

台灣1996年總統選舉之分析*

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《 本文摘要 》

在本文中，作者以多項對數成敗比模型 (multinomial logit model) 來解釋台灣1996年總統選舉中，選民的投票抉擇。

整體而言，在這次選舉中，選民的政黨認同以及他對三位主要候選人的評價等兩項因素，在其決定投票給哪一位候選人時，扮演了重要的角色。當時的政治氣候有利於李登輝總統，較諸其他候選人，他在候選人的評價上，最受選民青睞。此外，認同國民黨者又遠較民進黨與新黨多。而維持台灣的經濟的繁榮以及獲得中間選民的支持，也是李登輝總統獲勝的原因。彭明敏先生以及林洋港先生則獲得較高教育程度者以及認為過去一年國家整體經濟狀況變壞者的支持。在選民的族群認同上，認同自己是台灣人者給彭明敏先生較多的支持。不過，林洋港先生則並未吸引太多認同中國的選民之選票。在「社會福利比較重要還是經濟發展比較重要」的議題上，當選民認為「社會福利」比較重要時，他會較支持彭明敏先生。而在「大幅改革比較重要還是維持現狀比較重要」的議題上，彭明敏先生則獲得主張「大幅改革」者較多的支持。

關鍵詞：選舉；多項對數成敗比模型；總統選舉；台灣；投票行爲。

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《編按》本篇文章為本刊第五卷第一期同作者、同題目之修訂版，由於編輯作業的疏失，致使本篇文章於第五卷第一期時錯刊版本，在此重行刊登，並向作者及本刊讀者致歉。

Campbell and his associates once said (1960 : 19) : “ if we are interested in voting behavior, it is likely that we wish to account for variation in at least two classes of events. We want to predict whether a given individual is going to vote, and which candidate he will vote. ” However, when a voter decides to vote, and he or she has to make a choice among more than two candidates, it will be interesting to find out how he or she makes his or her decision. Since it was a four-way race in the 1996 Presidential Election in Taiwan, I would like to illustrate how voters chose their President by using a multinomial logit model. From my analysis, I will demonstrate that voters' party identification and candidate evaluation were important variables for them to make their vote choices. Voters' educational level, ethnic identity, and issue preferences were also crucial for them to make their decisions. In this election, voters' perceptions on national economy played an important role on their vote choices as well.

Continuity v. Change

It was the first time that the President and the vice President could be elected directly by those eligible citizens rather than indirectly by the National Assembly in the 1996 Presidential election in Taiwan. Voting eligibility was defined broadly : the minimum age was 20, and there were no gender, property or educational requirement. Registration was automatic. The electoral law required that the presidential and vice presidential candidates registered jointly and should be slated as a pair on the ballot. The pair that received the highest number of votes would win the election.

There were four major candidates in the 1996 Presidential election. One was the incumbent President and chairman of Kuomintang, Lee Teng-hui, who was nominated by the ruling party Kuomintang (KMT). The second candidate, Peng Ming-min, was nominated by the second major party, Democratic Progressive Party (DPP), and was a former international law Professor at National Taiwan University. The other two candidates, Lin Yang-kang and Chen Li-an, were nominated through petition. They got necessary signatures to be candidates on national ballot. Lin was a former president of Judicial Yuan and still one of the four KMT vice

chairmen then, and while Chen was the president of Control Yuan then. Chen's candidacy was expected to have a negative impact on Lin Yang-kang's chance of winning since two appealed to the same set of voters. For this reason, Lin had made several attempts to persuade Chen to seek the vice presidency as Lin's running mate.

Since this election was an incumbent President faced three challengers, a voter faced a choice between continuity and change. When a voter wanted change, he or she also had to decide which challenger to support. In this paper, I will include voters' demographic and psychological factors as independent variables to elaborate how voters made their choices in a campaign with more than two candidates. The dependent variable is a voter's choice among three major-party candidates. First of all, I will examine whether a voter's education affected his or her choice. According to McClosky and Bill's (1983) research, they found that education promotes the " social learning " of libertarian ideals (cite from Zaller 1992 : 99) . Therefore, the educated will be more likely to vote against the incumbent candidate. As to social psychological involvements, voters' party identification and candidate evaluation are important to determine their vote (Abramson et al. , 1994 ; Campbell et al. , 1954 ; 1960 ; Jackson, 1975 ; Markus and Converse, 1979 ; Miller and Shanks, 1996 ; Page and Jones, 1979) . I will examine how these variables affect voters' decisions. Ethnic identity is another important variable to explain Taiwanese voting behavior in recent year (Chen 1995) . It might be useful to include this variable in my model. Besides, I also include voters' retrospective evaluations on national economy. Fiorina (1981) distinguished between prospective voting, in which citizens vote for the candidate or party making the best promises for the future, and the retrospective voting, in which citizens vote on the basis of past party performance. According to Fiorina's (1981 : 80) definition, mediated retrospective evaluation is one of retrospective evaluations which includes such items as presidential performance and economic performance. I will only examine how people's perceptions on national economy affected their choice. Two other important issues are also included in my model. One is a respondent's own stance on " social welfare v. economic development " issue. This is a traditional left-to-right ideological spectrum. When a respondent supports social welfare, he or she can be classified as a

liberal. On the other hand, when a respondent prefers economic development, he or she can be classified as a conservative. The other important issue is whether a respondent supports an overwhelming government reform or prefers status quo. It is also a good indicator to explain whether the citizen wanted continuity or change. Therefore, my hypotheses are as follows :

1. When voters got lower formal education, they were more likely to support incumbent candidate.
2. For those partisans, they were more likely to support the nominees of their parties.
3. When voters thought a given candidate was the best among four candidates, they were more likely to vote for that candidate.
4. For those who identified themselves as Taiwanese, they were more likely to support the nominee of the Democratic Progressive Party. When voters identified themselves as Chinese, they were more likely to support other two candidates.
5. When voters felt that the national economy was worse, they were more likely to vote against the incumbent candidate.
6. When voters preferred social welfare, they were more likely to vote against the incumbent candidate.
7. When voters preferred status quo, they were more likely to support the incumbent candidate.

Data and Measurement

In order to understand how people elected their President, the Election Study Center (ESC), a research center at National Chengchi University and one of the leading research institutes in Taiwan, conducted an islandwide in-person interview before the election. The valid sample size for this survey was 1396.

The election and the survey results are listed in Table 1. As Table 1 shows, President Lee got 54 percent of valid votes and won his re-election. Peng got 21.1 percent votes, Lin got almost 15 percent votes, and Chen got near 10 percent votes. Since Chen only got 10 percent votes, I would like to exclude him in my following

analysis. There are other reasons for dropping Chen in my analysis. First of all, other three candidates were supported by three major parties, and they got over 90 percent of valid votes. It sounds reasonable to examine how people made choices among these three major candidates. Secondly, it will be very complicated to explain how people made their choices among four candidates. Thirdly, as our survey result showed (please see Table 1) , there were only 6.8 percent respondents supported Chen, so exclude him will avoid the small sample problem in my following statistical analysis. One problem in this survey data is that some respondents were reluctant to reveal their vote choices. From Table 1, it indicates 1003 out of 1396 (72%) respondents told us their vote choices. We can also find that President Lee's votes were overestimated by 18 percents. Both Peng's and Lin's votes were underestimated. However, my goal for this paper is to explain how people elected their president instead of making a prediction. It still will be helpful to examine which factors affected their choices by using this data.

Table 1. Election Results v. Survey Results

	Lee (KMT)	Peng (DPP)	Lin (NP)	Chen
Actual Results				
Election Result	54.0	21.1	14.9	10.0
Three-Major Candidates	60.0	23.5	16.5	---
Survey Results				
Total Sample ^a	71.9	12.6	8.8	6.8
Three Major Candidates ^b	77.9	13.5	9.4	---

Note : Entries are row percentages.

a. N = 1003. Percentages listed are based on all respondents who reported their vote choice on four candidates.

b. N = 935. Percentages listed are based on all respondents who reported their vote choice on three major candidates.

Education

Concerning the voters' demographic background, I focus on voters' education. According to the educational system in Taiwan, I classify respondents' educational levels into four categories : elementary school (and below) , junior high school, senior high school, and college (and above) .

Psychological Involvement

One important variable of voters' psychological involvement is their party identification. " Party identification^① is an attitudinal variable that measures an individual's sense of attachment of a political reference group " (Abramson 1983 : 71) . It is one of the most important variables in the voting behavior research. Party identification " is a psychological identification, which can persist without legal recognition or evidence of formal membership and even without a consistent record of party support " (Campbell et al. 1960 : 121) . There are " two elements which have been absolutely central to the whole notion of party identification : an extended time horizon and some engagement of partisan feelings with self-identity. These two elements ... imply ... that numerous forms of partisans feelings may be experienced by an individual, and reported upon to investigators, which do not constitute the possession of a party identification as such " (Converse and Pierce 1985 : 144) .

Since there are three major parties in Taiwan, the Election Study Center (ESC) used the following question to measure voter's party identification.

In our society, some support KMT, some support DPP, and some support the NP or other else. How about you ?

In this question, there were some modifications from traditional Michigan style. Since people have negative image on party (Liu, 1994) , and they do not like to identify themselves as a KMT, DPP, nor NP, this question wording might be more proper to apply to the context in Taiwan. When the respondent answered " neither " or " support all of them " , the interviewer would ask him :

Do you think of yourself being closer to the KMT, DPP, the NP, or neither ?

I classify the respondents into four categories : KMT, DPP, NP, and other. I also include independent partisans as partisans.

Another important variable to explain voters' choice is their evaluation toward candidates. Though major parties' nominees drew the attentions of the public and the mass media during the presidential campaigns, the effects of the voters' perception of candidates attracted little attention in the early research of voting behavior. However, empirical studies in 1970s and 1980s began to examine the competence, integrity, and the strength of candidates, and their effects on the people's voting choice (Niemi and Weisberg 1993b : 142-3) . In this paper, candidate evaluation contained voters' comparison among four candidates on five aspects. We asked respondents the following questions :

Among the four candidates, do you think

1. Who is the warmest and the most friendly one ?
2. Who can provide the strong leadership ?
3. Whose moral is the best ?
4. Whom you can trust ?
5. Who really understand what people need ?

We required respondents to make a choice among four candidates in above questions. If they selected a candidate in a question, I give that candidate one point. And then, I compared with three major candidates' scores on these five questions to see which one got the highest score. There are four categories for this variable : KMT's nominee is the best, DPP's nominee is the best, Lin Yang-kang (as NP) is the best, and other. I also use this variable to produce three dummy variables.

There are three major ethnic groups in Taiwan : Taiwanese (74%) , Hakkanese (10%) , and Mainlander (15%) . All of them came from Mainland China but most of Mainlanders followed Chiang Kai-shek to Taiwan in 1949. Therefore, we can use ethnic identity or national identification to classify three

major parties in Taiwan. Generally speaking, the DPP, the majority of its elite and supporters are Taiwanese, promotes Taiwan independence and requires the government to be controlled by Taiwanese. The NP is prone to support reunification with China and most of its elite (or elite's parents) came from Mainland China in 1949. The leader of ruling party (KMT) , President Lee Teng-hui, is a Taiwanese, but many members of KMT came from Mainland China in 1949. On the political ideological spectrum, the DPP stands on the left-hand side, the New Party stands on the right-hand side, and the KMT stands in the middle. For ethnic identity, I use the following question to measure :

In our society, some identify themselves as Taiwanese, some identify themselves as Chinese, and some identify themselves as both Taiwanese and Chinese. Do you identify yourself as Taiwanese, Chinese, or both ?

And I classify our respondents as Taiwanese, both, and Chinese.

Retrospective Evaluation and Issue Stance

There are two different schools to interpret the impact of economic condition on voting behavior. One of them claims that voters will consider their own personal economic situation, then support the incumbent party if they feel that their economic condition are better, or against the incumbent administration if they feel that their economical condition are worse (Markus 1988) . This is so-call “ pocket-book voting. ” The other one, the sociotropic voting, thinks that a voter will evaluate the national economic situation, rather than her or his own, and cast her or his vote to support or blame the incumbent party (Kinder and Kiewiet 1979 ; 1981) . I only include the national economic situation to test if voters cast their “ angry votes ” when they feel the national economic situation is worse. The question we asked was :

Would you say that over the past year the nation's economy has gotten better, stayed about the same, or gotten worse ?

As to respondents' issue preferences. I include two dimensions to examine voters' preferences. One is to measure respondents' stances on "social welfare v. economic development" issue. I apply an eleven-point scale to ask respondents' stances on this scale where "0" means a respondent thinks social welfare is more important and "10" means a respondent thinks economic development is more important. I recode a respondent's stance into three categories. When respondents' stances are on 0 to 3, I recode them as "social welfare", 4 to 7 as "moderate", and 8 to 10 as "economic development". The other question is to measure respondents' stances on "overwhelming reform v. status quo" issue. I recode 0 to 3 as "reform", 4 to 7 as "moderate" and 8 to 10 as "status quo."

A First Look at 1996 Election

In the ESC data, 72% respondents told us their votes in the 1996 Presidential election in Taiwan. First of all, I examine the choices made by voters, broken down by several independent variables: their education, their party identification, their candidate evaluation, their ethnic identity, their evaluation of the change in national economy in the past year, and their stances on two issues.

As Table 2 shows, when voters only completed elementary school (or less), there was more than 90% of them supporting for President Lee Teng-hui. On the other hand, the higher education one had, the less likely he or she voted for President Lee. When respondents got college education, only 56% of them voted for Lee. And a quarter of them voted for Mr. Peng, and near 20% voted for Mr. Lin.

As Chen (1986) points out, candidate evaluation is one of the most important factors to explain voters' choices in Taiwan. Not surprisingly, candidate evaluation also played an important role in this Presidential election. More than 80% voters supported the candidate they believed who was the best among four candidates. Lee got more than 95% of those who thought he was the best candidate.

In Table 2, more than a half of voters were KMT partisans, but only 18% and 7% identified themselves as DPP and NP respectively (N = 935). Party identification had the expected implications for the three major-party candidates: all of them got more than 60% of their own partisans' support, though Peng had a signifi-

cantly higher defection rate than two other candidates. Most Lee's own partisans supported him (96.6%) . Besides, he got votes from one third of DPP partisans and more than four-fifth votes of independent voters. 63% of DPP partisans supported Mr. Peng. Mr. Lin got more than four-fifth votes from NP partisans.

We can also find that ethnic identity affected voters' choices. Lee got over 70% from three different groups, though, Peng got more from people with Taiwanese identity, and Lin got more from people with Chinese identity.

Respondents' economic perception was a factor to explain Taiwanese voting behavior in this election as well. For those who thought the national economy was better, they were more likely to support Lee (90%) . On the other hand, when voters felt that the national economy was worse, their supports for Lee dropped to 69%, and they turned to support two other candidates.

Two other issues were also good indicators for us to explain voters' choices. First one was " social welfare v. economic development " issue. Since the ruling party has close connection with big business and DPP keeps pushing government adopting more social welfare measures, voters are more likely to place KMT on the right-hand side (economic development) and DPP on the left-hand side (social welfare) of this ideological spectrum (Hsieh et al. , 1995 : 81) . From Table 2, we can find that people placing themselves on " social welfare " rather than on the " economic development " were more likely to vote for DPP nominee. KMT nominee got less percentage votes (63%) from those who supported " social welfare " than those who supported " economic development " (82%) . Lin also got higher percentage (17%) votes from those who supported " social welfare " than those who supported " economic development " (8%) . The other issue was " reform v. status quo. " We can interpret it as " change " v. " continuity. " For those who wanted " change " , there were more than a half (52%) of them voting for Peng, the nominee of the second major party in Taiwan. On the other hand, when voters wanted " continuity " , there were more than four-fifth (82%) of them supporting the incumbent President. Lin got slightly higher percentage votes from those moderate voters than two other groups.

Table 2. Percentage that Reported Voting for President, by Education, Ethnic Identity, Party Identification, Candidate Evaluation, and Issue Preference in the 1996 Presidential Election in Taiwan

	Lee-KMT Row % (N)	Peng-DPP Row % (N)	Lin-NP Row % (N)	Marginal % (N)
Total Sample ^a	77.1(721)	13.5(126)	9.4(88)	100.0(935)
Education				
0-6 yr.	91.1(338)	6.5(24)	2.4(9)	39.8(371)
7-9 yr.	81.5(123)	11.3(17)	7.3(11)	16.2(151)
10-12 yr.	69.6(151)	16.1(35)	14.3(31)	23.3(217)
13 yr. and above	55.7(108)	25.3(49)	19.1(37)	20.8(194)
Candidate Evaluation				
Lee Teng-hui(KMT)	95.5(573)	2.8(17)	1.7(10)	64.2(600)
Peng Ming-min(DPP)	14.3(10)	85.7(60)	0.0(0)	7.5(70)
Lin Yang-kang(NP)	10.9(5)	4.3(2)	84.8(39)	4.9(46)
Other	60.7(133)	21.5(47)	17.8(39)	23.4(219)
Party Identification				
KMT	96.6(483)	0.4(2)	3.0(15)	53.5(500)
DPP	33.9(57)	63.1(106)	3.0(5)	18.0(168)
NP	11.9(8)	1.5(1)	86.6(58)	7.2(67)
Other	86.5(173)	8.5(17)	5.0(10)	21.4(200)
Ethnic Identity				
Taiwanese	73.2(260)	23.7(84)	3.1(11)	39.4(355)
Both	78.6(308)	8.4(33)	13.0(51)	43.5(392)
Chinese	79.9(123)	4.5(7)	15.6(24)	17.1(154)
Perception on National Economy				
Better	89.9(89)	8.1(8)	2.0(2)	11.4(99)
The same	87.3(178)	7.4(15)	5.4(11)	23.6(204)
Worse	69.4(391)	17.6(99)	13.0(73)	65.0(563)
Social Welfare v. Economic Development				
Social Welfare	62.5(75)	20.8(25)	16.7(20)	14.1(120)
Moderate	75.8(413)	14.7(80)	9.5(52)	64.1(545)
Economic Development	81.6(151)	10.8(20)	7.6(14)	21.8(185)
Reform v. Status Quo				
Reform	44.8(13)	51.7(15)	3.4(1)	3.3(29)
Moderate	72.0(301)	17.2(72)	10.8(45)	47.8(418)
Status Quo	82.0(351)	8.4(351)	9.6(41)	48.9(428)

Note : a. Total sample size for this survey is 1,396. Number listed are based on all respondents who answered each question listed in column one, as well as reporting their vote choice among the three major candidates.

From Table 2, we have to be aware that we have the problem of micronumerosity. According to Goldberger, “ exact micronumerosity ... arises when N, the sample size, is zero, in which case any kind of estimation is impossible. Near micronumerosity... arises when the number of observations barely exceeds the number of parameters to be estimated ” (cite from Gujarati, 1995 : 326) . We can find that the sample sizes in some cells in Table 2 are less than 10, and one of them is zero. In the following analysis, I will illustrate how this problem affects our estimate.

A Multinomial Logit Model for the 1996 Election

Since there were more than two candidates in 1996 Presidential election in Taiwan, it will be more proper to use multinomial logit model than logit model to analyze my data. The multinomial logit probabilities are given by (Aldrich and Nelson, 1984 : 73 – 74) :

$$P_{ij} \equiv P (Y = j | X_i) = \exp [b_j' X_i] / D_i$$

where

$$D_i = \sum_{j=1}^J [\exp (b_j' X_i)]$$

and $b_j' X_i$ represents $\sum b_{kj} X_{ik}$. There are J sets of estimators in this model and each set contains K coefficients. Now, we have three outcomes : “ 1 ” represents respondents voted for Lee Teng-hui, “ 2 ” represents respondents voted for Peng Ming-min, and “ 3 ” represents respondents voted for Lin Yang-kang. We can write down each probability as follows :

$$P (Y = 1 | X_i) = \frac{\exp (X\beta^{(1)})}{\exp (X\beta^{(1)}) + \exp (X\beta^{(2)}) + \exp (X\beta^{(3)})}$$

$$P (Y = 2 | X_i) = \frac{\exp (X\beta^{(2)})}{\exp (X\beta^{(1)}) + \exp (X\beta^{(2)}) + \exp (X\beta^{(3)})}$$

$$P (Y = 3 | X_i) = \frac{\exp (X\beta^{(3)})}{\exp (X\beta^{(1)}) + \exp (X\beta^{(2)}) + \exp (X\beta^{(3)})}$$

Since there are more than one solution to $\beta^{(1)}$, $\beta^{(2)}$, and $\beta^{(3)}$, the model listed above is unidentified. To identify this model, I set $\beta^{(1)} = 0$. The reason why I set $\beta^{(1)} = 0$ is because this election was continuity v. change. I can examine why citizens voted for

or against Lee instead of Peng or Lin. The model becomes

$$P(Y=1|X_i) = \frac{1}{1 + \exp(X\beta^{(2)}) + \exp(X\beta^{(3)})}$$

$$P(Y=2|X_i) = \frac{\exp(X\beta^{(2)})}{1 + \exp(X\beta^{(2)}) + \exp(X\beta^{(3)})}$$

$$P(Y=3|X_i) = \frac{\exp(X\beta^{(3)})}{1 + \exp(X\beta^{(2)}) + \exp(X\beta^{(3)})}$$

My model can be specified as follow :

$$X\beta = \text{constant} + \beta_1 \cdot \text{EDU} + \beta_2 \cdot \text{EI} + \beta_3 \cdot \text{CKMT} + \beta_4 \cdot \text{CDPP} + \beta_5 \cdot \text{CNP} + \beta_6 \cdot \text{PKMT} \\ + \beta_7 \cdot \text{PDPP} + \beta_8 \cdot \text{PNP} + \beta_9 \cdot \text{NE} + \beta_{10} \cdot \text{SE} + \beta_{11} \cdot \text{RS},$$

where EDU is a dummy variable for respondents with elementary education (or less) ;

EI is a dummy variable for those whose ethnic identity were Taiwanese ;

CKMT is a dummy variable for those who thought Lee was the best candidate ;

CDPP is a dummy variable for those who thought Peng was the best candidate ;

CNP is a dummy variable for those who thought Lin was the best candidate ;

PKMT is a dummy variable for those who were KMT partisans ;

PDPP is a dummy variable for those who were DPP partisans ;

PNP is a dummy variable for those who were NP partisans ;

NE is a dummy variable for those who felt national economy was worse ;

SE is a dummy variable for those who preferred “ Social Welfare ” ;

RS is a dummy variable for those who preferred “ Status Quo ” .

The result of the multinomial logit model is listed in Table 3. From Table 1, we know that 77.9% respondents voted for Lee, 13.5% for Peng, and 9.4% for Lin. Estimating the model in Table 3, it predicts that 79.7 % respondents voted for Lee, 12.2% for Peng, and 8.1% for Lin^②. The overall correct prediction rate for my model is 91.6%. I will discuss these coefficients in Table 3 briefly, and test my hypotheses. Then, I will estimate the probabilities for each candidate across each in-

dependent variable.

Table 3. Multinomial Logit Estimates for a Three-Candidate Model (Lee Coefficients Normalized to Zero)

	Peng Ming-min(DPP) Coefficient(S.E.)	Lin Yang-Kang(NP) Coefficient(S.E.)
Constant	- 1.6843(0.4539)***	- 2.7628(0.6438)
Education		
Elementary	- 0.7471(0.4247) \$	- 1.1616(0.5286) *
Candidate Evaluation		
Lee Teng-hui(KMT)	- 2.0935(0.3881)***	- 1.8642(0.4610)***
Peng Ming-min(DPP)	1.2908(0.4817)**	- 34.2944(762836)
Lin Yang-kang(NP)	- 0.0631(1.0324)	3.7245(0.6898)**
Party Identification		
KMT	- 2.9583(0.8057)***	- 0.1067(0.5144)
DPP	2.0351(0.3927)***	0.1560(0.7353)
NP	- 1.1130(1.3843)	4.2523(0.6569)***
Ethnic Identity		
Taiwanese	0.8437(0.3533) *	- 0.5036(0.5097)
Perception on National Economy		
Worse	0.6367(0.3745) \$	1.3622(0.5018)**
Social Welfare v. Economic Development		
Social Welfare	1.4163(0.4545)**	0.6813(0.5331)
Reform v. Status Quo		
Status Quo	- 0.7006(0.3468) *	- 0.7061(0.4362)

Note : LL = - 224.778 ; % Correct = 91.62 ; Number of observations = 935.

\$ indicates an estimate significant at the p = .10 level ;

* indicates an estimate significant at the p = .05 level ;

* * indicates an estimate significant at the p = .01 level ;

* * * indicates an estimate significant at the p = .001 level.

In Table 3, we can find that the signs for all coefficients meet my theoretical expectation. Most of them are statistical and substantive significance[®]. We can find

those with lower education were more likely to support Lee. Candidate evaluation demonstrates what I anticipated. But, for those who thought Peng was best, the standard error under Lin's column is huge (7628636). It causes this coefficient (- 34.29) statistically insignificant. We can look at Table 2 and find that the sample size for this cell is 0. As Gujarati mentioned (1995 : 327), " our sample lets us down, although the theory says that all the X's are important. " One way to remedy this problem is to increase the number of observations^④. However, the cost is very high. In this case, I use a secondary data analysis, so it is impossible for me to conduct another survey after this election.

Partisanship also demonstrates results as I anticipated. All candidates got more support from their partisans. As to sociotropic voting, for those who felt national economy was worse, they had higher chances to vote for Peng and Lin than those who felt national economy was better. Respondents' issue stances also affected their choices. For those who supported " social welfare ", they were more likely to vote for Peng and Lin. When respondents supported " status quo ", they were less likely to support Lin and Peng.

As Table 3 shows, we can find each coefficient meets my theoretical expectation. However, it is hard to interpret how each independent variable affected the voter's choice. For this purpose, I use the " method of recycled prediction " (Stata 1995, vol. 3 : 13) to calculate how each variable affected the probability of voting three candidates.

In order to make this hypothetical prediction, I vary characteristics of interest across the whole data set and average the predictions. For example, I want to describe the model's prediction by education, and I can set all the people in our data only got elementary school education but hold all their other characteristics constant. Then, I can calculate the probabilities for voting each candidate. By the same token, I change all respondents' education into college, holding all other things constant, and calculate the probabilities for voting each candidate. My model can be specified as follows :

$$X^{\beta} = \text{constant} + \beta_1 * \text{EDU4} + \beta_2 * \text{EI3} + \beta_3 * \text{CKMT} + \beta_4 * \text{CDPP} + \beta_5 * \text{CNP} + \beta_6 * \text{PKMT} + \beta_7 * \text{PDPP} + \beta_8 * \text{PNP} + \beta_9 * \text{NE3} + \beta_{10} * \text{SE3} + \beta_{11} * \text{RS3}$$

where EDU4 is the voter's education. " 1 " indicates " 0 to 6 years " ; " 2 "

indicates “ 7 to 9 years ” ; “ 3 ” indicates “ 10 to 12 years ” ; and “ 4 ” indicates “ 13 years and above ” ;

EI3 is the voter’s ethnic identity. “ 1 ” means “ Taiwanese ” ; “ 2 ” means “ Both ” ; and “ 3 ” means “ Chinese ” ;

CKMT is a dummy variable for those who thought Lee was the best candidate ;

CDPP is a dummy variable for those who thought Peng was the best candidate ;

CNP is a dummy variable for those who thought Lin was the best candidate ;

PKMT is a dummy variable for those who were KMT partisans ;

PDPP is a dummy variable for those who were DPP partisans ;

PNP is a dummy variable for those who were NP partisans ;

NE3 is the voter’s perception on national economy. “ 1 ” means “ Better ” , “ 2 ” means “ The Same ” , and “ 3 ” means “ Worse ” ;

SE3 is the voter’s stance on “ Social Welfare v. Economic Development. ” “ 1 ” means “ Social Welfare ” , “ 2 ” means “ Moderate ” , and “ 3 ” means “ Economic Development ” ;

RS3 is the voter’s stance on “ Reform v. Status Quo. ” “ 1 ” means “ Reform ” , “ 2 ” means “ Moderate ” , and “ 3 ” means “ Status Quo ” ;

Table 4 shows the results. We can find that, for my hypothetical respondents, people with elementary school education, holding all their other characteristics constant, had 5.63% higher probability to vote for Lee than people with college education. On the other hand, if my hypothetical respondents had college education, *ceteris paribus*, they had 3.34% higher probability to vote for Peng, and 2.29% higher to vote for Lin than those with elementary education.

As to respondents’ candidate evaluation and party identification, I find amazing results. Holding all their other characteristics constant, if my hypothetical respondents thought Lee or Lin was the best candidate, the probability for them to vote for Lee and Lin was 86.6% and 72.5% respectively. However, if my hypothetical respondents thought Peng was the best candidate, the probability for these

respondents voting for Peng was 32.4% only, holding all their other characteristics constant. These hypothetical respondents had higher probability to vote for Lee (67.6%). Therefore, it seemed that these hypothetical voters cast their strategic votes on supporting Lee instead of voting their favorite candidate. The similar result we can find on partisanship. Lee got support of his own hypothetical partisans over 90%, 55.2% votes of those hypothetical DPP partisans, and 41% of those hypothetical NP partisans. Peng had significantly high defection rate (60.3%) than Lin (44.7%). However, the respondent's evaluation toward candidates and his or her party identification still played important roles on his or her vote choice. As Table 4 shows, these two factors provide more valid indicators for us to explain the voter's decision than other variables in the 1996 election.

My hypothetical probabilities also demonstrate that respondents' perceptions on national economy affected their choices. If my hypothetical voters felt national economy was better, the probability for them to vote for Lee was 78.9%, for Peng was 13.6%, and Lin 7.5% respectively. When my hypothetical voters felt national economy was worse, the probabilities for them to vote for Lee drop to 69.4%. On the other hand, the probability for them to vote for Peng rose by 3%, and for Lin rose by 6.6%.

Respondents' stances on " social welfare v. economic development " issue also helped me to explain their votes choices. If my hypothetical respondents supported " social welfare ", the probabilities for them to vote for Lee was 64.7%, for Peng was 22.1%, and for Lin was 13.24%. However, when my hypothetical respondents felt " economic development " was more important, the probabilities for them to vote for Lee rose by 11.8%. But the probability for them to vote for Peng dropped by 10.7%. However, this variable seemed to have little effect on Lin. The other issue also affected voters' choices. When my hypothetical respondents felt " reform " was more important, the probability for them to vote for Lee was 62.7%, for Peng was 21.5%, and Lin was 15.8%. On the other hand, when respondents felt that " status quo " was more important, the probability for them to vote for Lee rose by 11.8%. The probability for them to vote for Peng dropped to 13.6%, and for Lin was 11.8%.

Table 4. Probability Estimate for Different Factors in the 1996 Presidential Election in Taiwan.

	Lee-KMT	Peng-DPP	Lin-NP
Education			
Elementary and below	73.67	14.65	11.68
College and above	68.04	17.99	13.97
Candidate Evaluation			
Lee Teng-hui (KMT)	86.60	6.72	6.67
Peng Ming-min (DPP)	67.63	32.37	0.00
Lin Yang-kang (NP)	19.95	7.59	72.45
Party Identification			
KMT	90.31	1.45	8.23
DPP	55.16	39.74	5.09
NP	41.04	3.67	55.29
Ethnic Identity			
Taiwanese	67.75	19.92	12.33
Chinese	75.64	10.62	13.74
Perception on National Economy			
Better	78.91	13.62	7.47
Worse	69.35	16.60	14.05
Social Welfare v. Economic Development			
Social Welfare	64.70	22.06	13.24
Economic Development	76.48	11.41	12.79
Reform v. Status Quo			
Reform	62.73	21.48	15.79
Status Quo	74.55	13.64	11.81

Note : Table entries are the predicted probabilities (in percentage) of a hypothetical individual voting for Lee, Peng, or Lin on different value of the row variable. See the discussion in the text to know how to calculate them.

Conclusion and Discussion

As this paper shows, we can understand how people chose their President in Taiwan by applying multinomial logit model. Actually, most elections^⑤ in Taiwan have more than two candidates. By using proper statistical methods, we can get a more reasonable interpretation on voters' choices in Taiwan.

The 1996 presidential election in Taiwan was the first democratic election for a national leader in 5000 years of Chinese history. During this election, Mainland China initiated three military exercises and four missile tests to try to send a message to people in Taiwan to think twice about Lee. However, it turned out to be boosting support for Lee.

Generally speaking, the political climate favored President Lee. He got higher popularity among four candidates, the distribution of partisans favored him, and only less than 4% respondents favored “reform” instead of “status quo.” Nevertheless, we still can find some “angry votes” from this election. 65% of respondents felt the national economy was worse (please see Table 2), and they were less likely to support Mr. Lee (please see Table 4) .

As to Mr. Peng Ming-min, he attracted those who had higher education, identified themselves as Taiwanese, felt the national economy was worse, preferred “social welfare” , and wanted government adopting overwhelming reform. Though, Mr. Peng got support from his partisans, he also had the highest defection rate among the three candidates. Since DPP support Taiwan independence, I believe some of DPP partisans cast their votes to support Lee, and tried to irritate China.

Mr. Lin only got higher support from NP partisans, and those who thought he was the best candidate. Besides, he got more votes from those who had college education, felt national economy was worse, and preferred “reform” instead of “status quo.” Since NP supports reunification with China, Lin was expected to get more votes from those who identified themselves as Chinese. However, holding all other things constant, he only had 14% probability to get votes from those with Chinese identity.

As we know, the overall educational level of the electorate is increasing, and the educated are less likely to support KMT. Therefore, KMT should find a way to attract the educated. In this election, voters' evaluation toward three major-party candidates played an important role to explain their vote choices. However, it is interesting to observe whether KMT can nominate candidates as charismatic as President Lee Teng-hui in the future presidential elections. On the other hand, if DPP and /or NP also nominate(s) attractive candidates in the future presidential elections, the election results will be closer than this election. Party identification also maintained its critical role in this election, but we know that voters of the "new generation" are less likely to identify themselves as KMT (Liu 1994). Miller and Shanks (1996) demonstrate that generational replacement changes the overall political participation of the American voter. Therefore, it is interesting to observe whether generational replacement will change the overall outlook of the Taiwanese voter in the nearly future.

Notes

- ① There are some controversies about the origin of party identification, the stability of party identification among individuals and electorates, the best way to measure partisan loyalties, the extent to which party identification shapes, or is shaped by, policy preference, the dimensionality of the party identification measure, and the meaning of partisan independence. Please see Abramson 1983; Niemi and Weisberg 1993a : chapter 21.
- ② I did not report this result in Table 3.
- ③ For discussion on statistical and substantive significance, please see Achen 1982.
- ④ For remedying the problem of multicollinearity, please see Gujarati 1995 : 340 – 341, and Kennedy 1992 : 181 – 183.
- ⑤ For example, two Mayoral elections and Gubernatorial election in 1994 had more than two candidates.

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Presidential Voting of 1996 in Taiwan: An Analysis*

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Abstract

In this paper, I use a multinomial logit model to explain how voters decided their votes in the 1996 Presidential election in Taiwan.

Generally, a voter's party identification and evaluation toward three major candidates played important roles on his or her vote choice in this election. The political climate, popularity among the four candidates and the distribution of partisans, favored President Lee Teng-hui. His maintaining economic prosperity and attraction to those middle-of-the-road voters also helped him to win this election. Both Mr. Peng Ming-min and Lin Yang-kang got their support from those with higher education and with the feeling of the national economy being worse. As to voters' ethnic identity, people identifying themselves as Taiwanese inclined to support Mr. Peng. However, Mr. Lin did not gain advantage from those whom with Chinese identity. On the "social welfare v. economic development" issue, respondents with being closer to "social welfare" stances tended to support Mr. Peng. On the "reform v. status quo" issue, Mr. Peng's supporters came from those whose stances being closer to "reform."

Keywords : Election; Multinomial Logit Model; Presidential Election; Taiwan; Voting Behavior.

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