

Why Do Taiwanese Vote?

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Abstract

The gubernatorial election in 1994 was the first popularly governor election in Taiwan history. My intention here is to examine turnout in the gubernatorial and presidential elections and to explain how people decide to vote in single-member district. What my findings suggest is that social networks and candidate evaluations largely mobilize voters. Citizen duty is not as influential as partisanship in structuring people's turnout decision. In the presidential election, however, only candidate evaluations affects turnout. The turnout decision in Taiwan hinges on self-interest and social mobilization instead of political attitudes. These findings, which of course require further investigation, shed some lights on the influence of social networks in Taiwan, and reveal the importance of candidate evaluations in terms of turnout in single-member district election.

Keywords: social networks, partisanship, candidate evaluations, turnout, single-member district

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1. Introduction

Since the 1960s, American political scientists have raised concern with the declining turnout, which ranged between 50 and 60 percent. Seen in comparative perspective, American voters have much lower turnout rate than other nations (Powell, 1986). In Taiwan, as shown in Table 1, the turnout rate is between 60 and 70 percent. The stark contrast may result from different institutions and culture (Powell, 1986); the citizens are not required to register to vote hence they might have higher incentive to turn out. The alternative explanation is that Taiwan did not have national single-member district election before. Legislative elections were the only way the electorate can express their opinion, thus people are likely to vote. My intention here is to examine turnout in the gubernatorial and presidential elections, which were national single-member district elections. The finding would imply why people have different turnout rate under the similar election rule.

Taiwanese party system was not full-blown until the first opposition party came out in 1987. Before then, the ruling party through elections mobilized citizens in order to achieve legitimacy. (Lin, 1998) Liberalization has not manifested itself with regard to the result of polls until then. (Parish and Chang, 1996) The gubernatorial election in 1994 was the first popularly provincial-wide election in Taiwan history¹, using single-majority rule. Up until 1994, the ruling party, Kuo-Ming-Tang (KMT, thereafter) had been dominated Taiwan politics for forty-five years. According to Key's (1949) theory of one-party politics in the southern states, the low turnout rate is expected under the one-party regime. Why is it not the case in Taiwan?

On the other hand, The gubernatorial election was the first time that political parties confronted with each other in a single district. They must coordinate party organizations as well as local factions across the primary districts for the legislative elections. Chu (1998) noted that the KMT and the winning candidate, James Soong, built up a national campaign machine to help him receive more votes than do the elected representatives of the Provincial Assembly. The implication of the findings would be how political parties conduct national campaign in order to win the office.

The plan of this paper is the following. Section 2 discusses the existing literature and

findings based on economic, sociology, and psychology perspectives and highlights the importance of social networks. Section 3 formulates the hypotheses derived from the three perspectives. Section 4 presents data and method. Section 5 reports the result of the logistic regression analysis. Section 6 contains summary and conclusions. The meaning and coding of the independent variables is given in Appendix A, and the T-test of the continuous independent variables Appendix B. The data used here are both from the research projects administered by the Election Study Center at National Cheng-Chi University². There are 1369 cases for the gubernatorial election and 1119 cases for the presidential election³.

2. Existing Literature and Findings

Since voting is the most important act citizens take in a democracy, its explanation has been well documented. There are three lines of approach devoted to the understanding of turnout. The first two subsections are devoted to the review of the three approaches and their findings. In the third subsection, I shall discuss the literature on Taiwanese voter turnout.

2.1 Rationality of Voting

Downs (1957) provocative economic theory of political behavior and parties states that individuals normally would choose to abstain if they cannot see party differential. Because the costs of being informed of political parties are extremely high and the benefits from voting are nearly negligible, citizens have little incentive to acquire necessary information (p. 241). The probability of changing the outcome to yield the expected payoff is so small that people would rather abstain than voting. In other words, it is irrational to vote.

One of Downs' assumptions is that people are uncertain about the action taken by the other people⁴. According to this assumption, there is no probability attached to the expected return from voting. Riker and Ordeshook (1968) advocated a model of rational calculation of voting. They pick up Downs' idea that people would turn out to vote for "living in democracy" and summarize Downs' analysis of costs and benefits of voting as the following formula:

$$R = PB + D - C$$

In this formula, R is the reward, P is the probability that people can receive the benefits (B) by voting, D is civic duty, and C is the costs of voting. When R is positive, individuals would vote for their favorite candidate⁵. Riker and Ordeshook (1968) claim that civic duty is the major motive of turnout, provided that the chance to change the electoral outcome by one's own vote is extremely small (Palfrey and Rosenthal, 1985) and the costs of voting look fairly large (but see Niemi, 1976). Ferejohn and Fiorina (1974) exclude the civic duty term from the model and posit an alternative rational choice model of turnout. They contend that turnout can be modeled as a pure investment decision; it is an expressive action that may save one's most favorite candidate from losing the election. In that sense, they argue that people turn out to vote because of "minimax regret". Aldrich (1976) uses cross-section data and find that the P term has limited impact on turnout. On the other hand, the "calculus of voting" model, which contains PB and C term, is more of a decision-making model.

The literatures above generate consumption & investment modes. The first hypothesis they share is that the closer the race, the higher is the turnout rate (Aldrich, 1993). The second hypothesis is that the larger the party differential, the higher is the turnout rate (Downs, 1957; Wittman, 1975). Each of the two models has its following hypotheses, though. The consumption model maintains that voters with strong political efficacy would turn out to vote (Ashenfelter and Kelly, 1975). From the point of investment model, voting is a low-cost and low-benefit action, therefore citizens turn out to break the tie (Aldrich, 1993; Ordeshook and Zeng, 1997). Matsusaka and Palda (1997) echo Aldrich's (1993) argument and show that the turnout decision is largely subject to minor factors.

Here I choose investment model which states that if a voter has preference over the candidates, she turns out to vote. If she cannot feel party or candidate differential, she chooses to abstain. Although the probability of receiving payoff from the election is not considered here, I presume that the candidate preferences alone can account for turnout. In Taiwan, the ruling party often bids for support from the electorate with the economic growth, particularly the surge of the stock market index. Generally speaking, the candidates readily promise the distribution of budget in favor of the targeted voters.

Therefore, the investment perspective should predict turnout well.

To this point, I have shown the different economic models of turnout that entail distinct as well as common hypotheses. The two models differ on the inclusion of the P variable. Interestingly, those hypotheses have been also generated by sociological/psychological approach. More empirical evidences would be presented after the theory is discussed.

2.2 Determinants of Turnout

For sociological/psychological approach, voting is political behavior directed by political attitudes. Sociological and psychological approaches initially differ on the relative weight of demographic and attitude variables. And still, the distinction remains evident. Therefore, I divide the literature on the determinants of voting into two parts.

2.2.1 Sociological Approach

The sociological approach treats social groups as the central variable in the model. Presumably, the effect of social groups manifests itself in communication between individuals and elites. As an election approaches, individuals would receive information from social groups. It is found that individuals vote along with the social groups they associate with. Berelson, Lazarsfeld, and McPhee (1954: 77) have shown that the group differences in voting exist. They pointed out that: "Any reasonably complete picture of voting must take into account not only how groups in the community vote but also how people perceive groups as voting."

The role of social groups is by all means significant in terms of turnout. The more people expose themselves to media, the more interest people show in the election, and the more actively they participate in a campaign (Lazarsfeld, Berelson, and Gaudet, 1944: 42). Interest in the election correlates with the level of education and gender. Recent researches of racial politics show the low percentage of participation within the residents in the urban communities (Tate, 1991). Cohen and Dawson (1993) point out that neighborhood poverty has negative impact on the probability of talking about politics with family or friends. Shaw, de la Garza and Lee (2000) use three-state Latino turnout data to demonstrate the positive effect of contacting by a Latino group. Rational choice model goes very far to contend that group leaders translate collective benefits from a candidate to group members. Hence, turnout becomes group-specific (Uhlender, 1989).

Social networks, defined as having political discussant (Huckfeldt and Sprague,

1987) and party contact (Huckfeldt and Sprague, 1992), also affect the variation in turnout. It is found that individuals who receive information from activists are likely to vote (Huckfeldt and Sprague, 1987). Although social status intervenes in the causal relationship between social networks and political behavior (Weatherford, 1982:131), social networks on their own enhance the incentive to vote through the homogeneity effect. The key is that having contact with party or discussant would reinforce one's intention to turn out, because people's interactions with others strengthen pre-existing attitudes and contribute to subsequent attitude balance (Cartwright and Harary, 1956).

The electoral study of Japanese voters confirms the influence of social networks. Flanagan (1991) locates canvasser, mobilized, and non-mobilized among the Japanese voters, and he finds that the manner of information flow is horizontal instead of vertical. In Japan, according to Flanagan, social networks are actually blending traditional culture and ethnics in work places, families, and communities. Voting is one of political activities people are doing collectively. Social networks effectively mobilize the voters who have low interest in politics. Richardson (1991) also found the influence of social networks significant, but he suggested that pre-existing attitude is responsible for turnout.

To summarize, social groups as well as social networks reinforce people's incentive to express their opinion. Neighbors, family members, colleagues, and even party members may penetrate people's social networks and mobilize them. The more discussion or contact individuals have, the more likely they are to turn out to vote.

2.2.2 Psychological Approach

As rational choice model and sociological approach argue, the motivations of voting stem from either self-interest or group-interest. People turn out to vote for some feedback from the act of voting it. Verba and Nie (1972) oppose this theory and argue that the citizens who want to influence government would turn out to vote. If they are alienated with the political system at large, they would rather abstain. The major task is to identify people's attitude relevant to participation and to measure its intensity.

The assumption of psychological approach is by no means in conflict with those made by the rational choice model and the sociological approach. For instance, the demographic variables have been incorporated in political psychological model. The proponents of psychological approach, however, intend to highlight political attitudes, instead of individuals' utility and social groups. Even though people have limited information (Miller and

Stokes, 1963), they would go out to vote because of political efficacy and attachment to political parties.

Political efficacy, political interest, and party attachment are crucial factors of voting. Michigan scholars using nation-wide cross-section data, showed that people with partisanship and interest in the election are likely to vote (Campbell, Gurin, and Miller, 1954). The positive relationship between the intensity of partisan preference, political efficacy, civic duty, and voting is evident (Campbell, Converse, Miller, and Stokes, 1960). To account for the variations in overall political participation, Verba and Nie (1972) devised a social-economic-status (SES) model in which civic orientation responds to socioeconomic status and correlate with political participation. They concluded that voting is more effective than citizen-initiated contact in terms of the means to control government but it requires strong party differential.

Later researches of this kind returned mixed results, however. The decreasing political efficacy and party identification bear upon the declining turnout (Shaffer, 1981; Casel and Hill, 1981; Abramson and Aldrich, 1982). Ashenfelter and Kelly (1975), however, found that the strength of partisanship has little to do with the probability of voting, and only people with strong sense of efficacy are likely to vote. Miller (1992), doing generation analysis, concludes that change in the level of citizen obligation cannot explain the difference of participation in different generations.

Beyond political attitudes, the psychological approach proposes that civic skills are relevant to political participation in that they reduce the difficulties of voting. Wolfinger and Rosenstone (1980) adopted Downs' economic theory of voting and contended that the likelihood of voting is a function of motivation and "the costs associated with doing so6." (p.8) People of different education, income, age, and gender have different costs. The impact of those demographic variables is significant, but not linear. Upper-class people, for example, do not necessary turn out; the marginal effect of increase in income diminishes. The difference in social economic status has been responsible for turnout (Reiter, 1979; Teixeira, 1987). Time, money, and civic skills are as important as the socioeconomic variables, such as income, education, and occupation. Civic skills, time, and money serve as links between socioeconomic variables and political participation (Brady, Verba, and Schlozman, 1995).

To this point, the fundamental theories have come up with some hypotheses. The

temporary conclusion comes down here is that individual participation is influenced by a handful of variables. We can build our model based on those theories with the consideration of the context of Taiwan.

2.3 Taiwanese Voting Behavior

The existing literature suggests that voting is driven by social mobilization rather than political attitudes. In Taiwan, however, social networks are presumed to play a big role in structuring people's turnout decisions. Traditional culture and family relationship strongly link individuals with each other, particularly in rural areas. Moreover, Taiwan uses multi-member district and single-non-transferable-vote system in legislative elections, which encourages candidate's personal connection with the electorate instead of the development of party labels. Multi-candidate competition entails the consideration of candidates beyond party identification (Chu, 1993). The development of party organizations has no diminishing effect on traditional social network. Local factions are allowed to run monopoly business, repaying their followings. (Chen and Chu, 1992) Therefore, local factions acquired the ability to run elections; they mobilize voters through various personalized rewards and communication channels (Hawang, 1990).

Since the turnout rate is rather high in Taiwan, aggregate-level analysis is not less frequently utilized than individual-level analysis. Hsieh (1995) controlled for the level of party competition and concluded that candidate recognition and party preference are influential in different types of districts. Chang (1997) using 1993 county magistrates and city mayors election data and rational choice framework predicted turnout with success. The independent variables, group pressure, sophistication, and media exposure, are all significant predictors. The results confirm the hypothesis of rational choice approach. As for individual-level data, Appleton (1976) finds that education positively correlates with turnout. Hu, Chen, Cheng, and Iou (1990) summarizing the factors of non-voting concluded that social economic status influences individual's attitude toward voting.

It is understandable to find that the level of competitiveness in districts positively affects the turnout rate. Chen (1996), studying the elections from 1954 to 1993, demonstrates that the percentage of the factionally-backed candidates winning elections is higher than that of the other candidates. Sheng (1998) finds that the candidates endorsed by local factions tend to concentrate their vote shares in few towns. As for general social net-

works, Chu (1993) contends the effect of family's partisanship significant as regards voting behavior. He suggests that it is necessary to take voters' social networks into account. Tsai (1995) locates three types of voters, canvasser, mobilized, and non-mobilized, in the 1989 Taipei mayoral election. The percentage of voting consistently is highest among the canvassers than other groups.

In brief, the previous research on Taiwanese voters' turnout revealed that social groups and individual calculation of costs among other factors arguably affect the motivation of voting. However, the research of turnout in the national election has not been done yet. Besides, the three distinct perspectives have not been compared systematically. The testable hypotheses generated by the three perspectives will be formulated in Section 3.

3. Explaining Turnout in the 1994 Election

As I have mentioned above, the theoretical treatments of turnout provide us with different points of view regarding the prediction of turnout. The economic perspective predicts that one would take action if the benefits is higher than the costs. Nevertheless, when voting is low-cost and low-benefit, consumption theory can not explain turnout. Here I apply investment theory to voting. If a voter's payoff with the victory from her favorite candidate or political party is higher than abstention, she will turn out to vote. Payoff is by no means easy to measure, but it is plausible to use the level of party or candidate differential as the surrogate variable. It is assumed that the higher the level of party or candidate differential is, the higher is the probability of voting.

In the 1994 gubernatorial election, however, there were three party nominees. Instead of doing the three-way comparison, I use the maximum score of the evaluation of the candidates. The candidates, particularly the ruling party's nominee, largely shaped the tone of the campaign from campaign platforms to organizations⁷. Although Weisberg and Grofman (1981) pointed out that candidate evaluations make no difference in turnout, I assume that turnout relates to the candidate factor. The maximum score of candidate preferences is obtained from a set of the questions: "It is said that a governor must meet several requirements. Would you compare the five candidates to see which one is the best candidate who meets each of the following six requirements?" (bidding for wel-

fare, making local project, being less corrupted, being close to your opinion, being capable of working, and pay attention to public opinion) I assume that people would turn out to vote if they highly evaluate one of the contenders in the race, because they expect to see him being elected. On the other hand, people with low evaluation of each of candidates have little incentive to vote for any of them.

Hypothesis 1. *The larger is the maximum score of candidate preferences, the higher is the likelihood of turnout.*

Hypothesis 1 implies that people view voting as an investment. The larger difference in candidate evaluations is, the higher stake for turnout that people have. Even though the payoff for voting would be infinitely small, according to the principle of rationality, the electorate would not turn out to vote without any expectation. The following question is whether the payoff could offset the costs of voting. Since there is no registration for voting, I assume that voting is low-cost.

In contrast to the economic perspective, the sociological perspective employs social groups and social networks to account for turnout. It has been shown that the influence of social groups and social networks is significant in that both entities carry considerable information and even certain rewards that can lower the costs of turnout. A simple hypothesis follows:

Hypothesis 2. *The more contacts with canvassers the voter has, the higher is the probability of turnout.*

The CONTACT variable represents the level of contacting by canvassers. The wording of the variables reads: During the gubernatorial campaign, did any of parties, candidates, relatives, friends, colleagues, community leaders, or organizations ever contact with you and canvass? Check all that apply. It is a multiple-choice question, so the score ranges from zero to eight.

Active involvement in the campaign should be a good predictor of turnout. I set up the INVOLVEMENT variable to represent the level of involvement. The wording of the INVOLVEMENT variable reads: During the Gubernatorial campaign, did you donate money to any political party, go to your friends or relatives to ask for vote, spread out the post, put any candidate or party's sticker or hang their flags on your vehicle or participate in any candidate or party's rally? The score of the variable is from zero to five.

Hypothesis 3. *The higher is the level of political involvement, the higher is the prob-*

ability of turnout .

Discussing the election with family or friends is expected to structure people's turnout decision. It can be viewed as an indication of either political interest or information reception which has been covered by canvassers' contact. To measure the effect of discussion, the question is set up as that follows: Did you ever discuss this election with your family or friends? The response ranges from frequently discuss, sometimes discuss, seldom discuss to never discuss. The wording of the question does not specify the timing of the discussion, so the respondents may perceive it as a general discussion that happened after the election. In that case, the level of discussion may not offset the probability of turnout. Hypothesis 4, therefore, states that the DISCUSS variable has no influence on turnout.

Hypothesis 4. *The level of discussion with family or friends will not have significant impact on the probability of turnout.*

Several social groups variables are expected to influence turnout. Gender is influential because it partly represents the social economic status. Due to the fact that the inclusion of the income variable will cost four hundred and eighty-five observations, and men and women differ on social-economic status, gender is chosen as a proxy variable of income. According to social-economic resource model (Verba, Nie, and Kim, 1978), male voters should have higher turnout rate than do female voters. On the other hand, however, social network theory suggests that party mobilization plays a big role in the campaign. It has been found that women are more likely mobilized by the KMT than men (Fan and Hsu, 1994). In that case, I anticipate that women are more likely to turn out.

Hypothesis 5. *The probability of turnout is higher among the female group than among the male group.*

Socialization effect is also evident in generation replacement. In America, it is found that the post-New Deal generation goes through the decay of partisanship and, as a result, has less intention to turn out. It is found that the post-World War II generation in Taiwan is more committed to political system than is the pre-World War II generation because of the formation of new political parties since the late 1980s (Liu, 1993; Chen, 1995). Therefore, this model includes two dummy variables, ELDERLY and YOUNG, which denote the generation of over age 55 and under age 35 respectively.

Hypothesis 6. *The probability of turnout is higher among the younger voters than*

among the elderly.

Political efficacy and partisanship are arguably the two critical political attitudes contributing to change in turnout (Shaffer, 1981; Abramson and Aldrich, 1982; Miller, 1992). According to both economic and psychology perspectives, the effect of political efficacy is prominent because feelings of citizen duty is part of education and socialization. Nevertheless, the erosion of political efficacy is evident in Taiwan. Chen (1995) notes the decay of political efficacy in the new generation across two ethnic groups, but he finds partisanship solid across different generations. I assume that the effect of political efficacy on turnout is small because people do not need it as the compensation for the costs for turnout. They turn out to vote in a response to the request of people surrounding them.

Hypothesis 7. The variation in the level of political efficacy has insignificant impact on the probability of turnout.

To measure the effect of political efficacy, the question is set up as that follows: Did you agree or disagree with the statement that government's decision-making will put people's welfare before everything? The reason that I chose this question is because it is similar to the traditional one, which reads: Do you agree or disagree with the statement that the government in Washington does not care what people like me think?

On the other hand, the strength of partisanship will have significant impact on turnout. The authors of "The American Voter" asserted that "the greater the strength of the individual's preference, the greater the likelihood he would vote." (Campbell, Converse, Miller, and Stokes, 1960: 98). They also found that partisan preference would not matter when the competition is not intense. Weisberg (1980) notes that people with strong partisan strength tend to identify themselves as party supporters, though Petrocik (1980) finds that the relationship between party support and turnout is not linear. Because the ruling party strongly controlled government, the election outcome more or less represented the fate of political parties and government. Therefore, I assume that the impact of partisan strength on turnout is significant.

Hypothesis 8. The variation in the level of partisan strength has significant impact on the probability of turnout.

The measurement of partisan strength is based on the measurement of party identification, which assembles the traditional seven-point scale developed by the Survey Research Center at University of Michigan. In addition, I assume that party identification is

three-dimensional and each of the three dimensions has the same scale. In other words, the strength of party attachment with party A is identical to that of party attachment with party B. In doing so, it is plausible to obtain the level of partisan strength by putting party supporters together, regardless of their partisanship.

The psychological approach also suggests that civic skills help citizens turn out to vote. Attending associations, for instance, should be positively related to turnout. However, it is not the case in Taiwan. Seventy one percent of respondents claimed that they have never attended any social organization, and there is no difference in the mean score of the association attendance between the group of voters and abstainers (see Appendix B). The correlation between association attendance and discussion and contact are weak but statistically significant. Therefore, association attendance is not expected to have strong impact on turnout. Apparently, this hypothesis is not supported by the previous American turnout research. More research on Taiwanese association attendance is needed to revise the hypothesis.

Hypothesis 9. *The variation in the level of association attendance does not affect the probability of turnout.*

American researchers assert that educated people are expected to have higher likelihood of voting, because they have stronger feeling of citizenship. If the educated know so much about elections, however, they may find that it is irrational to vote (Whittman, 1975). As for Taiwanese, education has not contributed to democratization. The highly-educated are instilled more authoritarian value and the moderate-educated tend to support democratization (Hu, Chang, and O-Yang, 1994). The relationship between education and political efficacy is non-linear at best; the marginal impact of education drops when people receive college education. Therefore, I anticipate that the highly-educated and undereducated are less likely to vote than are the medium-educated. In estimating the effect of education, I divided the level of education into three categories and set up two dummy variables against medium-educated.

Hypothesis 10. *Having the characteristic of high education or low education has insignificant impact on the probability of turnout.*

4. Data and Method

The main purpose of this research is to construct a multivariate model to estimate the effect of the variables mentioned above. A providence-wide data from 1994 gubernatorial election will be used. The two municipal cities, Taipei and Kaohsiung City, are not included, therefore the inference is not nation-wide. The face-to-face interview survey was conducted and made available by Election Study Center at National Chengchi University. There are 100 out of 1,369 respondents claimed that they did not to vote. Unfortunately, there is no question in the questionnaire to validate people's response. Granberg and Holmberg (1991) find that the false voters (people who say they vote but they did not vote) have similar characteristics as do the true voters. Therefore, I will generate inference from the data analysis.

Since turnout is a dichotomous variable, logit model is an appropriate analytic tool to estimate the effect of the independent variables. It can be written as follows:

$$\log\{P(\text{turnout} = 1)/1-P(\text{turnout} = 1)\} = \log(X_i' s) = Z_i$$

$$\text{Probability}(\text{turnout} = 1) = \exp(Z_i) / [1 + \exp(Z_i)]$$

X_i is a vector of exogenous variables, and s is a vector of coefficients. The formula can be used to obtain the probability of the dependent variable by calculating the exponential value of the sum of the coefficients multiplied with the individual values.

In addition to the logit coefficients, the magnitude of change in the probability of the dependent variable due to change in the continuous independent variables will be provided in Table 2.

5. Findings

The logit coefficients and standard errors for the gubernatorial election are presented in Table 2. Based on the sign of the coefficients and the standard errors, we could tell which variables positively or negatively associate with the dependent variable. It is clear that all of the ten hypotheses are confirmed. Candidate preference, being contacted by social networks, campaign involvement, partisan strength, gender, and elderly are the noticeable explanatory variables in the multivariate model. With regard to sociological per-

spective, having contact with activists and getting involved in the election greatly increase the probability of turnout. Political discussion does not have significant influence on the dependent variable based on the conventional standard of statistical significance. The impact of campaign involvement on turnout is stronger than the others. Next to campaign involvement is partisan preference. It suggests that the expectations of the parties would increase the level of political participation. Candidate preference and contact also have considerable impact on the dependent variable. Both variables insure the probability of turnout. As for the demographic variables, being female has higher probability of turnout than being male. Compared to the group of 40 and 50 years old, the elderly group is more likely to go to the polling booth. On the contrary, the voters who have just entered in the election do not tend to turn out. The probability of turnout is not different among different level of education. Neither are political attitudes critical to the turnout decision. Political efficacy and attendance of associations cannot explain the variation in the dichotomous dependent variable. In brief, the findings confirm the economic and sociology perspectives, but rejects part of the psychology perspective.

(Table 2. See attached)

Table 3 presents the magnitude of impact that each of the continuous independent variables have on the probability of turnout⁹. The effects due to increase in the individual variables by one standard deviation are not impressive, ranging from nearly 0 to 7 percent. The most powerful motivation for turnout is involvement; change in one standard deviation of involvement increases the probability of turnout by 6.95 percent, controlling for the other independent variables at their mean. It suggests that people who volunteer to help the candidates tend to turn out to vote. Actually, their intention to influence the election outcome is so strong that they even turn active during the campaign. The intention may stem from their expectations over the election outcome or their attachment to either political parties or candidates. Whatever the intention is, political involvement ensures turnout even though the voters have weak preferences over parties or candidates.

The magnitude of the influence of candidate and party preference is nearly half that of involvement. A one-standard-deviation increase in candidate preference will result in 3.75 percent increase in the probability of turnout. Intensity of partisanship has smaller impact; 3.03 percent increase results from the one-standard-deviation change in the parti-

sanship strength. It suggests that the personal charisma of the candidates prevailed over political parties in the electorate. Once an individual highly evaluates one of the candidates, she is very likely to vote. And also, the voters would turnout when they turn strong partisans during the campaign. In brief, both candidate differential and party identification may help the voters offset the costs of voting.

In case an individual is predisposed not to vote, however, it is costly for social networks to change her mind. A one-standard-deviation increase in the number of contact only raises the probability of turnout by 2.68 percent. Compared to the three variables discussed above, the impact of social networks is less noticeable. Considering the short-term addition of contact, however, it is mildly daunting to say that contact is the best way to mobilize the electorate. The ruling party used multiple social networks to access the voters and to survey their intention, which allowed them to manipulate the election outcome. On the contrary, the opposition party preferred large-scale rallies, because it had limited ability to penetrate the electorate. We should not underestimate the effect of social networks because it is easier, at least for political parties, to increase the intensity of contact during the campaign than to change the evaluations of candidates or the intensity of partisanship.

Political efficacy has much smaller influence than having contact. A one-standard-deviation increase in the value of the level of political efficacy will increase the probability of turnout by only 2.03 percent. Because the significance test shows that the effect of political efficacy exists with only 90% confidence level, we should take the percent increase in probability with caution. Discussing the election with friends or family has nearly no impact on turnout. Association attendance has quite negative impact on turnout. Once again, we have less confidence with regard to the estimates of these two variables.

(Table 3. See attached)

Although my model confirms the hypotheses, the possibility that the model is built on ad hoc knowledge cannot be rejected. In other words, the causality between turnout and the independent variables might be artificial. One of best ways to test the model is to replicate it in the similar election context. The 1996 presidential election is by all means a proper one to test my theory. However, some of the independent variables, election involvement and political efficacy, are not available in the questionnaire, which makes the comparison between two models somewhat misleading as to the reliability of the model.

Having the limitation of replicating the previous model in mind, we consider the replication as a reference instead of a critical test of the first model.

Table 4 makes it clear that the hypotheses are not fully supported. Candidate preference remains a significant predictor in the model, which implies that the short-term candidate factor strongly influence the election outcome. The negative sign of partisanship strength may be due to the intransitivities of party attachment (Petrocik, 1974). And still, the probability of turnout is higher among the group who entered in the election around the Formosa accident (1979) than the other two groups. Having contact or not and the intensity of partisanship are less influential than in the 1994 election. On the contrary, discussion becomes an important indicator of turnout when campaign involvement is not included in this model. The weak association between turnout and association attendance implies that voting does not demand the high level of civil ability in Taiwan. In brief, Table 4 has not fully supported the conclusion derived from Table 2 and Table 3, particularly the effect of partisan strength.

(Table 4. See attached)

What my findings suggest is that turnout should be modeled as a response to social networks and candidates' bid for votes. Social networks and the prospect of candidates largely mobilize voters. Citizen duty is not influential because voting is low-cost; people do not need great feelings of citizenship to offset the cost. Partisanship structures people's vote choice, and it makes abstention a dominated strategy. The turnout decision in Taiwan hinges on mobilization instead of political attitudes. In terms of demography, male and middle-age voters are active among other groups. The level of education does not significantly relate to turnout, which coincides with the puzzle that more education does not guarantee higher participation. The influence of being contacted, involvement, and party differentials considerably renders political attitudes ineffective, which is more or less at odd with the political psychology model. The findings, which of course require further investigation, shed some lights on the influence of social networks in Taiwan, and reveal the rationality of voting.

6. Conclusion: Rethinking $R = PB - C + D$

This study evaluates the determinants of turnout in Taiwan, where registration is

automatic so that the cost of registration is smaller than the U.S. As Aldrich (1993) points out, turnout is low-cost and low-benefit, thus turnout is an investment and response to social networks. To account for turnout, I include five dummy variables and seven continuous variables. According to my theory, Taiwanese voters turn out to vote in a response to social networks and partisan performance. Although I did not consider the “P” term in the models, the positive impact of the candidate preference indicates that the electorate turns out to vote for potential payoff. The intensity of partisanship denotes the level of attachment to one of the political parties, hence its influence manifests itself through voting. On the other hand, political efficacy fails to predict turnout because the “C” term is small and the “D” term does not play a big role in the process of decision. Social networks are strong during campaign, particularly in the district composed of the rural area in Taiwan. Candidate preference also has an impact on voting because it reflects the performance of political parties. The motivation of voting is to get their favorite party elected.

Initially, social networks and candidate preference are presumed to represent the benefits of voting in Taiwan. As the pressure of social networks surges, people are likely to participate in the election. Candidate preference represents rationality in that the elected governor has the power of resource distribution. Can we also integrate partisanship into the “B” term? Unless a voter prefers one of the political parties in the race, she would not choose voting. The result suggests that individuals respond to candidate preference as well as the intensity of partisanship. As the 1996 model shows, however, the importance of partisanship on turnout declines. Therefore, it would be interesting to reconsider how people conceive of political parties; we may ask them why they have attachment with one of the political parties. In doing so, we can see whether people would respond to political parties and turn out to vote.

We should be mindful of the generalization of the findings. Both two models explain limited amount of variations in the dependent variable, albeit the logit coefficients allow us to test our hypotheses. The selection of variables also requires further efforts. One of the explanations for the failure of political attitudes to predict the dependent variable in the second model is that the presidential candidates overshadowed political parties. The candidates made themselves the center of elections in the presidential election, and the public image of candidate has become more and more relevant to voting decisions

(Hawang, 1996). The candidate-centered election weakens the association between political parties and the electorate.

The results suggest two likely paths for future research. One is searching for more variables for the probability term attached to the benefits (Ordeshook and Zeng, 1997). Since investment voting is confirmed in this analysis, the probability of winning office should be positively related to turnout. The second path is studying past turnout that may contain time-stationary influence. If past voting behavior is a significant predictor of present voting behavior, we can examine what kind of time-stationary factors critical to voting behavior. In doing so, we can observe the pattern of voting behavior and its consequences.

Appendix

A. Coding of Variables for Multivariate Analysis

Turnout: coded 1 if the respondent claimed to vote, 0 if the respondent did not claim to have voted.

Age: 1 for less than or equal to 34 years old, 2 for 35-64 years old, 3 for equal to or older than 65 years old

Education: 1 for primary school, 2 for high school, and 3 for college and higher.

Gender: 1 for male, 0 for female.

Involvement: ranges from 0 for those who have no involvement in the election to 5 for those who have all kind of involvement, including distributing posts, soliciting candidate, attending rallies, donating money to candidates, and hanging candidate's flags on the vehicle.

Discussion: ranges from 0 for those who have no discussion with family or friends to 3 for those who often have discussion.

Candidate preferences: ranges from 0 for those who have no preference for any one of the candidates to 5 for those who highly prefer one of the candidates.

Contact: ranges from 0 for those who receive no contact to 8 for those who have all kinds of contact.

Political Efficacy: scored 1 through 5 for responses ranging from strongly agree to strongly disagree with the statement, "When the government makes decision, it would put so-

cial well-being before everything.”

Strength of partisanship: 1 for independents, 2 for partisan leaner, 3 for weak partisans, and 4 for strong partisans.

Association attendance: ranges from 0 for those who never attend any social organization to 3 for those who frequently attend social organizations, including women club, folk dance club, farmer association, union, etc.

B. (see Table A-1)

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Table 1. Turnout Rate between 1989 and 2000

	Turnout	KMT	DPP	NP	Independent
1989(Legislative)	75.49	60.10	28.20	---	11.70
1992(Legislative)	72.84	54.93	30.03	---	16.04
1994(Governor)	76	56.22	38.72	4.31	0.75
1995(Legislative)	67.73	46.06	33.17	12.95	7.82
1996(President)	76.04	54.00	21.13	14.90	9.98
1998(Legislative)	68.09	46.43	29.56	7.06	16.95
2000(President)	82.70	23.10	39.30	0.13	37.46

Data is compiled from the webpage of the Election Study Center, NCCU, and the election reports published by the Central Election Commission.

Table 2. Logit Estimate of Turnout in 1994 Gubernatorial Election

Explanatory Variables	Dependent Variable: Turnout	
	Coefficient	Standard Error
Candidate Preference	.1862	.0664***
Contact	.1468	.0812*
Involvement	1.3367	.5184***
Discussion	-.0040	.1437
Male	-.5227	.2607**
Political Efficacy	.1646	.1134
Partisan Strength	.2701	.1213**
Association Attendance	-.0949	.1354
Young	-.7165	.2924**
Elderly	.4607	.4655
Primary	.4755	.4194
College	-.5374	.2808
Constant	1.635	.742
-2 Log Likelihood	475.570	
Cox & Snell R Square	.058	

* : $p \leq 0.1$; ** : $p \leq 0.05$; *** : $p \leq 0.01$

Table 3. Simulated Impact of Explanatory Variables on Turnout

Variable	Coefficient	Standard Deviation	Percent Increase in Probability
Candidate Preference	.1862	2.1510	3.75%
Contact	.1468	1.8360	2.68%
Involvement	1.3367	.7080	6.95%
Discussion	-.0040	1.0390	-0.05%
Political Efficacy	.1646	1.1956	2.03%
Partisan Strength	.2701	1.1500	3.03%
Association Attendance	-.0949	.9624	-1.09%

Note: The increase in the turnout elicited with one standard deviation increase in the mean for all variables in the category.

Table 4. Logit Estimate of Turnout in 1996 Presidential Election

Explanatory Variables	Dependent Variable: Turnout	
	Coefficient	Standard Error
Candidate Preference	.2555	.0902***
Contact	.3216	.2749
Involvement	----	----
Discussion	.3076	.1258**
Male	-.4215	.2458*
Political Efficacy	----	----
Intensity of Partisanship	-.0223	.1144
Association Attendance	.1625	.1647
Young	-1.0071	.3156**
Elderly	-.4892	.4317
Primary	.3537	.3702
College	.4340	.3115
Constant	2.3389	.6699
-2 Log Likelihood	534.155	
Cox & Snell R Square	.041	

* : $p \leq 0.1$; ** : $p \leq 0.05$; *** : $p \leq 0.01$

Table A-1. T-Test of the Continuous Independent Variables

	TURNOUT	N	Mean	Mean Difference	Significant
Candidate Preference	vote	1083	3.0615	.7332	.001
	abstein	85	2.3282		
Contacted by Social Networks	vote	1267	1.4498	.5200	.006
	abstein	100	.9298		
Campaign involvement	vote	1267	.2753	.2385	.001
	abstein	100	3.679E-02		
Discussion	vote	1263	1.6087	.2312	.032
	abstein	100	1.3775		
Political efficacy	vote	1069	2.1480	.2858	.044
	abstein	76	1.8622		
Partisan strength	vote	1267	2.4421	.4320	.001
	abstein	100	2.0101		
Attendance of associations	vote	1262	.5439	7.518E-03	.940
	abstein	100	.5364		

- 註 一：The geographical entity of Taiwan was divided into two municipalities and a province, which has five cities and fifteen counties. The president appointed the governor and mayors until 1994. The provincial government was suspended as a political entity in 1997, so there are no more provincial election.
- 註 二：Data analyzed in this article were collected by the research project of "A Study of Voting Behavior and Political Democratization in Taiwan: the 1994 Election for Taiwan Provincial Governor and City Mayors" (NSC 84-2414-14-001-001 B2) directed by Yih-Yan Chen, and "An Interdisciplinary Study of Voting Behavior in the 1996 Presidential Election" (NSC 85-2414-14-004-017 Q3) directed by John Fu-Sheng Hsieh. The Election Study Center of National Chengchi University is responsible for the data distribution. The author appreciates the assistance in providing data by the institute and individuals aforementioned. The views expressed herein are the author's own.
- 註 三：To compare the results of the two sets of data, I filtered off the observations in the Taipei and Kao-Hsiung City for the presidential election. The readers refer to the project reports on the methodology of both sets of data.
- 註 四：Downs defines uncertainty as the lack of knowledge about the course of events (p.81). Under his assumption of uncertainty, people are ever not aware of the utility over certain outcomes. Nevertheless, he also mentions that people have subjective estimate of "the probability associated with each (expected) value" and the cost of information (p.241). Moreover, he claims that people in the multi-party system would vote strategically, that is, voting for the second favorite candidate, if their most favorite candidate is not likely to win the election.
- 註 五：In a single-majority and two-party election, the dominated strategy is voting for the least favorite candidate. The payoff of abstention could be possibly greater than voting for the favorite candidate, if the costs of voting are much higher than the expected payoff from voting. See Aldrich's (1993) game-theoretic analysis.
- 註 六：Although picking up Downs' theory, Wolfinger and Rosenstone developed a psychological account of the effect of those demographic variables. For instance, they propose that educated people tend to have more understanding of

politics and higher civic duty. Nevertheless, they have not presented any evidence for their proposition.

- 註 七：It is no doubt that the ruling party's nominee, James Soong, capitalized on his incumbency to mobilize local factions and party organizations. On the other hand, the DPP's candidate, Ting-Nan Chen, emphasized his credentials as a country commissioner and legislator. Due to their ethnicity and the parties' manipulation, both candidates inevitably became the symbols of the two ethnic groups, Taiwanese and Mainland Chinese.
- 註 八：Chang (1997) used media exposure to tap into the costs of voting, yet it is not clear why people would expose to media to reduce the costs of voting. In other words, the incentive of media exposure and, consequently, the causality between media exposure and turnout are ambiguous.
- 註 九：Notices that in the linear probability model the partial change is not equal to the differentiable change. Because Table 3 does not specify the starting value of each independent variable, the percent increase in the probability reported should be interpreted with caution. Generally speaking, the numbers only allow us to compare the effect of each explanatory variable roughly in the range of normal shape.

解析台灣選民的投票參與

蔡佳泓*

《 本文摘要 》

1994年的省長選舉是台灣史上第一次的省長民選，也是第一個以省為單一選區的選舉。本文嘗試探討省長選舉的投不投票決定因素，並以總統選舉資料測試模型的適用程度。資料分析發現在省長選舉中候選人的好惡比較，被拉票的次數，以及對政黨的認同程度決定選民前去投票與否。而在總統選舉中，只有對候選人的偏好比較是顯著的影響因素。這項結果顯示，候選人特質越突出，越能號召選民前去投票，而社會網路和政黨偏好強度的影響力在總統選舉中降低，意味著單一選區選舉逐漸強調候選人取向。

關鍵詞：社會網路，政黨偏好，投票，單一選區，候選人比較

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審查意見答覆

審委意見(一)

本文看起來像研究生寫的一篇研究報告，以研究報告的角度來看，是一篇很好的研究報告，但是作為一個發表的論文，還需要經過一番修改。本文看起來是一個很認真的著作，文獻檢閱的部份還算不錯，研究方法也都用的很不錯，詮釋研究的結果也好。但是，有幾個問題請作者思考：

第一，作者以1994年的省長選舉為研究對象，但是對於台灣選民為什麼投票這個問題，1994年省長選舉不見得是一個適當的研究時間點，因為省長選舉可能是史無前例，以後大概也不會有了，那麼，本篇論文的研究結果是否可以推論到其它類的選舉，如果可以，也許本篇論文較有意義，但如果不可以，為什麼不可以？省長選舉有何特殊性？而本篇論文對於瞭解台灣選民為什麼投票這個問題又有何幫助？

第二，研究者比較1996年的總統選舉，但為什麼如此比較？為什麼不考慮同一年度的北高二的市長選舉？同時，研究發現顯示1996年的研究結果與1994年的研究結果有相當大的不同，那麼，作者提的某些理論顯然是有問題的，如何自圓其說？作者也僅作一點解釋，並不是很足夠。同時，作者既然以1996年的資料為比較基礎，也應該對之作完整的說明。

第三，作者的文獻檢閱算是相當不錯，但是 Rosenstone and Hansen 於1993年所寫的“Mobilization, Participation, and democracy in American”應該是一本很重要的討論政治參與的書，書中對於 Rational Choice 與 Sociological approach (尤其是 social network 對選民政治參與的影響) 的結合，有一個不錯的看見，作者或許也應該檢閱一下該書。

第四，作者在假設的部份儘量提供應該有的理論基礎，這是好的，但是對於假設四，作者認為與家人朋友討論政治「不會」影響其投票參與，假設九，作者認為集團參與「不會」影響其投票參與，作者提供了一些解釋，但是要駁斥早為其他學者所成功驗證的理論顯然不夠充分。同時，既然作者認為此一變數不會影響投票參與，為什麼將之放入估計模型之中？根據統計分析的基本原則，如果將不該放入的變數放入模型，則其它變數的估計值會有所偏誤，所以建議作者如果真的在理論上可找出適當的基礎，認為與家人朋友討論政治、集團參與不會影響其投票參

與，則就應該將之排除在統計模型之外。

第五，作者認為女性比男性傾向投票參與，且年紀是中等的人最傾向投票參與，但是理論顯然太過薄弱，請作者提供更為完整的理論基礎與解釋，否則有點像是看了結果之後找假設，是不恰當的。

第六，作者將政治涉入（involvement）放入模型中，這是用涉入其它的政治參與活動來解釋投票參與，作者可能使模型的整體解釋力較高，但是其它變數會不會受到排擠效果？如果此變數不放入模型之中，又會有如何的影響？

第七，作者在 p.6 提到 consumption theory 與 investment theory，但並不是所有讀者對之都很清楚，應作較完整說明。

第八，作者在 p.6 提到以六項條件來看哪一個候選人最符合這些條件，是哪六項？應加以說明。

第九，作者在 p.8 提到，partisan strength 與 partisan preference 的相關係數是 .263，但是相關係數是針對等距或等比尺度才可以用的，partisan strength 也許勉強可以說是等距，但是 partisan preference 是否是個類別資料？（因為作者並未提供測量的方式，評論者只是揣測）。

第十，p.9 中間部份提到 table2 可能應該是 table3。

第十一，table1 建議作一些修改，將投票率與各黨得票率的資訊作適當的隔開，並且以 100% 作為得票率的合計，如此較為清楚。

第十二，Table2 與 Table4 請提供正確預測的百分比，以助讀者評估分析結果。

第十三，作者在 Table3 提供了自變數對於投票參與的影響力大小的資訊，這非常好，但是否可以也提供各變數的平均數，以及極大極小值的資訊，以助於讀者去解讀統計分析結果。

第十四，TableB-1 的標號很奇怪，沒有 A，則為什麼有 B？同時 TableB-1 的資料要作一些整理，例如為什麼每一個變數都提共兩排一模一樣的資訊？

第十五，有些參考書目年代可能標錯，請再仔細看過。註2中的 Kuo 指什麼？書目並未看到，是筆誤嗎？

審委意見(二)

該文以1994年台灣省長選舉投票參與為依變項為主的學術論文，其中對於解釋選民投票參與的解釋模型，同時也利用1996年的總統大選資料，進一步加以驗證。當然，相對於一般的投票行為研究而言，在台灣以投票參與為主的研究往往是較次要的；原因在於台灣社會與歐美社會不同，選民的投票參與不必先行註冊，而且投票也被視為公民的

義務之一，因此，台灣選民的投票率一向很高。但，此種高度投票參與的狀況，自民主化與競爭性政黨政治出現以後已經改觀，越來越低的投票率也引發另一個值得的研究問題；究竟誰去投票？影響投票或不投票的因素是什麼？就此而言，讓論文確有一定的時效性。

作者雖然驗證研究所提出的假設，認為候選人偏好、社會網絡關係、競選過程的介入與討論、政治功效意識、政黨認同與參與社會團體等變項，都是影響選民投不投票的影響因素。作者在比較1994年省長選舉與1996年總統選舉的資料後，也進一步指出，社會網絡的關係與政黨認同是解釋選民投票參與的最主要因素。上述研究發現，固然頗符合台灣社會的實際，但評論人想提出質疑的是：作者這些解釋變項，能夠解釋選民投不投票的能力實在有限（1994年省長選舉的資料在 $Cox\&Snell\ R-square = .041$ ，換句話說，只能解釋選民投不投票變異的百分之五左右）。因此，就作者想要解釋為何台灣選民作投票與不投票的原因，該文所指出的解釋模型是不充分的。評論人認為作者應該明確進一步指出作者分析的侷限性，並說明該文僅以台灣的資料來驗證 Riker and Ordeshook 所指出的 $R = PB + D - C$ 理性投票修正模型在台灣社會的應用而已。若此，作者的論文題目就未免具有太大的野心而不恰當，故建議加上類似的標題如：A Test of Application of Rationality of Voting Model，這樣或許較妥。當然，這只是提供作者的參考，並沒有強制性。

該論文的研究主題雖然簡單，但論述推理都嚴謹清楚，是一篇可讀性頗高的論文。文獻檢討部份頗為完整詳實，文章結構也很有條理，資料的運用適切，英文文字流暢；總之，該文是可以考慮刊登的學術論文。

論文評審意見的答覆

感謝兩位評審的詳細意見與指教，就評審在理論與方法方面的意見逐一回答。

1. 省長選舉是台灣第一次的全國性（除北高兩市）的首長選舉，而類似選舉至今也只有三次，對於投票研究具有相當的意義。
2. 由於資料與選區範圍的考量，作者選擇1996年的總統選舉做為比較對象。在比較的取向限制下，結果的不同是被預期的，不過作者的目的只是在於驗證省長選舉模型的適合度，並未針對其差異處進行研究。
3. 由於投票參與的變數包涵甚廣，但是這些理論多半來自國外研究，作者為驗證理論起見，盡量涵蓋可能的變數，並已在假設陳述部份加以考量。
4. 社會變項方面原本不如其他心理變數有理論基礎，但是為控制社會變項起見，作者仍然放入模型中，作者承認解釋略嫌不足，期待更多研究加以驗證。

選舉研究

5. 預測正確百分比以及 R-square 並非一適當的考慮模型的指標，作者認為參數估計及其標準誤更該被注意，因此作者並未列出預測正確（或錯誤）百分比。
6. 作者認為每一個研究發現都有其推論上的侷限性，然而只要透過適當的研究設計，研究發現可以有進一步意含（implication），本文的出發點是運用西方的投票參與理論來探討為何台灣選民為何去投票，而以省長選舉為研究個案。期待未來能基於此發現，進一步探討比較不同政治社會結構以及選舉類型的政治行為及其影響因素。