

# 科技部補助專題研究計畫成果報告 期末報告

## 廣義之潛在變數模型之探討及其在選舉研究之應用(第2年)

計畫類別：個別型計畫  
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執行單位：國立政治大學政治學系

計畫主持人：蔡宗漢

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報告附件：出席國際會議研究心得報告及發表論文

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中華民國 105 年 03 月 30 日

中文摘要：本期末報告之內容為「廣義之潛在變數模型之探討及其在選舉研究中之應用」兩年期計畫中，第二年計畫執行之進度報告。第一年計畫之重點在介紹廣義之潛在變數模型，並且將該模型應用於測量台灣民眾的統獨立場。此研究成果已以〈如何評估潛在變數的影響效果？以2013年TEDS統獨立場測量為例〉為題發表於學術研討會，且在修改後已以〈潛在變數的測量及其影響？2013年TEDS台灣民眾統獨立場的分析〉一文發表於《選舉研究》在2015年出版的第22卷第1期。延續第一年計畫的研究成果，此第二年計畫之重點則在於將廣義之潛在變數模型應用於解釋選舉制度對於選民投票行為的影響，更具體而言，此部分在探討並立式單一選區兩票制如何影響選民在投票時，是以候選人特性為依據，抑或是以政黨標籤為主要考量。此研究已經撰寫成一篇英文學術論文，其主要論點是此兩票制中的計票方式雖分別為「單一選區相對多數決」與「封閉式比例代表制」，但都是傾向於以政黨標籤為焦點的制度，所以政黨標籤應是影響選民在此兩票投票選擇的主要因素。然而，由於此兩票制結合裡種選舉制度，因此會使得選民的投票抉擇受到兩種制度的交互影響，特別是會強化候選人因素對於選民投票行為的影響。也因為如此，該文認為候選人因素會影響選民在「單一選區相對多數決」這一票的投票選擇，也可能影響選民的政黨票。針對上述論點，該文以台灣為例進行經驗分析，而分析結果支持該文論點。其中有些發現更提供未來進一步研究的可能性。此研究成果在國際研討會發表後，已經投稿至國際期刊，目前仍在審查中。

中文關鍵詞：混合制、廣義潛在變數模型、台灣政治、貝氏統計、投票行為

英文摘要：This research report presents the academic achievements accomplished in the second year of the two-year project "A General Framework for Latent Variable Models and Its Applications to Survey Data Analysis." In the first year of the project, I introduced generalized latent variable models and applied these models to analyzing Taiwan politics in a conference paper, which was written in Chinese, and has been published on an academic journal with minor revision, titled as "The Measurement of Latent Variables and Its Effects: An Analysis of Taiwanese Attitudes on the Independence-Unification Issue in 2013." In the second year of the project, I investigate the effects of mixed-member electoral systems that combine single-member district plurality (SMDP) and closed-list proportional representation (CLPR) on voting behavior. Building on the literature of electoral institutions, this article provides an explanation to how mixed-member systems structure voter behavior and achieve a balance between candidate- and party-centric representation. Using Taiwan as a case of MMS, this article tests hypotheses using survey data and investigates the determinants of voting decisions for the two ballots. By employing a Bayesian bivariate probit model, this article shows that, first,

personal reputation influences voters' choices of the nominal vote. Second, partisan factors affect voter behavior in both nominal and list ballots. But it is affective rather than rational considerations for political parties that play the major role. Finally, there is a moderately positive correlation between the two ballots, which potentially results from affective, partisan considerations.

英文關鍵詞：mixed-member system, voter behavior, Taiwan politics, bivariate probit model, Bayesian methods

# 行政院國家科學委員會補助專題研究計畫成果報告

(期中進度報告/期末報告)

## 廣義之潛在變數模型之探討及其在選舉研究之應用

計畫類別：個別型計畫 整合型計畫

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計畫主持人：蔡宗漢

共同主持人：

計畫參與人員：碩士班研究生兼任助理：吳文和

大專學生兼任助理：安家萱、蘇子芸

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出席國際學術會議心得報告

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中華民國 105 年 3 月 25 日

## 中文摘要

本期末報告之內容為「廣義之潛在變數模型之探討及其在選舉研究中之應用」兩年期計畫中，第二年計畫執行之進度報告。第一年計畫之重點在介紹廣義之潛在變數模型，並且將該模型應用於測量台灣民眾的統獨立場。此研究成果已以〈如何評估潛在變數的影響效果？以 2013 年 TEDS 統獨立場測量為例〉為題發表於學術研討會，且在修改後已以〈潛在變數的測量及其影響？2013 年 TEDS 台灣民眾統獨立場的分析〉一文發表於《選舉研究》在 2015 年出版的第 22 卷第 1 期。延續第一年計畫的研究成果，此第二年計畫之重點則在於將廣義之潛在變數模型應用於解釋選舉制度對於選民投票行為的影響，更具體而言，此部分在探討並立式單一選區兩票制如何影響選民在投票時，是以候選人特性為依據，抑或是以政黨標籤為主要考量。此研究已經撰寫成一篇英文學術論文，其主要論點是此兩票制中的計票方式雖分別為「單一選區相對多數決」與「封閉式比例代表制」，但都是傾向於以政黨標籤為焦點的制度，所以政黨標籤應是影響選民在此兩票投票選擇的主要因素。然而，由於此兩票制結合裡種選舉制度，因此會使得選民的投票抉擇受到兩種制度的交互影響，特別是會強化候選人因素對於選民投票行為的影響。也因為如此，該文認為候選人因素會影響選民在「單一選區相對多數決」這一票的投票選擇，也可能影響選民的政黨票。針對上述論點，該文以台灣為例進行經驗分析，而分析結果支持該文論點。其中有些發現更提供未來進一步研究的可能性。此研究成果在國際研討會發表後，已經投稿至國際期刊，目前仍在審查中。

關鍵詞：混合制、廣義潛在變數模型、台灣政治、貝氏統計、投票行為

## Abstract

This research report presents the academic achievements accomplished in the second year of the two-year project “A General Framework for Latent Variable Models and Its Applications to Survey Data Analysis.” In the first year of the project, I introduced generalized latent variable models and applied these models to analyzing Taiwan politics in a conference paper, which was written in Chinese, and has been published on an academic journal with minor revision, titled as “The Measurement of Latent Variables and Its Effects: An Analysis of Taiwanese Attitudes on the Independence-Unification Issue in 2013.” In the second year of the project, I investigate the effects of mixed-member electoral systems that combine single-member district plurality (SMDP) and closed-list proportional representation (CLPR) on voting behavior. Building on the literature of electoral institutions, this article provides an explanation to how mixed-member systems structure voter behavior and achieve a balance between candidate- and party-centric representation. Using Taiwan as a case of MMS, this article tests hypotheses using survey data and investigates the determinants of voting decisions for the two ballots. By employing a Bayesian bivariate probit model, this article shows that, first, personal reputation influences voters’ choices of the nominal vote. Second, partisan factors affect voter behavior in both nominal and list ballots. But it is affective rather than rational considerations for political parties that play the major role. Finally, there is a moderately positive correlation between the two ballots, which potentially results from affective, partisan considerations.

Keywords: mixed-member system, voter behavior, Taiwan politics, bivariate probit model, Bayesian methods

# 報告內容<sup>1</sup>

## 1 Introduction

In the past two decades, a number of old and new democratic countries have been under electoral reform and adopted different variants of the mixed-member system (MMS), such as Italy, Japan, New Zealand, Venezuela, and Taiwan. The appeal of mixed-member electoral systems is that it seems to capture the "best of the both worlds"---a balance not only between majoritarianism and proportionality in the interparty dimension, but also between local and national representation in the intraparty dimension (Shugart, 2001a,b). It is also argued that, however, the interactive effects between different tiers of mixed systems may "contaminate" the results; that is, the existence of one tier, usually a single-nominal vote, affects the results in the other tier, usually a single-list vote, and vice versa (Cox and Schoppa, 2002; Herron and Nishikawa, 2001).

While there has been substantial research on the interaction effects between majoritarianism and proportionality on party systems at the aggregate level (e.g., Herron and Nishikawa, 2001; Moser and Scheiner, 2004; Nishikawa and Herron, 2004) and analysis of contamination effects between personal and party reputation on legislative behavior (e.g., Crisp, 2007; Sieberer, 2010; Stratmann and Baur, 2002), relatively few studies focus on candidate- and party-centric representation at the level of individual voters. In other words, how the mixed-member systems structure voters' choices of two ballots when voters cast their ballots, i.e., separately or connectively regarding candidate/party orientation, is an understudied issue.

To fill this gap, I focus on one variant of the MMS, which is a combination of the single-member district plurality (SMDP) and the closed-list proportional representation (CLPR), examine the source of the interaction between the two tiers and its effects on voter behavior under mixed-member systems. I argue that, due to the structural features of the SMDP and the CLPR, partisan factors naturally matter for the choices of both the nominal and list votes, which makes the two votes connected. Moreover, the coexistence of the SMDP and the CLPR, to some extent, separates personal votes from party votes and strengthens the degree of candidate orientation in the SMDP tier without weakening the value of party reputation in both tiers. It is the interaction that leads to the balance between candidate- and party-centric representation.

## 2 Democratic Representation under Mixed-Member Electoral Systems

In their seminal work, Carey and Shugart (1995) develop a conceptual model of electoral institutions to present the candidate-oriented versus party-oriented characteristics based on four common features to all electoral systems: ballot control, vote pooling, types of votes, and district magnitude. The first feature, ballot control, refers to the degree of party leaders' control over the ballot rank in electoral lists. The second feature, vote pooling, involves whether cast votes are pooled across entire parties, or among factions, or are not pooled at all. The third feature, types of votes, contains the number and types of votes cast, that is, a single partisan vote, multiple votes, or a single vote below the party level. The final feature, district magnitude, is different from the other three features in the way that district magnitude has varying effects on the trade-off between

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<sup>1</sup> 此報告內容節錄自此計畫主持人之研究論文，由於目前該文在期刊審查階段，故不提供該文標題。

personal and party representation under different allocation formulas.

The structural features of electoral rules considerably affect candidates' strategy to rely on either personal or party reputation in electoral campaigns (Carey and Shugart, 1995; Cox, 1997). Personal reputation, on the one hand, is defined as a politician's electoral prospects resulting from individual characteristics or actions (Cain, Ferejohn and Fiorina, 1987). Party reputation, on the other hand, is referred to as the information that party labels convey to voters in a political environment, which usually is strongly associated with policy issues (Budge, 1994). When electoral rules encourage the personal distinctiveness of candidates, candidates seek to claim sole credit for providing goods for their particular constituents. On the contrary, when electoral institutions induce the attention to party platforms or national policy concerns, candidates pursue broader, national policies to attract voters.

Thirteen feasible combinations of the three features—ballot control, vote pooling, and types of votes—are ranked ordinally, according to the degree of candidate orientation, as opposed to party orientation (Carey and Shugart, 1995). Based on the conceptual model of electoral institutions, as party leaders increase their control over the ballot rank, votes are pooled to the level of party, and voters are restricted to cast a single vote for one party, party platforms and party policy stances rather than the characteristics of candidates will play a crucial role in the electoral competition process. Moreover, for electoral systems without intraparty competition, the incentive of personal reputation-seeking declines as district magnitude increases. Under these circumstances, as a result, candidates mostly emphasize on their party's policy positions on the salient issues to appeal to voters in electoral competitions.

By the same token, voters rely on different types of information to select their potential agents of representation structured by different features of electoral systems. When the features of electoral rules encourage voters to pay attention to the characteristics or actions of individual candidates, voters seek candidate-specific information such as candidates' personal attributes, connection to the locality, credit in their districts, and constituency service (Shugart, Valdini and Suominen, 2005). Voters will utilize the candidate-specific information to help them make their voting decisions. Under electoral rules where political parties are the principle vehicles of representation, voters consider ideological positions of parties and associated policies as the information shortcuts (Snyder and Ting, 2002). They will vote for a party that better represents their preferences for the most salient issues of their concerns (Downs, 1957; Enelow and Hinich, 1984).

According to the conceptual model of electoral institutions, both SMDP and CLPR systems encourage national policy concerns and party reputation in electoral campaigns (Carey and Shugart, 1995). It is obvious that the latter fosters party reputation-seeking because party leaders determine the order of candidates on the party's list, because votes cast for any party list determine the seat share of the party, and because voters cast a single vote for one party. With regard to party reputation-seeking under SMDP rules, party leaders determine which politicians run for elections with the party's endorsement and, considering that there is only one winner in each district, a party will always nominate only one candidate. This leads to a circumstance under which votes cast for any candidate are pooled to the party level. Therefore, SMDP rules can be considered as a special case of CLPR systems (Carey and Shugart, 1995).

Some may argue that electoral systems with low-magnitude districts such as SMDP rules in which politicians serve as a district representative encourage constituency service or casework (Anagnoson, 1983;



Cain, Ferejohn and Fiorina, 1987; Fenno, 1978; Mayhew, 1974; Norton and Wood, 1993). Although these systems provide a direct link of accountability between voters and district representatives, that does not decrease the degree of party-centeredness of the electoral system since a vote for a candidate cannot be separated from a vote for the party (Grofman, 2005; Karvonen, 2004). Moreover, candidates may have an incentive to pursue personal votes because, in low-magnitude districts, constituents are likely to be their competing principals besides party leaders (Carey, 2007) and/or to attract additional votes to the party in order to increase their chances of winning elections (Shugart, 2008). Despite the importance they seem to have, personal attributes of candidates bring only a marginal payoff. It is expected and has been shown that national policy concerns and partisan factors are more important to voters' voting decisions in SMDP systems (Gaines, 1998; Gallagher, Laver and Mair, 1995; Mezey, 1994; Norris, 1997).

### 3 Data and Measures

The dataset analyzed in this article is survey data conducted by the TEDS project: the presidential and legislative elections of 2012 (TEDS2012). The survey data were collected by face-to-face interview right after the elections and include the information of individual voters that can be utilized to evaluate the expectations discussed above. TEDS2012 covers 44 out of 73 SMDs with 1826 observations totally in the sample.

I am interested in the determinants of voting decisions in two ballots, so the outcome variables are the voting decisions made in both the SMDP and CLPR tiers. For the purpose of simplicity, I recode the two outcome variables, voting SMD blue and voting PR blue, as binary variables for the two broad camps, 1 for the Pan-Blue candidates/lists and 0 for the Pan-Green candidates/lists.

To test the hypotheses stated above, I need two groups of measures, one of which is for personal reputation and the other is for party reputation. For personal reputation, I use the measure asking respondents' evaluations on the two main candidates in each SSD in terms of constituency service. In 2012, the two major competitors in SSDs are mostly endorsed or supported by the two main camps and, thus, the variables are coded based on the distinction between Pan Blue and Pan Green. The two variables, Pan-Blue candidate and Pan-Green candidate, take the value from 0 to 10 with larger values indicating higher evaluations. For the robustness of the measure, I also consider the evaluations of candidates on incorruption, overseeing the government, and pushing through legislations along with that on constituency service. The average of the four measures is computed.

For party reputation, I consider the information cues concentrated on ideological and positional issues at the party level. From the rational-choice perspective, it is argued that voters compare the policy positions of various parties in an issue space and choose the one that is the closest to their ideal points (Downs, 1957; Enelow and Hinich, 1984). Therefore, I choose the questions that ask respondents to position the KMT, the DPP, and themselves on the issue of Cross-Strait relations and social welfare. I compute the distance between individual respondents and each party on these two issues and then subtract the distance between respondents and the DPP from the distance between respondents and the KMT. The two variables about issue proximity, Cross-Strait issue and Social welfare issue, are the proxies of party reputation and take values from -10 to 10 with positive values indicating proximity to the KMT.

Moreover, two sets of measures for voters' affection towards political parties are considered as well. The first set of measures asks respondents' preferences for the two main parties, the KMT (Pref.for KMT) and the DPP (Pref.for DPP). The second set of measures is about party affiliation and is recoded based on the two camps, which is presented by two dummy variables, (Pan-Blue) and (Pan-Green), with independent voters as the reference group. The two sets of measures capture voters' affective connection to political parties.

In the multivariate analysis, I also include a number of variables as control variables which are considered as the important factors of voting behavior in the previous studies of Taiwan politics. First, it has been shown that, in a legislative election that is held concurrently with the presidential election, presidential coattails have an influence on citizens' voting choices of legislative representatives (Huang and Wang, 2014). To control for presidential coattails, a continuous variable ranging from 0 to 10 measures respondents' rating for the two main presidential candidates, Ma Ying-jeou (Pref.for Ma) and Tsai Ing-wen (Pref.for Tsai). Moreover, the measure of citizens' satisfaction with the incumbent president Ma Ying-jeou (Satisfaction with Ma) is also included.

Second, two dummy variables, Chinese and Taiwanese, measure respondents' national identity with voters considering themselves belonging to both as the reference. Third, two dummy variables, Better and Worse, measure citizens' evaluation on household economic conditions, compared to the conditions a year ago. Those who think household economic conditions are about the same are the reference group. Fourth, a four-level variable media exposure measures respondents' exposure to different types of media, including television, radio, internet, and newspapers, with two hours as a unit.

Fifth, dummy variables, Junior high, Senior high, College, and University and above reflect the educational level of respondents with elementary school or illiterates as the reference group. Sixth, respondents' age is divided into five groups with ten years as a unit. Seventh, Female is the gender of respondents with male as the reference. Finally, I control for respondents' evaluation on the party lists as potential predictors of the list ballot, including the DPP, KMT, PFP, and TSU.

## 4 Conclusion

The article tests the two hypotheses using survey data from Taiwan, which has adopted an MMM since 2008. A Bayesian bivariate probit model that accommodates the correlation between the ballots of the SMDP and CLPR tiers is applied to analyzing the legislative election of 2012 held concurrently with the presidential election. The results show that, first of all, although partisan factors matter for voters' choices in both SMDP and CLPR tiers, affective considerations override rational ones in Taiwan's 2012 legislative election. Second, personal reputation has an influence on voter behavior in the nominal ballot but not in the list vote. Finally, the finding of a moderately positive correlation between the voting decisions in two ballots suggests that voters make their voting decisions connectively rather than independently.

The analysis of voters' decisions under mixed-member systems opens up a potential avenue for future research in the study of contamination effects on voter behavior and electoral campaign strategy. This article finds that negative, instead of positive, elements in one tier induce an interactive effect in the other tier in Taiwan's legislative elections. In specific, voters' negative evaluations of candidates in the SMDP tier

influence their voting decisions in the CLPR tier; their negative evaluations of parties in the CLPR affect their voting choices in the SMDP tier. Future studies could investigate the extent to which negative elements play a role in the process of selecting agents of representatives.

## References

- Anagnoson, J. Theodore. 1983. "Home Style in New Zealand." *Legislative Studies Quarterly* 8(2):157–175.
- Bawn, Kathleen. 1999. "Voter Responses to Electoral Complexity: Ticket Splitting, Rational Voters and Representation in the Federal Republic of Germany." *British Journal of Political Science* 29(3):487–505.
- Bawn, Kathleen and Michael F. Thies. 2003. "A Comparative Theory of Electoral Incentives: Representing the Unorganized Under PR, Plurality and Mixed-Member Electoral Systems." *Journal of Theoretical Politics* 15(1):5.
- Budge, Ian. 1994. "A New Spatial Theory of Party Competition: Uncertainty, Ideology and Policy Equilibria Viewed Comparatively and Temporally." *British Journal of Political Science* 24(4):443–467.
- Cain, Bruce, John Ferejohn and Morris Fiorina. 1987. *The Personal Vote: Constituency Service and Electoral Independence*. Cambridge, MA: Harvard University Press.
- Carey, John M. 2007. "Competing Principals, Political Institutions, and Party Unity in Legislative Voting." *American Journal of Political Science* 51(1):92–107.
- Carey, John M. and Matthew Søberg Shugart. 1995. "Incentives to Cultivate a Personal Vote: A Rank Ordering of Electoral Formulas." *Electoral Studies* 14(4):417–439.
- Chen, Lu-huei, Ying-nan Chen and TY Wang. 2013. Interest, Identity, and People's Preference on the Independence Issue in Taiwan. In *New Dynamics in Cross-Taiwan Straits Relations: How Far Can the Rapprochement Go?*, ed. Weixing Hu. Routledge chapter 9, pp. 153–168.
- Chen, Ming-tong. 1996. Local Factions and Elections in Taiwan's Democratization. In *Taiwan's Electoral Politics and Democratic Transition: Riding the Third Wave*, ed. Hung mao Tien. East Gate Book chapter 7, pp. 174–192.
- Chu, Yun-han. 2004. "Taiwan's National Identity Politics and the Prospect of Cross-Strait Relations." *Asian Survey* 44(4):484–512.
- Cox, Gary W. 1997. *Making Votes Count: Strategic Coordination in the World's Electoral Systems*. New York, NY: Cambridge University Press.
- Cox, Karen E. and Leonard J. Schoppa. 2002. "Interaction Effects in Mixed-member Electoral Systems: Theory and Evidence from Germany, Japan, and Italy." *Comparative Political Studies* 35(9):1027.
- Crisp, Brian F. 2007. "Incentives in Mixed-Member Electoral Systems: General Election laws, Candidate Selection Procedures, and Cameral Rules." *Comparative Political Studies* 40(12):1460–1485.

- Downs, Anthony. 1957. *An Economic Theory of Democracy*. New York, Harper.
- Duverger, Maurice. 1954. *Political Parties: Their Organization and Activity in the Modern State*. New York: Wiley.
- Enelow, James M. and Melvin J. Hinich. 1984. *The Spatial Theory of Voting: An Introduction*. New York, NY: Cambridge University Press.
- Fenno, Richard F. 1978. *Home Style: House Members in Their Districts*. New York, NY: Longman.
- Fox, Jean-Paul. 2010. *Bayesian Item Response Modeling: Theory and Applications*. New York, NY: Springer.
- Gaines, Brian J. 1998. "The Impersonal Vote? Constituency Service and Incumbency Advantage in British Elections, 1950-92." *Legislative Studies Quarterly* 23(2):167–195.
- Gallagher, Michael, Michael Laver and Peter Mair. 1995. *Representative Government in Modern Europe*. New York, NY: McGraw Hill.
- Gelman, Andrew, John B. Carlin, Hal S. Stern and Donald B. Rubin. 2004. *Bayesian Data Analysis*. 2 ed. New York: Chapman & Hall/CRC.
- Gill, Jeff. 2008. *Bayesian Methods: A Social and Behavioral Sciences Approach*. 2nd ed. Boca Raton: Chapman & Hall/CRC Press.
- Greene, William H. 2012. *Econometric Analysis*. Boston, Mass: Prentice Hall.
- Grofman, Bernard. 2005. "Comparisons among Electoral Systems: Distinguishing between Localism and Candidate-Centered Politics." *Electoral Studies* 24(4):735–740.
- Herron, E.S. and M. Nishikawa. 2001. "Contamination Effects and the Number of Parties in Mixed-Superposition Electoral Systems." *Electoral Studies* 20(1):63–86.
- Ho, Karl, Harold D Clarke, Li-Khan Chen and Dennis Lu-Chung Weng. 2013. "Valence Politics and Electoral Choice in A New Democracy: The Case of Taiwan." *Electoral Studies* 32(3):476–481.
- Hsieh, John Fuh-sheng and Emerson MS Niou. 1996. "Salient Issues in Taiwan's Electoral Politics." *Electoral Studies* 15(2):219–235.
- Huang, Chi, Hung-chung Wang and Chang-chih Lin. 2012. "Knowledge of the Electoral System and Voter Turnout." *Taiwanese Political Science Review* 16(1):239–279.
- Huang, Chi, Hung-chung Wang and Chang-chih Lin. 2013. "Knowledge of the Electoral System and Voting: Taiwan's 2008 and 2012 Legislative Elections." *Issues & Studies* 49(4):1–45.
- Huang, Chi and T.Y. Wang. 2014. "Presidential Coattails in Taiwan: An Analysis of Voter- and Candidate-Specific Data." *Electoral Studies* 33:175–185.
- Jackman, Simon. 2009. *Bayesian Analysis for the Social Sciences*. Chichester, UK: Wiley.
- Karvonen, Lauri. 2004. "Preferential Voting: Incidence and Effects." *International Political Science Review*

25(2):203–226.

Klingemann, Hans-Dieter and Bernhard Wessels. 2001. Political Consequences of Germany's Mixed-Member System: Personalization at the Grass-Roots? In *Mixed-Member Electoral Systems: The Best of Both Worlds?*, ed. Matthew Søberg Shugart and Martin P. Wattenberg. Oxford: Oxford University Press chapter 13, pp. 279–296.

Kreuzer, Marcus. 2000. "Electoral Mechanisms and Electioneering Incentives: Vote-Getting Strategies of Japanese, French, British, German and Austrian Conservatives." *Party Politics* 6(4):487–504.

Mayhew, David R. 1974. *Congress: The Electoral Connection*. Yale University Press.

Mezey, Michael L. 1994. "New Perspectives on Parliamentary Systems: A Review Article." *Legislative Studies Quarterly* 19(3):429–441.

Mitchell, Paul. 2000. "Voters and Their Representatives: Electoral Institutions and Delegation in Parliamentary Democracies." *European Journal of Political Research* 37(3):335–351.

Moser, Robert G. and Ethan Scheiner. 2004. "Mixed Electoral Systems and Electoral System Effects: Controlled Comparison and Cross-National Analysis." *Electoral Studies* 23:575–599.

Muller, Wolfgang C. and Kaare Strøm, eds. 1999. *Policy, Office, or Votes?: How Political Parties in Western Europe Make Hard Decisions*. New York: Cambridge University Press.

Niou, Emerson MS. 2004. "Understanding Taiwan Independence and Its Policy Implications." *Asian Survey* 44(4):555–567.

Niou, Emerson MS. 2005. "A New Measure of Preferences on the Independence-Unification Issue in Taiwan." *Journal of Asian and African studies* 40(1/2):91–104.

Nishikawa, Misa and Erik S. Herron. 2004. "Mixed Electoral Rules' Impact on Party Systems." *Electoral Studies* 23(4):753–768.

Norris, Pippa. 1997. "Choosing Electoral Systems: Proportional, Majoritarian and Mixed Systems." *International Political Science Review* 18(3):297–312.

Norton, Philip and David M. Wood. 1993. *Back From Westminster: Constituency Service by British Members of Parliament*. Lexington: The University Press of Kentucky.

Powell Jr., G. Bingham. 2004. "The Chain of Responsiveness." *Journal of Democracy* 15:91–105.

Robert, Christian. 2001. *The Bayesian Choice: From Decision-Theoretic Foundations to Computational Implementation*. 2nd ed. New York, NY: Springer Verlag.

Shugart, Matthew Søberg. 2001a. "Electoral 'Efficiency' and the Move to Mixed-Member Systems." *Electoral Studies* 20(2):173–193.

Shugart, Matthew Søberg. 2001b. "Extreme" Electoral Systems and the Appeal of the Mixed-Member Alternative. In *Mixed-Member Electoral Systems: the Best of Both Worlds?*, ed. M.S. Shugart and M.P.

Wattenberg. Oxford: Oxford University Press chapter 2, pp. 25–51.

Shugart, Matthew Søberg. 2008. Comparative Electoral Systems Research: The Maturation of a Field and New Challenges Ahead. In *The Politics of Electoral Systems*, ed. Michael Gallagher and Paul Mitchell. Oxford: Oxford University Press chapter 2, pp. 25–56.

Shugart, Matthew Søberg and Martin P. Wattenberg. 2001. Mixed-Member Electoral Systems: A Definition and Typology. In *Mixed-Member Electoral Systems: The Best of Both Worlds?*, ed. Matthew Søberg Shugart and Martin P. Wattenberg. Oxford: Oxford University Press chapter 1, pp. 9–24.

Shugart, Matthew Søberg, Melody Ellis Valdini and Kati Suominen. 2005. “Looking for Locals: Voter Information Demands and Personal Vote-earning Attributes of Legislators under Proportional Representation.” *American Journal of Political Science* 49(2):437–449.

Sieberer, Ulrich. 2010. “Behavioral Consequences of Mixed Electoral Systems: Deviating Voting Behavior of District and List MPs in the German Bundestag.” *Electoral Studies* 29(3):484–496.

Snyder, James M. and Michael M. Ting. 2002. “An Informational Rationale for Political Parties.” *American Journal of Political Science* 46(1):90–110.

Stratmann, Thomas and Martin Baur. 2002. “Plurality Rule, Proportional Representation, and the German Bundestag: How Incentives to Pork-Barrel Differ across Electoral Systems.” *American Journal of Political Science* 46(3):506–514.

Strøm, Kaare. 1990. “A Behavioral Theory of Competitive Political Parties.” *American Journal of Political Science* 34(2):565–598.

Su, Yu-Sung and Masanao Yajima. 2012. R2jags: A Package for Running JAGS from R. R Package ver. 0.03-08. URL: <http://cran.r-project.org/web/packages/R2jags/>

Tsai, Chia-hung. 2008. “Making Sense of Issue Position, Party Image, Party Performance, and Voting Choice: A Case Study of Taiwan’s 2004 Legislative Election.” *Journal of Social Sciences and Philosophy* 20:1–24.

Wu, Chung-li. 2003. “Local Factions and the Kuomintang in Taiwan’s Electoral Politics.” *International Relations of the Asia-Pacific* 3(1):89–111.

Zellner, Arnold. 1962. “An Efficient Method of Estimating Seemingly Unrelated Regressions and Tests for Aggregation Bias.” *Journal of the American Statistical Association* 57(298):348–368.

## 國科會補助專題研究計畫出席國際學術會議心得報告

日期：105 年 3 月 25 日

計畫編號	NSC 103-2410-H-004-004-MY2		
計畫名稱	廣義之潛在變數模型之探討及其在選舉研究中之應用 2/2		
出國人員姓名	蔡宗漢	服務機構及職稱	政治大學政治學系/專任助理教授
會議時間	2015 年 5 月 16 日 至 2015 年 5 月 18 日	會議地點	日本熊本
會議名稱	(中文) 2015 年日本選舉學會研討會 (英文) 2015 Japanese Association of Electoral Studies Conference		
發表題目	(中文) 2014 年高雄市長選舉中選民的課責認知 (英文) Unaccountable Accountability? Citizen's Perception of Electoral Accountability in the 2014 Election for City Mayor of Kaohsiung		

## 一、參加會議經過

日本選舉學會研討會是以日本選舉為主題，所以大部分的場次皆在討論日本的選舉現象，但為了拓展日本學者與亞洲各國學者交流，特別安排台灣選舉的場次。於台灣選舉場次中，發表人為來自台灣的學者，評論人皆為日本當地的學者。這樣的安排也確實讓兩國學者達到實質的交流，由日本學者擔任評論者，不僅讓日本學者了解台灣的選舉現象，也能夠提供日本的案例給台灣學者。如此，對於理論的發展提供很大的助益。

## 二、與會心得

在此次會議中，我與日本當地的學者以及參與的韓國學者進行意見交換，由於台灣、日本與韓國的國會議員選舉制度皆是混合制，所以針對此主題進行深度的討論，並且在過程中獲得許多寶貴的建議，也對後續論文的修改提供相當大的助益。此外，也利用這次研討會的機會，了解日本與韓國的現象，這些資訊對於未來進行跨國比較的研究也建立相當好的基礎。

## 三、發表論文全文或摘要

“Throwing the rascal out” is one of the bedrock principles of electoral politics in modern democracy. The idea of “accountability” is thus realized by replacing under-performed politicians by qualified ones. However, practices often run against theories. On the one hand, citizen might be incapable of identifying the real “rascal” who really commits serious mistakes since information is always insufficient and even incorrect. On the other hand, and might be more important, non-performance issues such as ideology and identification, might carry more weight in citizen’s decision making process. Therefore, the electoral impact of accountability is an issue wide open for further studies.

In Taiwan, the study of political accountability is less concerned by academics. Nonetheless, as Taiwan enters the phrase of democratic consolidation, the demand for accountable governance is even more pressing. For example, a series of gas blasts in late July 2014 took away 31 lives and more than 300 others were injured. The disastrous damages quickly introduced intense quarrels between the central government (the Executive Yuan) and the local government (Kaohsiung City) who should be responsible for the incident. The disputes later led to the resigns of the Minister of Economics, and four officials of city government, including one deputy mayor. Also, billions of dollars were paid to compensate affected citizens. Up to date, the restorations have not completed. This incident provides an opportune example to examine citizen’s perception of political accountability in the coming mayoral election on the 29<sup>th</sup> of November.

This paper would firstly discuss the theory of political accountability. Special attention is paid to the difficulties of clarifying the responsibilities of politicians. Then, the gas blast incident as a case of analysis will be introduced. Based on post mayoral election survey data, citizen’s knowledge of that incident, perception of political accountability, and vote choice are examined. It is assumed that, though the incident does provide a certain degree of political accountability, other non-accountability issues continue to play an important role in citizen’s voting decision. Last, this paper will bring a brief concluding remarks and the implication of political accountability on Taiwan’s political development.

#### 四、建議

無

#### 五、攜回資料名稱及內容

紙本會議議程，其內容包含會議期間所有研討會場次的時間與場地安排、與會者名單、以及其他政治學研究相關資訊。

#### 六、其他

此研討會論文屬於此研究計畫所涉及主題的延伸。



## 國科會補助專題研究計畫出席國際學術會議心得報告

日期：104 年 3 月 25 日

計畫編號	NSC 103-2410-H-004-004-MY2		
計畫名稱	廣義之潛在變數模型之探討及其在選舉研究中之應用 2/2		
出國人員姓名	蔡宗漢	服務機構及職稱	政治大學政治學系/專任助理教授
會議時間	2015 年 6 月 23 日 至 2015 年 6 月 29 日	會議地點	Vienna, Austria
會議名稱	(中文) 2015 年歐洲政治學會年會 (英文) 2015 Annual Meeting of the European Political Science Association		
發表題目	(中文) 多黨體系下的政黨競選策略：貝氏結構方程模型在動態政黨競爭的應用 (英文) Party Policy Strategies in Multiparty Systems: Bayesian Structural Equation Modeling for Dynamic Party Competition		

## 一、參加會議經過

在此次會議中，因為我的研討會論文重點在統計方法上的討論，該場次的主持人、評論人以及與會者皆提供相當有幫助的建議。除了我自己發表的場次之外，我也參與了其他多個場次，這些場次的主題包含政治學方法論、政治經濟學、以及政治制度。此研討會大多數主題皆與歐洲政治有關，在會議過程中，除了我本身瞭解更多歐洲政治研究的發展之外，也提供台灣的經驗給歐洲學者。

## 二、與會心得

此研討會雖由歐洲政治學會舉辦，但與會者除了歐洲的學者之外，也有相當多來自美國與其他世界各國的學者。與會過程中也了解到歐洲政治學研究，也有相當多的比例著重在計量分析方法，其重視統計模型的程度並不比美國政治學界遜色。而且在統計方法的研究方面，美國與歐洲政治學界的交流互動相當密切。希望台灣能正視此現象，對於未來台灣學生在申請美國或歐洲學校時，才

能符合標準。

### 三、發表論文全文或摘要

This paper investigates the interdependence between party policy strategies and party support in multiparty systems, in an effort to illustrate the endogenous dynamics of multiparty systems. To evaluate theoretical arguments, I propose a Bayesian structural equation model to analyze the Comparative Manifesto Project dataset for Britain and Israel. The results show little evidence that party policy positions influence election results, and weak effects of past election results on party policy repositioning. The results also show that party manifestos do not provide clear-cut division of party policy positions. These findings present important implications for party competition and for democratic representation.

### 四、建議

在閱讀頂尖期刊的研究論文時，可以發現一篇高品質研究論文的出版，大多是經過多次研討會的發表與討論，才能朝向更高水準的方向進行修改。因此，希望科技部能夠多加鼓勵研究者將研究論文發表於不同或多個學術研討會，以便獲得更多的修改意見，進而對投稿國際期刊有所助益。可行的方案是鼓勵研究者申請參與多次國際研討會的補助，並且在經費補助上提供實質的協助。

### 五、攜回資料名稱及內容

紙本會議議程，其內容包含會議期間所有研討會場次的時間與場地安排、與會者名單、以及其他政治學研究相關資訊

### 六、其他

此研討會論文雖不在討論台灣政治，但所使用的統計方法背後邏輯與此研究計畫是相關聯的，且此研討會論文的發展將有助於完成此研究計畫。

# 科技部補助計畫衍生研發成果推廣資料表

日期:2016/02/24

科技部補助計畫	計畫名稱: 廣義之潛在變數模型之探討及其在選舉研究之應用
	計畫主持人: 蔡宗漢
	計畫編號: 103-2410-H-004-004-MY2      學門領域: 比較政治
無研發成果推廣資料	

103年度專題研究計畫研究成果彙整表

計畫主持人：蔡宗漢		計畫編號：103-2410-H-004-004-MY2				計畫名稱：廣義之潛在變數模型之探討及其在選舉研究之應用	
成果項目		量化			單位	備註（質化說明： 如數個計畫共同成果、成果列為該期刊之封面故事...等）	
		實際已達成數（被接受或已發表）	預期總達成數（含實際已達成數）	本計畫實際貢獻百分比			
國內	論文著作	期刊論文	0	0	100%	篇	
		研究報告/技術報告	0	0	100%		
		研討會論文	0	0	100%		
		專書	0	0	100%	章/本	
	專利	申請中件數	0	0	100%	件	
		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力（本國籍）	碩士生	1	1	100%	人次	
		博士生	0	0	100%		
		博士後研究員	0	0	100%		
		專任助理	0	0	100%		
國外	論文著作	期刊論文	0	0	100%	篇	
		研究報告/技術報告	0	0	100%		
		研討會論文	1	1	100%		
		專書	0	0	100%	章/本	
	專利	申請中件數	0	0	100%	件	
		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力（外國籍）	碩士生	0	0	100%	人次	
		博士生	0	0	100%		
		博士後研究員	0	0	100%		
		專任助理	0	0	100%		
其他成果 （無法以量化表達之 成果如辦理學術活動、 獲得獎項、重要國際 合作、研究成果國際 影響力及其他協助 產業技術發展之具體	無						

效益事項等，請以文字敘述填列。）			
	<b>成果項目</b>	<b>量化</b>	<b>名稱或內容性質簡述</b>
<b>科教處計畫加填項目</b>	測驗工具(含質性與量性)	0	
	課程/模組	0	
	電腦及網路系統或工具	0	
	教材	0	
	舉辦之活動/競賽	0	
	研討會/工作坊	0	
	電子報、網站	0	
	計畫成果推廣之參與（閱聽）人數	0	

# 科技部補助專題研究計畫成果報告自評表

請就研究內容與原計畫相符程度、達成預期目標情況、研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）、是否適合在學術期刊發表或申請專利、主要發現或其他有關價值等，作一綜合評估。

1. 請就研究內容與原計畫相符程度、達成預期目標情況作一綜合評估

達成目標

未達成目標（請說明，以100字為限）

實驗失敗

因故實驗中斷

其他原因

說明：

2. 研究成果在學術期刊發表或申請專利等情形：

論文： 已發表  未發表之文稿  撰寫中  無

專利： 已獲得  申請中  無

技轉： 已技轉  洽談中  無

其他：（以100字為限）

已在研討會中發表且投稿至國際學術期刊，目前在審查中。

3. 請依學術成就、技術創新、社會影響等方面，評估研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）（以500字為限）

此第二年度之計畫在理論上與方法上皆有別於目前台灣政治學界關於選民投票行為的研究，首先，在理論上，此計畫著重在政治制度對於選民投票行為的影響，而非僅限於選民個人的意識形態或社會經濟背景。台灣的選舉研究太過著重在選民層次的因素，較少著墨制度層次帶來的影響。此計畫期望能彌補這方面的不足。其次，在方法上，此計畫將選民兩張選票的關聯性模型化，而非將兩者視為獨立的而分別進行分析。目前台灣學界在個體層次關於立法委員選舉的研究，多將焦點放在候選人選票，忽略制度上兩張選票可能產生的交互影響。此計畫則認為分析時應該正視此可能性，因此提出較為適當的統計模型進行資料分析。此研究成果將能對混合選制對選民行為的影響提供貢獻，此外，也能對於台灣選舉制度的影響提供評估的參考依據。