnic identification because information on these items is incomplete.

The expected value of the population structure is found by looking at the percentage distribution of each category of each item in question, while the  $X^2$  value is obtained by the following formula:

$$X^2 = \sum \frac{(fo - fe)^2}{fe}$$

where "fo" is the observation value while "fe" is the expected value. After the  $X^2$  value is worked out, the next step is to find out the significance level of the value by checking the chi-square distribution table in accordance with the degree of freedom.<sup>31</sup>

From table 1, we find that the sample and the population do not have apparent structural difference in such areas as gender, the number of voters in the electoral district, and the number of votes obtained by each party, but

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<sup>31</sup>The degree of freedom (df) =  $(n_1 - 1)(n_2 - 1)$ ;  $n_1$  and  $n_2$  are the categorical value of the first and second variables, respectively.



**Table 1**  
**A Structural Comparison between Samples and Population**

		Sample Structure		Population Structure		
		N	%	N	%	Exp. Value
Gender	Male	550	51.4	6,036,036	51.6	552
	Female	519	48.6	5,656,071	48.4	517
Chi-square test: $X^2 = 0.015 < 3.841$ $df = 1$ $p > 0.05$						
Age	20-29	238	22.3	3,006,714	25.7	275
	30-39	318	29.7	3,080,909	26.4	282
	40-49	253	23.7	2,319,982	19.8	212
	50-59	104	9.7	1,330,623	11.4	122
	over 60	156	14.6	1,953,879	16.7	178
Chi-square test: $X^2 = 22.878 > 9.488$ $df = 4$ $p < 0.05$						
Electoral District	Taipei County	198	18.5	2,242,060	19.0	203
	Ilan County	32	3.0	317,194	2.7	29
	Taoyuan County	85	8.0	1,035,387	8.8	94
	Hsinchu County	28	2.6	277,708	2.4	26
	Miaoli County	39	3.6	378,882	3.2	34
	Taichung County	77	7.2	927,612	7.9	84
	Changhua County	77	7.2	858,446	7.3	78
	Nantou County	37	3.5	373,740	3.2	34
	Yunlin County	49	4.6	524,212	4.5	48
	Chiayi County	39	3.6	401,532	3.4	36
	Tainan County	71	6.6	756,073	6.4	68
	Kaohsiung County	61	5.7	832,635	7.1	76
	Pingtung County	59	5.5	629,530	5.3	57
	Taitung County	16	1.5	176,329	1.5	16
	Hualien County	23	2.2	246,943	2.1	22
	Penghu County	7	0.7	63,619	0.5	5
	Keelung City	26	2.4	259,795	2.2	24
	Hsinchu City	22	2.1	232,607	2.0	21
	Taichung City	58	5.4	581,859	4.9	52
Chiayi City	18	1.7	176,181	1.5	16	
Tainan City	47	4.4	479,977	4.1	44	
Chi-square test: $X^2 = 8.686 < 31.410$ $df = 20$ $p > 0.05$						
Votes	KMT	423	39.6	3,214,243	42.0	449
	DPP	477	44.6	3,322,087	43.5	465
	Others	169	15.8	1,105,632	14.5	155
Chi-square test: $X^2 = 2.822 < 5.991$ $df = 2$ $p > 0.05$						

**Note:** The number of voters in each county/city and the number of votes for each party are based on the figures released by the Central Election Commission, while the numbers for gender and age are calculated according to the data contained in *Taiwansheng tongji nianbao* (Statistical yearbook of Taiwan province), no. 56.

do differ significantly in age structure. As we can see, a high proportion of samples collected for this research are between thirty and forty-nine years old, while those between twenty and twenty-nine and over fifty are smaller in number. This is partly because one-third of the samples did not provide enough information needed or did not make known their voting decisions and therefore were deleted from the analysis, and partly because most of the people aged between twenty and twenty-nine were either in the school, the army, or the office but not at home when the telephone survey was conducted, while those aged above sixty usually do not answer the phone as long as there are younger people at home. The same situation was found in many other relevant surveys. Therefore, generally speaking, the samples we used were representative.

### *The Frequency Distribution of the Variables*

In this paper, a total of eleven variables have been used for analysis. Among them, gender and age have been examined in table 1. The frequency distribution of the remaining nine variables are shown in tables 2 to 10. In tables 2, 3, 4, and 10, interviewees have been directly asked their opinions about candidates' image, the frequency of candidates' election campaigns, the extent that candidates' policy proposals have been accepted, and the candidates they finally voted for. In these tables, the candidates that had been voted for are indicated by party affiliation (KMT or DPP) or as "other." Although the questionnaires designed for different electoral districts are not exactly the same, they are quite similar. For the questionnaire used for Taipei County voters, see appendix.

**Table 2**  
**Which Candidate Has the Best Image?**

	Number	Percent
KMT candidate	327	30.6
DPP candidate	464	43.4
Other candidate	195	18.2
Don't know/no opinion/decline to answer	83	7.8
Total	1,069	100.0

**Table 3**  
**Which Candidate Has Most Frequently Conducted Election Activities?**

	Number	Percent
KMT candidate	608	56.9
DPP candidate	302	28.3
Other candidate	52	4.8
Don't know/no opinion/decline to answer	107	10.0
Total	1,069	100.0

**Table 4**  
**The Political Proposals of Which Candidate Is Most in Keeping with Your Aspirations?**

	Number	Percent
KMT candidate	298	27.9
DPP candidate	432	40.4
Other candidate	190	17.8
Don't know/no opinion/decline to answer	149	13.9
Total	1,069	100.0

**Table 5**  
**Which Party Do You Support More?**

	Number	Percent
KMT	256	23.9
DPP	230	21.5
Other parties	39	3.6
No particular party/no opinion/no answer	544	50.9
Total	1,069	100.0

**Table 6**  
**Do You Prefer China's Unification or Taiwan Independence?**

	Number	Percent
Unification	174	16.3
Maintaining the status quo	530	49.5
Taiwan independence	203	19.0
No opinion/don't know/decline to answer	162	15.2
Total	1,069	100.0

**Table 7**  
**What Is Your Level of Education?**

	Number	Percent
Primary school or below	203	19.0
Junior high school	200	18.7
Senior high school	370	34.6
Junior college	166	15.5
College and above	130	12.2
Total	1,069	100.0

**Table 8**  
**Where Is Your Place of Origin?**

	Number	Percent
Fulao	882	82.5
Hakka	92	8.6
Mainlanders	95	8.9
Total	1,069	100.0

**Table 9**  
**How Much Is the Annual Income of Your Family?**

	Number	Percent
Below NT\$500,000	442	41.4
NT\$500,000-1,000,000	447	41.8
Over NT\$1,000,000	180	16.8
Total	1,069	100.0

**Table 10**  
**For Which Candidate Did You Vote?**

	Number	Percent
KMT candidate	423	39.6
DPP candidate	477	44.6
Other candidate	169	15.8
Total	1,069	100.0

*Factors on Voting Decisions: Logistic Regression*

In logistic regression, the dependent variable is a binary variable, whose value is either 1 or 0, representing respectively whether an event will occur or not. A logistic regression is used to construct a logistic function by a set of independent variables to predict the probability that an event will happen. For example, we can say that the event happens when a voter votes for the KMT, and the event does not happen when the voter does not vote for the KMT. And when we construct a logistic function of "voting for the KMT or not" according to some characteristics (i.e., a set of dependent variables) of our samples, we can use the function to predict the probability of some voters voting for the KMT. The logistic function can be expressed by the following formula:

$$\text{Prob}(E) = \frac{e^z}{1 + e^z}$$

where  $e$  is the base of the natural logarithms (approximately 2.71828) and  $z (= B_0 + B_1X_1 + B_2X_2 + \dots + B_pX_p)$  is a linear combination of a set of independent variables. Since it is easier for us to analyze by odds, and the total probability of winning (occurring) and losing (not occurring) is always 1, therefore

$$\text{Prob}(\bar{E}) = 1 - \frac{e^z}{1 + e^z} = \frac{1}{1 + e^z}, \text{ so}$$

$$\text{Odds} = \frac{\text{Prob}(E)}{\text{Prob}(\bar{E})} = \frac{e^z/1 + e^z}{1/1 + e^z} = e^z$$

If we apply natural log transformations to both ends of the above equation, we will have

$$\log(\text{odds}) = Z = B_0 + B_1X_1 + B_2X_2 + \dots + B_pX_p$$

In practice, logistic regression aims at the exponent of odds, using a set of independent variables to construct a linear equation. This kind of equation is constructed by using Interactively Reweighted Least Squares Algorithm

(IRLS). First, under the condition of no predictive variable, we make the constant fixed, and calculate the log likelihood ( $-2 \log$  likelihood). Second, we construct the regression equation based on indicated independent variables, and calculate the log likelihood after the model (i.e., equation) is constructed. And then we find the model chi-square value by subtracting these two log likelihoods, where the model chi-square value represents the whole validity of this set of independent variables. At the same time, the coefficient of each independent variable in the equation represents the increasing quantity of log (odds) when each independent variable increases by one unit. When we transform the coefficient into original odds, the results will show how many times the final odds will increase when the independent variable increases by one unit.

In addition, the independent variables used in logistic regression are always continuous variables. Since social scientists often analyze categorical variables, we should use the indicator-variables to deal with the problem, namely assigning a reference category among the original categorical variables, and recoding each category into a variable (N categories will be arranged into N variables). There are usually two ways to choose a reference category. One is by assigning a category to be the reference category and comparing each category with this reference category. The other is by using the average validity of all categories as the reference category, and compare each category with "the whole." In this article we adopt the latter method. In the following section we will construct equations by the way of forward stepwise regression from both a social-psychological aspect and a social structure aspect respectively, so as to analyze the main determining factors of "voting for the KMT," "voting for the DPP," and "voting for the others."

In regard to the social-psychological aspect, table 11 lists the logistic regression analysis results related to the three dependent variables "voting for the KMT," "voting for the DPP," and "voting for the others," by using forward stepwise analysis based on five social-psychological factors: candidate, campaign, policies, party identification, and unification/independence position.

The " $-2 \log$  likelihood" in table 11 is calculated after the model is constructed. As far as the model of voting for the KMT candidates is con-

**Table 11**  
**Voting Decisions: Social-Psychological Aspect (Logistic Regression)**

	Log (Vote/Not Vote for KMT Candidate)			Log (Vote/Not Vote for DPP Candidate)			Log (Vote/Not Vote for Others)					
	(B)	(Sig)	(R)	exp(B)	(B)	(Sig)	(R)	exp(B)	(B)	(Sig)	(R)	exp(B)
<b>(Which candidate has the best image?)</b>												
KMT candidate	2.0108	0.0000	0.2376	7.4694	-1.1501	0.0000	-0.1181	0.3166	-1.4766	0.0005	-0.1035	0.2284
DPP candidate	-1.3273	0.0000	-0.1607	0.2652	2.0611	0.0000	0.2657	7.8550	-0.9299	0.0151	-0.0647	0.3946
Others	-1.3086	0.0001	-0.1163	0.2702	-0.9585	0.0020	-0.0718	0.3855	2.8715	0.0000	0.2821	17.6629
<b>(Which candidate has most frequently conducted election campaigns?)</b>												
KMT candidate	0.6405	0.0059	0.0624	1.8974	-0.1386	0.5828	0.0000	0.8705	-0.5739	0.0671	-0.0381	0.5633
DPP candidate	0.1101	0.6689	0.0000	1.1164	0.7778	0.0052	0.0629	2.1667	-1.0222	0.0062	-0.0767	0.3598
Others	-0.4701	0.3529	0.0000	0.6249	-1.3299	0.0219	-0.0471	0.2645	1.6955	0.0027	0.0866	5.4493
<b>(Whose policy issues are most agreeable to you?)</b>												
KMT candidate	2.1571	0.0000	0.2479	8.6460	-1.1802	0.0000	-0.1190	0.3072	-1.6332	0.0006	-0.1031	0.1953
DPP candidate	-1.6272	0.0000	-0.1796	0.1965	2.3788	0.0000	0.2860	10.7921	-1.3985	0.0010	-0.0968	0.2470
Others	-1.2080	0.0002	-0.1033	0.2988	-0.9752	0.0015	-0.0742	0.3771	2.5826	0.0000	0.2661	13.2319
<b>(Which party do you support more?)</b>												
KMT	0.7668	0.0025	0.0707	2.1529	-0.9908	0.0015	-0.0743	0.3713	-	-	-	-
DPP	-1.4651	0.0000	-0.1205	0.2310	1.4618	0.0000	0.1252	4.3138	-	-	-	-
Others	0.5905	0.1756	0.0000	1.8049	-0.6695	0.2137	0.0000	0.5119	-	-	-	-
<b>(Unification/Independence Position)</b>												
Unification	-	-	-	-	-	-	-	-	-	-	-	-
Maintaining the status quo	-	-	-	-	-	-	-	-	-	-	-	-
Independence	-	-	-	-	-	-	-	-	-	-	-	-
Constant Term	-0.6643	0.0051	-	-	-1.5258	0.0000	-	-	-2.3826	0.0000	-	-
-2 Log Likelihood	498.556	(df = 1056, p = 1.0000)	-	-	464.331	(df = 1056, p = 1.0000)	-	-	236.238	(df = 1059, p = 1.0000)	-	-
Model Chi-Square	936.530	(df = 12, p = 0.0000)	-	-	1005.223	(df = 12, p = 0.0000)	-	-	696.982	(df = 9, p = 0.0000)	-	-
% Improvement	65.26%	-	-	-	68.40%	-	-	-	74.69%	-	-	-
Number of Cases	1,069	-	-	-	1,069	-	-	-	1,069	-	-	-
% Correctly Predicted	92.42%	-	-	-	92.61%	-	-	-	96.35%	-	-	-



cerned, the  $-2 \log$  likelihood" is 498.556,  $p = 1.0000$ . This is an indication that this model is not significantly different from a "perfect" model—the model has a rather high explanatory power. In table 11, the model chi-square is obtained by subtracting the log likelihoods calculated before and after the model is constructed. As far as the model of "voting for the KMT candidates" is concerned, when we make the constant fixed, the log likelihood is 1435.086 before the model is constructed, and the likelihood is 498.556 after the model is constructed. After subtracting these two log likelihoods, the model chi-square value is 936.530 and  $p = 0.0000$ . This is an indication that the variables in the model as a whole have a very high validity. When we divide the model chi-square value with the log likelihood calculated before the construction of the model, we can find the percentage of improvement from which the explanatory power of the variables has on the dependent variables. When the data about interviewees are numerated and applied to the formula, we can predict the probability of interviewees' voting for the KMT. A probability value  $> 0.5$  is considered as voting for the KMT. On the contrary, a probability value  $< 0.5$  is considered as not voting for the KMT. If compared with the practical voting results, 92.42 percent of our predictions have proven to be correct. The same model has proven to be effective in predicting the probability of voting for the DPP and other candidates.

As is seen in table 11, "unification/independence position" has not been applied to the formula in the three models because it does not have much influence on the three dependent variables after a gradual stepwise regression analysis is employed. The variable of "party identification" does not have much influence on the dependent variable of "voting for other candidates" either, although it has remarkable influence on the other two dependent variables. For voters who identify themselves with the KMT, the odds that they will vote for KMT candidates are 2.1529 times that of ordinary voters, and the odds of voting for DPP candidates are only 0.3713 times that of ordinary voters. For voters who identify themselves with the DPP, the odds that they will vote for DPP candidates are 4.3138 times that of ordinary voters, and the odds of voting for KMT candidates are only 0.2310 times that of ordinary voters. The variable of election campaigns has been applied to the formula of the three models. However,

in some groups, its regression coefficient (B value) has not reached a significant level. In the two models of "voting for KMT candidates" and "voting for DPP candidates," the B value of the election campaigns is respectively 0.6405 and 0.7778, smaller than that of the variable of party identification which is 0.7668 and 1.4618, respectively. Therefore, the variable of party identification has a greater influence than election campaigns. The data on the two variables of "candidate orientation" and "issue orientation" have been applied to the formula, and the B value of these two has reached a very significant level in all groups. This is an indication that they are the most important factors affecting voting decisions. Comparatively, issue orientation has an even greater influence than candidate orientation. For voters who favor the KMT candidates' policy issues, the odds that they will vote for the KMT candidates are 8.6460 times that of ordinary voters, and for those who think the KMT candidates have the best image, their odds of voting for KMT candidates are 7.4694 times that of ordinary voters. Similarly, for voters who prefer the policy issues of DPP candidates, their odds of voting for DPP candidates are 10.7921 times that of ordinary voters, and for those who think the DPP candidates have the best image, their odds of voting for DPP candidates are 7.8550 times that of ordinary voters.

The above B values (and related odds) show the net influence that the variables have on the dependent variables. Being obtained after a mutual control of all variables, these values therefore can be used to compare the importance of all these variables. However, since the real meaning of the B value (and related odds) is not easily understood by people with limited knowledge about statistics, we use the logistic regression analysis of the dependent variables based on each independent variable to examine the probabilities that different groups of people will vote for KMT, DPP, and other candidates. The results are shown in table 12.

From table 12, we can see that the probability that voters favoring the policy issues of KMT candidates will vote for the KMT candidates is 0.9161 (the probability of voting for DPP candidates is 0.0705, and that of voting for other candidates, 0.0134); the probability that voters appreciating the image of KMT candidates will vote for KMT candidates is 0.9052; the probability that voters identifying with the KMT will vote for KMT

**Table 12**  
**A Prediction of Voting Probability of All Groups of Voters Through Single Explanatory Variables**

	Vote for the KMT Candidate		Vote for the DPP Candidate		Vote for Others	
	exp(B)	Prob.	exp(B)	Prob.	exp(B)	Prob.
(Which candidate has the best image?)						
KMT candidate (327)	9.5487	0.9052	0.0864	0.0795	0.0155	0.0153
DPP candidate (464)	0.1074	0.0970	7.7547	0.8858	0.0175	0.0172
Others (195)	0.1404	0.1231	0.1080	0.0975	3.5346	0.7795
No comment (83)	2.3201	0.6988	0.3387	0.2530	0.0506	0.0482
(Which candidate has most frequently conducted election campaigns?)						
KMT candidate (608)	0.6889	0.4079	0.7935	0.4424	0.1760	0.1497
DPP candidate (302)	0.4732	0.3212	1.1884	0.5430	0.1571	0.1385
Others (52)	0.3000	0.2308	0.2381	0.1923	1.3637	0.5769
No comment (107)	1.6100	0.6169	0.4657	0.3177	0.0700	0.0654
(Whose policy issues are most agreeable to you?)						
KMT candidate (298)	10.9200	0.9161	0.0758	0.0705	0.0136	0.0134
DPP candidate (432)	0.0720	0.0672	11.7048	0.9213	0.0117	0.0116
Others (190)	0.1446	0.1263	0.0920	0.0842	3.7498	0.7895
No comment (149)	1.8655	0.6510	0.3918	0.2815	0.0719	0.0671
(Which party do you support more?)						
KMT (256)	3.0000	0.7500	0.1327	0.1172	0.1532	0.1328
DPP (230)	0.0849	0.0783	4.0000	0.8000	0.1386	0.1217
Others (39)	0.4445	0.3077	0.2581	0.2052	0.9500	0.4872
No comment (544)	0.5860	0.3695	0.8823	0.4687	0.1930	0.1618

Note: Prob. =  $\frac{\text{exp(B)}}{1 + \text{exp(B)}}$

candidates is 0.7500; and the probability that voters who think KMT candidates have most frequently conducted election campaigns will vote for the KMT is 0.4079. Obviously, among the four variables, issue orientation has the greater influence on voting decisions, followed by candidate orientation, party identification, and election campaigns. The same conclusion can also be reached in the models of voting behavior regarding DPP and other candidates (see table 12). This result is largely identical with the results of the logistic regression (and odds) analysis mentioned above.

Although the importance of each factor affecting voting decisions is

different, these factors are mutually related and their influence is highly overlapping. Take, for instance, the case of voting for KMT candidates. In the process of forward stepwise regression, the policy issue orientation is first applied to the formula, with the model chi-square value at 713.765 and a correct predictive ratio of 87.84 percent. Based on that formula, we find that the probability value that voters favoring the policy issues of KMT candidates will vote for the KMT candidates is 0.9161. If the candidate orientation is also applied, the model chi-square value is increased to 896.422, the correct predictive ratio increased to 91.11 percent, and the probability value of voting for the KMT candidates increased to 0.9814. When the party identification is added, the model chi-square value is increased to 927.500, the correct predictive ratio to 92.33 percent, and the probability value of voting for KMT candidates to 0.9898. Finally, when the election campaign is also applied, the model chi-square value is increased to 936.530, the correct predictive ratio to 92.42 percent, and the probability value of voting for KMT candidates to 0.9927. The same measurement models are also applicable to the prediction of voting for candidates of the DPP and other candidates. For example, when policy issue orientation is applied to the formula, the probability value of voting for the DPP candidates is 0.9213; when the candidate orientation is added, the probability value is 0.9688; when party orientation is also included, the probability value is 0.9870; and finally when election campaign information is also applied, the probability value is increased to 0.9943. To save space, the probability value of voting for other candidates will not be described here.

The above survey results indicate that each of the four variables of "policy issue orientation," "candidate orientation," "party identification," and "election campaign" has significant effect on the three dependent variables and the four variables are mutually related and their influence on the voting decisions is overlapping. Voters in Taiwan can largely be classified into three groups that support the KMT, the DPP, and "others," respectively. Usually, a group votes for the candidates of the party with which they identify. In addition to these three groups of voters, there are people who have placed top priority on candidates' policy issues and then their image, with little attention paid to party identification. Although this last group of

voters may not be able to display their influence on the voting result when a landslide victory is assured for a certain party, their influence can be felt when there is a close race between candidates. From the above analysis, we can see that voting orientations in Taiwan are highly overlapping; voters cast their vote after having taken into consideration many factors. Therefore, the research approach of examining voting orientations from the questionnaires composed of single-answer questions may not be able to faithfully reflect actual voting behavior. The research method used in this paper is therefore quite useful.

What is noteworthy in table 12 is that among the interviewees who have not indicated which party they would vote for (including "don't know," no opinion, and decline to answer), the number that voted for DPP candidates is higher than those who voted for KMT candidates. However, two-thirds of those who have not indicated their opinion about candidates' image, election campaigns, and policy proposals have tended to vote for KMT candidates. According to Chen Ming-tung, about 20 percent of the voters are usually canvassed to vote by local ballot brokers although these voters have little knowledge about politics, have no special interest in any political party, do not identify themselves with any political party, do not attend campaign rallies, and do not concern themselves with the process and results of the election.<sup>32</sup> These voters are defined by Chen as "factional voters." From table 12, we find that 50.89 percent of the interviewees did not indicate any party identification. Among these voters, not a few are those who care more about candidates' image and competence than the party they belong to, although there may also be some who have no knowledge about and no interest in politics. It is interesting to note that, as is shown in table 12, only less than 15 percent (instead of 20 percent as Chen Ming-tung has noted) of the interviewees did not indicate their opinion regarding candidate image, election campaigns, and policy proposals. These people may be called the factional voters as defined by Chen Ming-tung. The number of this kind of voters is declining.

Regarding social structure, table 13 lists logistic regression analysis

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<sup>32</sup>Chen, "Looking for Factional Voters," 6.

results related to the three dependent variables of "voting for KMT candidates," "voting for DPP candidates," and "voting for other candidates," by using forward stepwise analysis based on five social structural factors: gender, age, educational background, family income, and ethnic identification.

From table 13, we find that among the five social structural factors, only age and ethnic identification have an impact on voting decisions. As far as ethnic identification is concerned, the Fulao and Hakka tend to vote for DPP candidates while the mainlanders tend to vote for KMT and other candidates. As far as age is concerned, younger voters tend to vote for DPP and other candidates while older ones prefer KMT candidates. Here, "age" is a continuous variable. Although its regression coefficient is not large, "age" has a great impact on voting decisions. Taking the Fulao, for example, we see that among twenty-year-olds, the probability value of voting for KMT candidates is 0.2449, while the value is 0.4460 among those aged fifty, and 0.6665 among those at eighty.

Although "age" and "ethnic identification" have impacts on voting decisions (as is shown in table 13), the model chi-square of the logistic regression analysis model based on these two variables is very small, as is the rate of improvement of the log likelihood. If this model is used to predict voting decisions, the ratio for a correct prediction is only 60 percent (theoretically, there is a 50 percent chance of making a correct prediction without using prediction variables). This shows once again that social science research approaches are susceptible to criticism.

Social structural factors and social-psychological factors belong to two different realms, and models formed respectively incorporating these groups of factors are based on different suppositions and logic. Therefore, the two models should not be mixed up. However, if we, purely from the statistical point of view, put all the factors in these two models into one statistical system for analysis, we find that among all the social structural factors only "ethnic identification" is suitable for use in the model of "voting for DPP candidates." When this variable is applied to the formula, we see only a slight increase in the model chi-square value and the improvement ratio, and the predictive power is also limited. These are indications that the social structural model has weaknesses. Generally speaking, the sociological approach can be used only to describe the voting behavior of

**Table 13**  
**Voting Decisions: Social Structure Aspect (Logistic Regression)**

	Log (Vote/Not Vote for KMT Candidate)			Log (Vote/Not Vote for DPP Candidate)			Log (Vote/Not Vote for Others)					
	(B)	(Sig)	(R)	exp(B)	(B)	(Sig)	(R)	exp(B)	(B)	(Sig)	(R)	exp(B)
Gender												
Male	-	-	-	-	-	-	-	-	-	-	-	-
Age	0.0303	0.0000	0.1708	1.0308	-0.0184	0.0001	-0.0975	0.9818	-0.0236	0.0003	-0.1088	0.9767
Educational Background												
Primary school or below	-	-	-	-	-	-	-	-	-	-	-	-
Junior high	-	-	-	-	-	-	-	-	-	-	-	-
Senior high	-	-	-	-	-	-	-	-	-	-	-	-
College	-	-	-	-	-	-	-	-	-	-	-	-
Ethnicity												
Fulao	-0.1924	0.0940	-0.0237	0.8250	0.5416	0.0000	0.1040	1.7188	-0.4033	0.0029	-0.0859	0.6681
Hakka	-0.4622	0.0063	-0.0617	0.6299	0.5210	0.0025	0.0698	1.6837	0.0596	0.7582	0.0000	1.0614
(Mainlanders)	(0.6526)		(1.9224)	(-1.0626)			(0.3456)		(0.3437)			(1.4102)
Annual Family Income												
Constant Term	-1.5394	0.0000	-	-	0.1013	0.6501	-	-	-0.4653	0.1004	-	-
-2 Log Likelihood	1368.485	(df= 1065, p = 1.0000)			1410.829	(df= 1065, p = 1.0000)			911.717	(df= 1065, p = 0.9998)		
Model Chi-Square	66.601	(df= 3, p = 0.0000)			58.724	(df= 3, p = 0.0000)			21.503	(df= 3, p = 0.0001)		
% Improvement	4.64%				4.00%				2.30%			
Number of Cases	1,069				1,069				1,069			
% Correctly Predicted	64.08%				56.50%				84.19%			

Note: The number of mainlanders is parenthesized because it is not loaded from the computer but calculated by our research staff.



people with different social and economic backgrounds but cannot be used to properly explain voting behavior nor predict election results.

### Conclusions

As an effort to examine factors affecting the voting decisions in Taiwan, this research has reached the following two conclusions. First, among social structural factors, only "age" and "ethnic identification" have an impact on voting decisions. This is identical with the research findings of many other scholars. This conclusion suffices to prove again that although the social structural factors have some impact on voting decisions, they do not have enough explanatory power on voting behavior, nor can they be used alone to predict election results. Second, social-psychological factors should be ranked in the following order of importance on voting behavior: "policy issue orientation," "candidate orientation," "party identification," and "election campaigns." Although this conclusion is largely the same as has been pointed out in other studies, our research findings contain the following noteworthy points:

First, to voters in Taiwan, the concepts of "issue orientation," "candidate orientation," and "party identification" are mutually related and their impacts on voting decisions are also overlapping. This should be attributed to the voting structure in Taiwan. Generally speaking, the KMT and the DPP have each obtained a fixed 20 percent of voter support, and the NP has about 5 percent. Because of different ideological makeup, ethnic identity, and independence/unification positions, voters not only affirm the political views and image of the candidates of the party they support but also negate other parties' candidates and their proposals. Most of these voters have attached almost an equal importance to such concepts as "issue orientation," "candidate orientation," and "party identification."

Second, based on our research, the most important factor affecting voting decisions is issue orientation, followed by candidate orientation, and party identification. Since the 45 percent of partisan voters have placed almost an equal emphasis on these factors, it is the existence of the nonpartisan voters that has resulted in this survey result. In Taiwan, nonpartisan

voters constitute about 40 percent of the voting population. Generally speaking, this group has placed greater attention on the candidates' policy proposals and image.

Third, about 15 percent of the voters were canvassed to vote although they have no interest in politics, know little about the candidates' image and proposals, and have no special party affiliation. The existence of this voting group has perhaps resulted in a phenomenon that is left unexplained by our research model. Nevertheless, when this voting block is included, the order of importance of factors affecting voting decisions remains the same.

Fourth, although also having some impact on voting decisions, "election campaign" is not so important as "issue orientation," "candidate orientation," and "party identification." In fact, "election campaign" has played a role as a linkage (the more frequent the candidates' campaigns, the easier for them to publicize their proposals and build up their image, consequently affecting voters' decisions). For the purpose of simplifying the theoretical model, this factor can be overlooked.



**Appendix**

**Questionnaire of Telephone Interview on the Thirteenth Election of County Magistrates and City Mayors in Taiwan: Taipei County**

Hello. I am an assistant to Professor Chin-ming Ho of National Sun Yat-sen University. Would you mind spending several minutes to answer some questions concerning the thirteenth election of county magistrate? Do you have the right to vote? Is your electoral district in Taipei County? There are six candidates in Taipei County this time. Is it necessary for me to give you their names?

(1) Hsieh Shen-shan (KMT); (2) Chou Chuan; (3) Yang Tai-shun (NP); (4) Lin Chih-chia; (5) Su Chen-chang (DPP); (6) Liao Hsueh-kuang

**Questions:**

1. Which candidate do you think has the best image?
2. Which candidate has most frequently conducted election campaigns?
3. Which candidate's policy proposals are most agreeable to you?
4. Which candidate did you vote for?
5. Which party do you usually support more?  
(1) KMT; (2) DPP; (3) NP; (4) TAIP; (5) other parties; (6) no opinion (don't know, decline to answer . . .)
6. Do you prefer unification of the two sides of the Taiwan Strait or Taiwan independence?  
(1) unification; (2) maintaining the status quo; (3) Taiwan independence; (4) no opinion (don't know, decline to answer . . .)
7. What is your educational background?  
(1) primary school or below; (2) junior high; (3) senior high; (4) junior college; (5) college; (6) graduate school
8. Gender: (1) male; (2) female
9. How old are you?
10. Are you a (1) Fulao, (2) Hakka, (3) mainlander; or (4) aborigine?
11. How much is your annual family income?