

A Study of Causal Order: Party Identification and Attitude toward the Independence/Unification Issue in Taiwan

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The purpose of this study is to examine the causal relationship between party identification and individual attitude toward the independence/unification issue in Taiwan. This study assumes that in Taiwan, an individual's party identification and his/her attitude toward independence/unification can affect each other. By using the panel survey data of Taiwan's Election and Democratization Study (TEDS) and the multinomial logit model, this study confirms that there is mutual causation between these two, although it is limited to the relationship between support for Taiwan independence and identification with the Democratic Progressive Party (DPP). No significant causal relationship is found between identification with the Kuomintang (KMT) and attitude toward the independence/unification issue. In short, this study indicates that endogeneity is a potential risk in previous studies and helps clarify the causal relationship between people's party identification and their attitude toward the independence/unification issue in Taiwan.

KEYWORDS: party identification; independence/unification issue; endogeneity; panel study; TEDS.

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The independence/unification issue has been one of the most salient political issues in Taiwan since the establishment of the Democratic Progressive Party (DPP) in 1986, and the DPP has taken advantage of this issue to attract support in elections. The conventional wisdom holds that the DPP advocates Taiwan independence and the Kuomintang (KMT) supports eventual unification with China. Indeed, many previous studies indicate that people who support Taiwan independence are more likely to identify with the DPP and people who support unification with China tend to identify with the KMT.¹ However, the causal relationship between party identification and the independence/unification issue is ambiguous and has not been seriously examined. The question is, does party identification affect people's support for Taiwan independence or unification with China? Or do people's attitudes toward the independence/unification issue have an impact on their party identification? This study assumes that attitude and identification can affect each other. This means that previous studies, most of which have been conducted with cross-sectional data, confront the problem of endogeneity, which makes estimates of the relationship between party identification and the independence/unification issue biased.²

In this study, I utilize the panel survey data of Taiwan's Election and Democratization Study (TEDS) to reexamine the relationship between people's party identification and their positions on the independence/unifi-

¹Lu-huei Chen, "Taiwan xuanmin zhengdang rentong de bianqian yu chixu" (Change and continuity in party identification among the electorate in Taiwan), *Xuanju yanjiu* (Journal of Electoral Studies) (Taipei) 7, no. 2 (November 2000): 121-24; Chung-li Wu and Wen-pin Hsu, "Shei shi zhengdang rentongzhe yu duli xuanmin? Yi 2001 nian Taiwan diqu xuanmin zhengdang rentong de jue ding yinsu wei li" (Who are partisans and independents? Determinants of party identification of Taiwan's voters in 2001), *Zhengzhi kexue luncong* (Political Science Review) (Taipei) 18 (June 2003): 126.

²Shing-yuan Sheng, "Tongdu yiti yu Taiwan xuanmin de toupiao xingwei: 1990 niandai de fenxi" (The issue Taiwan independence vs. unification with the mainland and voting behavior in Taiwan: an analysis in the 1990s), *Xuanju yanjiu* (Journal of Electoral Studies) (Taipei) 9, no. 1 (May 2002): 41-80; Emerson M. S. Niu, "A New Measure of Preferences on the Independence-Unification Issue in Taiwan," *Journal of Asian and African Studies* 40, no. 1-2 (April 2005): 91-104.

cation issue. This panel data enables me to distinguish clearly the causal order and reexamine the relationship between party identification and independence/unification attitude. I proceed by first discussing solutions to the endogeneity problem, and why such a problem may exist with regard to the relationship in question. Next, I introduce the research design of this study, the data used, as well as the measurement of variables. In the following section, I present the results and discuss the analysis. Lastly, I conclude by summarizing my findings and setting out the theoretical implications.

The Problem of Endogeneity

One of the most important statistical assumptions is that the explanatory variables in a discrete choice model are independent of the unobserved factors. In many situations, however, the explanatory variables are endogenous. That is, they are correlated with or otherwise not independent of the unobserved factors. This issue has been referred to as the endogeneity problem. Endogeneity is one of the most pervasive problems in social science research, and it can arise as a result of omitted variables, measurement error, or simultaneity in simultaneous equation models. First of all, in terms of omitted variables, endogeneity comes from an uncontrolled confounding variable which is both correlated with an independent variable in the model and with the error term. In other words, the omitted variable both affects the independent variables and separately affects the dependent variable so that the covariance between observed independent variables and the error term does not equal zero. Second, in terms of measurement error, endogeneity occurs when we do not get a perfect measure of one of our independent variables (i.e., the variable is measured with some error) so that it may be related with the error term in our equation. Measurement error in the dependent variable, however, does not cause endogeneity. Lastly, endogeneity occurs in a system of simultaneous equations when two or more left-hand side variables are functions of each other in our equations. That is, many of our dependent variables are also probably causes of the independent variables, which will violate the assumption of zero corre-

lation between error terms.³ To be able to make a genuine causal claim, we need truly exogenous explanatory variables which are not related to any of the other explanatory variables in the system, regardless of whether they are unobserved or observed. If one of our explanatory variables is determined by other explanatory variables in the model, that explanatory variable is actually an endogenous variable. In a nutshell, the problem with having endogenous explanatory variables is that they cause the error term in the model to be correlated with the explanatory variables thus leading to the endogeneity problem.

It is well known that the presence of endogeneity can lead to biased and inconsistent parameter estimates, and misleading inferences from hypothesis tests. As a result, it is necessary to prevent the occurrence of endogeneity or to find appropriate solutions when it does occur. A general approach to solving the endogeneity problem is the instrumental variables method which uses instrumental variables for what are possibly endogenous explanatory variables.⁴ Due to endogenous regressors, we may obtain inconsistent parameter estimation, whereas the use of an instrumental variables estimator can provide a way of obtaining consistent parameter estimates. Changes in the instrumental variable are associated with changes in our key independent variable but do not lead to change in our dependent variable. In other words, an instrumental variable must be (1) uncorrelated with the error term and (2) correlated with our key independent variable.⁵ In short, instrumental variables can eliminate bias from the three above-mentioned sources: omitted variable bias, errors-in-variable bias (i.e., X is measured with error), and simultaneous causality bias (i.e., endogenous explanatory variables; X causes Y, and Y causes X). Although the instrumental variables method is widely used in econometrics, it is rarely used

³John Antonakis et al., "On Making Causal Claims: A Review and Recommendations," *The Leader Quarterly* 21, no. 6 (December 2010): 1090-95.

⁴Regarding the method of instrumental variables, please see Andrew C. Harvey, *The Econometric Analysis of Time Series* (Oxford: Philip Allen, 1981), 77-81.

⁵Stephen L. Morgan and Christopher Winship, *Counterfactuals and Causal Inference: Methods and Principles for Social Research* (New York: Cambridge University Press, 2007), 188.

elsewhere. Moreover, it is conceptually difficult and easily misused since it is sometimes difficult to find an instrumental variable for the endogenous variable.

Next, I turn my attention to the focus of this study: why there is an endogeneity problem in the relationship between people's party identification and their attitudes toward the independence/unification issue in Taiwan. Although it is known that in Taiwan, people's party identification is associated with their attitudes toward the independence/unification issue, correlation does not equal causation. Davis lays out four tests for making a causal claim: for the two variables, X and Y, run the causal arrow from X to Y if (1) Y starts after X freezes; (2) X is linked to an earlier step in a well-known sequence; (3) X never changes and Y sometimes changes; (4) X is more stable, harder to change, or more fertile.⁶ In a nutshell, each is only a special application of the great principle of causal order: *after cannot cause before*. However, previous studies have just used cross-sectional data and put the variables in the regression model to examine the relationship between party identification and individual attitude toward the independence/unification issue, and have not taken a deep look at their causal order. As Davis says, "causal order is a substantive or empirical problem to be solved by our knowledge about how the real world works, not by statistical gyrations."⁷ Therefore, regression cannot tell us about the causal relationship between variables, only the correlation.

The main reason why there is an endogeneity problem in the issue under consideration here is simultaneity—that is, reverse causality—and it is reasonable to suspect that there is a two-way causal relationship between party identification and individual attitude toward the independence/unification issue in Taiwan. That is, party identification and independence/unification attitudes can affect each other. For instance, people are likely to identify with a political party because of the political, economic, and social issues promoted by that party, and likewise, people are also likely to de-

⁶James A. Davis, *The Logic of Causal Order* (Newbury Park, Calif.: Sage, 1985), 11-15.

⁷*Ibid.*, 11.

velop attitudes toward specific issues that are consistent and favorable to their favorite party through *projection* and *rationalization*.⁸ Therefore, when we use party identification to explain Taiwan people's attitudes toward the independence/unification issue or vice versa, an endogeneity problem may exist. With this endogeneity problem in mind, this study attempts to provide a critical examination of the relationship between party identification and individual attitude toward the independence/unification issue in Taiwan based on panel data. Panel data has been chosen to investigate the causal relationship between these two because panel studies are the best quasi-experimental design for investigating the causes and consequences of change with high internal validity. The research design of this study is described in the next section.

Research Design: Data and Methodology

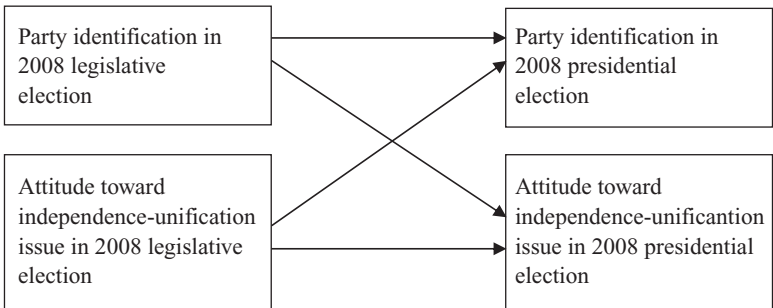
This study utilizes the panel data collected by Taiwan's Election and Democratization Study (TEDS). The first wave of survey data is acquired from "Taiwan's Election and Democratization Study, 2005-2008 (III): the Survey of Legislative Elections in 2008 (TEDS2008L)" and was collected with a sample size of 1,238 between January and March 2008; data in the second wave are obtained from "Taiwan's Election and Democratization Study, 2005-2008 (): the Survey of the Presidential Election in 2008 (TEDS 2008P)" and were collected between June and August 2008. The case number of the follow-up survey is 755. Because this study focuses on respondents who participated in both surveys, the effective sample is 755.⁹

The purpose of this study is to clarify the causal relationship between

⁸Regarding projection and rationalization, please see Robert S. Erikson and Kent L. Tedin, *American Public Opinion: Its Origins, Content, and Impact* (New York: Pearson Longman, 2010), 278-79.

⁹Data analyzed in this study were collected by the research project Taiwan's Election and Democratization Study, 2008 (TEDS2008L and TEDPS2008P), directed by Dr. Chi Huang. The Election Study Center, National Chengchi University, is responsible for distributing the data. The author appreciates the assistance offered by Dr. Huang and the Center in providing the data. The views expressed herein are the author's own.

Figure 1
Research Design



the party identification of individuals in Taiwan and their attitudes toward the independence/unification issue. Thanks to the characteristics of panel data, we can clearly differentiate the causal order between them. The research design of this study is illustrated in figure 1.

Specifically, the analytic models are represented by the following equations.

(1)

$$\text{Party ID}_t = \beta_1(\text{Independence/unification issue})_{t-1} + \beta_2(\text{Party ID})_{t-1} + C_i X_i \quad (1)$$

$$\begin{aligned} \text{Independence - unification issue}_t = \\ \gamma_1(\text{Party ID})_{t-1} + \\ \gamma_2(\text{Independence/unification issue})_{t-1} + C_i X_i \end{aligned} \quad (2)$$

where X_i is a vector of control variables, and C_i is a vector of coefficients for control variables.

I explain the measurement of the variables below and present the wording of the survey questions in the appendix.

Party Identification

In their seminal book, Campbell et al. argue that party identification plays a critical role in affecting individual political attitudes and behavior.¹⁰ Likewise, many studies have indicated that party identification

is a powerful predictor of individual voting behavior in Taiwan.¹¹ Although there are many political parties in Taiwan, only two have had a significant influence on Taiwan politics since the 2004 presidential election: the KMT and the DPP. Therefore, I have classified Taiwan people's party identification as support for the KMT, support for the DPP, or independent. When party identification is treated as the independent variable, two dummy variables are created, for people who support the KMT and for supporters of the DPP, both of which are coded 1. In other words, independents are treated as the base group. Likewise, when party identification is treated as the dependent variable, independents are also the base group in the model.

Independence/unification Issue

The independence/unification issue is a major subject of political debate that dominates political competition in Taiwan, and the Taiwanese public is able to clearly identify the differences in the positions of the KMT and the DPP on this issue. Most KMT members adhere to the party's official one-China policy, whereas nearly all DPP members support the party line of promoting Taiwan independence.¹² Furthermore, the independence/unification issue also has a significant effect on individual party evaluation and voting behavior.¹³ Three kinds of attitudes can be identified among Taiwan people toward the independence/unification issue: support for Taiwan independence, support for unification with China, and support for

¹⁰ Angus Campbell et al., *The American Voter* (Chicago: University of Chicago Press, 1960).

¹¹ See, for example, Yih-yan Chen, "Woguo xuanmin de jiqun fenxi ji qi toupiao qingxiang de yuce: cong minguo 81 nian liwei xuanju tantao" (Predicting voter choice in the 1992 legislative election: a cluster analysis), *Xuanju yanjiu* (Journal of Electoral Studies) (Taipei) 1, no. 1 (May 1994): 30; Hung-der Fu, "Jueding toupiao xuanze de jiegou xinli he lixing yinsu: minguo 85 nian zongtong xuanju yanjiu" (The determinants of voting choice: structural, psychological, and rational factors), *Xuanju yanjiu* (Journal of Electoral Studies) (Taipei) 3, no. 2 (November 1996): 166-67; Lu-huei Chen, "Taiwan 1996 nian zongtong xuanju zhi fenxi" (Taiwan's presidential election of 1996: an analysis), *Xuanju yanjiu* (Journal of Electoral Studies) (Taipei) 5, no. 2 (November 1998): 175.

¹² Hung-mao Tien, ed., *Taiwan's Electoral Politics and Democratic Transition: Riding the Third Wave* (New York: M. E. Sharpe, 1996), 230.

¹³ See, for example, John Fuh-sheng Hsieh and Emerson M. S. Nious, "Salient Issues in Taiwan's Electoral Politics," *Electoral Studies* 15, no. 2 (May 1996): 231-32; Sheng, "Tongdu yiti yu Taiwan xuanmin de toupiao xingwei," 57-58.

maintaining the status quo. Because the TEDS survey provides respondents with the following six options: (1) immediate unification; (2) immediate independence; (3) maintain the status quo, move toward unification in the future; (4) maintain the status quo, move toward independence in the future; (5) maintain the status quo, decide either unification or independence in the future; and (6) maintain the status quo forever, this study combines options (1) and (3) as support for unification, options (2) and (4) as support for independence, and options (5) and (6) as support for the status quo.

According to surveys carried out by the Election Study Center at National Chengchi University, Taiwan, in general, nearly sixty percent of Taiwan people would prefer to maintain the status quo over time. Although the number of Taiwan people supporting independence has increased over time, the percentage of support for Taiwan independence was only 23.2 percent in 2011 (i.e., a combination of those who answered "maintain the status quo, move toward independence" and "independence as soon as possible"). In contrast, fewer and fewer Taiwan people have expressed support for unification with China. There was a significant drop in the percentage supporting unification, from 20 percent in 1994 to 9.1 percent in 2011 (i.e., a combination of those who answered "maintain the status quo, move toward unification" and "unification as soon as possible").¹⁴ In this study, when attitude toward the independence/unification issue is treated as the independent variable, two dummy variables are created and coded 1—people who support Taiwan independence and those who support unification with China. Hence, people who support maintaining the status quo are regarded as the base group. In the same vein, when attitude toward the independence/unification issue is treated as the dependent variable, the same coding is followed.

¹⁴For details about Taiwan people's attitudes toward the independence/unification issue, please refer to the web page of the Election Study Center, National Chengchi University: <http://esc.nccu.edu.tw/english/modules/tinyd2/content/pic/trend/Tondu201106.jpg>.

Control Variables

Some factors are found to affect Taiwan people's party identification and their attitudes toward the independence/unification issue. These potentially influential factors—Taiwanese/Chinese identity, ethnicity, political generation, education, and gender—are included in my analytic model as control variables. First of all, with regard to Taiwanese/Chinese identity, due to the close cultural connection between Taiwan and China, some Taiwan people consider themselves as Chinese rather than Taiwanese, while others regard themselves as both Taiwanese and Chinese. Some previous studies have indicated that people who think of themselves as Taiwanese tend to support the DPP and Taiwan independence whereas people who see themselves as Chinese are inclined to support the KMT and unification with China.¹⁵ Due to the fact that the sample size of people with a Chinese identity is only 30 and in order to avoid a biased estimate, only one dummy variable is created and coded 1, for people with a Taiwanese identity, and others are coded 0. Therefore, people with Chinese identity and dual identity are treated as the base group. Second, since previous studies have found that ethnicity has a substantial effect on Taiwan people's party identification and their attitudes toward the independence/unification issue,¹⁶ respondents' ethnicity is recoded into two dummy variables, Taiwanese Hakka and Taiwanese Minnan, which are coded 1 for respondents in the relevant category and 0 otherwise, with Mainlander as the base group.

Third, previous studies have also found that there are significant generational differences in Taiwan people's party identification and their attitudes toward the independence/unification issue.¹⁷ Scholars adopt dif-

¹⁵Chen, "Taiwan xuanmin zhengdang rentong," 121-24; Wu and Hsu, "Shei shi zhengdang rentongzhe yu duli xuanmin?" 124.

¹⁶G. Andy Chang and T. Y. Wang, "Taiwanese or Chinese? Independence or Unification? An Analysis of Generational Differences in Taiwan," *Journal of Asian and African Studies* 40, no. 1-2 (April 2005): 39-42.

¹⁷I-chou Liu, "Taiwan xuanmin zhengdang xingxiang de shidai chayi" (Generational difference in party image among Taiwanese voters), *Xuanju yanjiu* (Journal of Electoral Studies) (Taipei) 1, no. 1 (May 1994): 56-59; Nai-teh Wu, "Jiating shehuihua he yishi xingtai: Taiwan xuanmin zhengdang rentong de shidai chayi" (Family socialization and ideology: generational difference in party identification among Taiwanese voters), *Taiwan shehui xue*

ferent approaches to classifying political generation, and in this study, I follow Chang and Wang's classification.¹⁸ They use three cut-off points to divide Taiwan people into four generational groups: 1931, 1953, and 1968. Specifically, the first generation consists of people who were born in or before 1931 and would have been at least eighteen years old when the KMT government retreated to Taiwan in 1949, including people who experienced Japanese colonial rule and the February 28 incident, and those who retreated to Taiwan with the KMT government. People born between 1932 and 1953 are classified as the second generation. During their formative years in the 1960s and 1970s, they experienced the island's rapid economic growth. When Taiwan withdrew from the United Nations in 1971, many of them were at least eighteen years old and experienced the shock of Taiwan's loss of international identity. The third generation includes people who were born between 1953 and 1968. They experienced both authoritarian rule under the KMT government and the establishment of the island's first opposition party. Finally, people born after 1968 are classified as the fourth generation who experienced the rapid democratization of the 1990s, the first direct presidential election in 1996, and the peaceful transfer of political power in 2000.

As a result, three dummy variables are created respectively for the second generation, the third generation, and the fourth generation and coded 1 for respondents in the relevant category and 0 otherwise. That is, the first generation respondents are treated as the base group. Furthermore, to control the effects of respondents' educational level, one dummy variable, college degree and above, is generated, coded 1 for those who are in the corresponding categories and 0 otherwise. Therefore, respondents with an educational level of senior high school or below are treated as the base group. Finally, gender is treated as a dummy variable and coded 1 if the respondent is female and 0 otherwise.

yanjiu (Taiwanese Sociological Review) (Taipei) 3 (July 1999): 65-67; Chang and Wang, "Taiwanese or Chinese?" 39-42.

¹⁸Chang and Wang, "Taiwanese or Chinese?" 30-35.

Table 1
Relationships between Party Identification and Independence/Unification Issue

Party ID _{t-1}	Independence/Unification Issue _t				Result of Significance Test
	Status quo	Unification	Independence	N	
Independents	65.1%	14.5%	20.4%	241	$X^2 = 149.161$
KMT	69.7%	25.1%	5.2%	267	$d.f. = 4$
DPP	41.9%	5.4%	52.7%	184	$p < 0.001$
Independence/ Unification Issue _{t-1}	Party ID _t				Result of Significance Test
	Independents	KMT	DPP	N	
Status quo	32.8%	46.9%	20.3%	403	$X^2 = 144.159$
Unification	26.0%	57.7%	16.3%	104	$d.f. = 4$
Independence	18.7%	12.3%	69.0%	155	$p < 0.001$

With regard to methodology, this study employs the multinomial logit model to conduct the analysis. This takes the form of

$$\frac{\ln(\Pr(y = m|x))}{\Pr(y = b|x)} = x\beta_{(m|b)}$$

where b is the base category, which refers to independents or people who support maintaining the status quo in this study; m are the groups of DPP and KMT supporters or people who support Taiwan independence or unification with China in this study; x is a vector of independent variables, and β is a vector of regression estimates.

Results

The first step in my analysis is to examine the correlation between Taiwan people's party identification and their attitudes toward the independence/unification issue. The result of the significance test of Pearson's chi-square is presented in table 1, and it is clear that there is a significant association between party identification and individual attitude toward the

independence/unification issue in Taiwan. On the one hand, people without preference for any political party are more like to support maintaining the status quo and people who identify with the DPP are inclined to support Taiwan independence. On the other hand, people who support unification with China are more likely to identify with the KMT whereas those who support Taiwan independence are more likely to identify with the DPP.

The preliminary correlation analysis provides some evidence that there is an unignorable relationship between Taiwan people's party identification and their attitudes toward the independence/unification issue. However, what interests us in this study is the causal relationship. In other words, does party identification affect attitude toward the independence/unification issue? Or does attitude toward the independence/unification issue influence party identification? Or do they influence each other? By using the panel data, I am able to clearly distinguish the causal order of Taiwan people's party identification and their attitudes toward the independence/unification issue. As a consequence, the next step of my analysis is to investigate their causal relationship. The result of the multinomial logit analysis with regard to the effect of party identification on attitude toward the independence/unification issue is presented in table 2. There are several important findings.

First of all, none of the party identification variables is statistically significant for unification/status quo comparison. In other words, Taiwan people's party identification does not increase the probability that they will support either unification with China or maintaining the status quo. However, since both of the party identification variables are statistically significant in the independence/status quo comparison, party identification does increase the probability of an individual supporting Taiwan independence relative to supporting maintenance of the status quo. Specifically, if people identify with the KMT, their probability of supporting Taiwan independence decreases by 11.3 percent; by contrast, if people identify with the DPP, their probability of supporting Taiwan independence increases by 9.4 percent. It is obvious that whether people identify with the KMT or DPP has a significant effect on their support for Taiwan independence, but it has no effect on their support for unification with China.

Table 2
Multinomial Logistic Regression for Attitude toward Independence or Unification

	Unification		Independence	
	Coeff.	(S.E.)	Coeff.	(S.E.)
Party ID				
KMT	0.167	(0.285)	-0.938*	(0.370)
DPP	-0.379	(0.432)	0.625*	(0.278)
Independence/unification issue				
Support for independence	-0.024	(0.489)	1.941***	(0.268)
Support for unification	1.477***	(0.271)	0.018	(0.483)
Taiwanese/Chinese identity				
Taiwanese	-0.607*	(0.299)	1.230***	(0.299)
Ethnicity				
Taiwanese Hakka	-0.179	(0.464)	0.034	(0.717)
Taiwanese Minnan	-0.050	(0.373)	-0.021	(0.654)
Political generation				
Second generation	-1.737**	(0.669)	0.594	(0.847)
Third generation	-1.543*	(0.650)	0.670	(0.848)
Fourth generation	-1.537*	(0.652)	0.796	(0.853)
Education				
College and above degree	0.233	(0.261)	0.104	(0.279)
Gender				
Female	-0.541*	(0.251)	-0.330	(0.250)
Constant	0.171	(0.723)	-3.015**	(1.079)
N		629		
Likelihood ratio test		299.53***		
-2*Log likelihood		877.421		
Pseudo R^2		0.255		

Data: TEDS2008L and TEDS2008P

Note:

1. Coeff. = Regression Coefficient; S.E. = Standard Error.
2. The base category is the status quo.
3. *** is significant at $p < 0.001$; ** is significant at $p < 0.010$; * is significant at $p < 0.050$.

Second, Taiwanese/Chinese identity also has an important effect on Taiwan people's attitudes toward the independence-unification issue. If people regard themselves as Taiwanese, they are more likely to support Taiwan independence and less likely to support unification with China (see table 2). Specifically, Taiwanese identity decreases the probability

of support for unification with China by 9.1 percent and increases the probability of support for Taiwan independence by 16.6 percent.

Third, the generation variables are only statistically significant for unification/status quo comparison and all of them bear negative signs. That is, compared with first generation Taiwan people, belonging to a younger generation does decrease the probability of support for unification with China. Specifically, the probabilities of support for unification with China decrease by 15.4 percent, 15.9 percent, and 17.1 percent, respectively, for second, third, and fourth generation Taiwan people. This result suggests that the younger generation is much less likely to support unification with China, which may be due to the fact that younger people identify more strongly with Taiwan and have less emotional connection with China than older people.

Finally, gender is also only statistically significant for unification/status quo comparison. Females are less likely than males to support unification with China. Although Hsieh found that females are also less likely to support Taiwan independence,¹⁹ this study fails to find a significant relationship between gender and support for Taiwan independence. However, the female variable bears a negative sign, as it does in Hsieh's findings. Besides, although Hsieh found that the less educated are the most pro-independence, whereas those who are better educated are more likely to support unification,²⁰ this study does not find any relationship between Taiwan people's educational level and their attitudes toward the independence/unification issue.

To sum up, it can be concluded that Taiwan people's party identification does have a causal effect on their attitudes toward the independence/unification issue. Nonetheless, the effect of party identification is only limited to support for Taiwan independence. In other words, KMT identifiers are less likely to support Taiwan independence, whereas DPP identifiers are more likely to support Taiwan independence. On the other hand,

¹⁹John Fuh-sheng Hsieh, "Ethnicity, National Identity, and Domestic Politics in Taiwan," *Journal of Asian and African Studies* 40, no. 1-2 (April 2005): 18-19.

²⁰*Ibid.*

whether people identify with the KMT or DPP has no effect on their support for unification with China.

After finding that Taiwan people's party identification can affect their attitudes toward the independence/unification issue, I turn my attention to whether Taiwan people's attitudes toward the independence/unification issue have an impact on their party identification. The results are presented in table 3.

First of all, attitude toward the independence/unification issue is not statistically significant for the KMT supporters/independents comparison. In other words, Taiwan people's attitudes toward the independence/unification issue are not related to their identification with the KMT. However, support for Taiwan independence has a significant effect on individual identification with the DPP. That is, people who support Taiwan independence are more likely to identify with the DPP. One possible explanation for this finding may be the difference in party image between the KMT and DPP. Although the KMT has been blamed for the development of "black gold" politics and its widespread corruption, many people consider that the party has the ability to promote economic development and national stability. Moreover, the KMT has taken an ambiguous position on relations with China. As a result, it is the KMT's image as a competent governing party that plays a critical role in attracting partisan identifiers, while its position on the independence/unification issue is not an important consideration for KMT supporters. By contrast, since its establishment in 1986, the DPP has been associated with strong advocacy for Taiwanese identity and Taiwan independence, and this party image is deeply rooted in the minds of Taiwan people. Therefore, for people who support Taiwan independence, the DPP is the clear and obvious choice. Specifically, this study finds that if people support Taiwan independence, their probability of identifying with the DPP increases by 18.5 percent. However, whether people support unification with China does not affect their identification with the DPP.

Second, Taiwanese/Chinese identity also plays an important role in Taiwan people's party identification. That is, people who think of themselves as Taiwanese are less likely to support the KMT but more likely to

Table 3
Multinomial Logistic Regression for Party Identification

	KMT		DPP	
	Coeff.	(S.E.)	Coeff.	(S.E.)
Independence/unification issue				
Support for independence	0.127	(0.413)	1.065**	(0.320)
Support for unification	-0.188	(0.348)	0.336	(0.406)
Party ID				
KMT	2.731***	(0.275)	-0.374	(0.462)
DPP	-0.029	(0.493)	2.588***	(0.306)
Taiwanese/Chinese identity				
Taiwanese	-0.824**	(0.273)	0.944**	(0.312)
Ethnicity				
Taiwanese Hakka	-1.656**	(0.591)	2.353\$	(1.264)
Taiwanese Minnan	-1.235*	(0.519)	2.455*	(1.212)
Political generation				
Second generation	0.221	(0.736)	0.018	(0.762)
Third generation	0.344	(0.721)	0.122	(0.766)
Fourth generation	0.210	(0.726)	-0.097	(0.766)
Education				
College and above degree	-0.225	(0.283)	0.112	(0.316)
Gender				
Female	0.578*	(0.258)	-0.193	(0.281)
Constant	-0.012	(0.788)	-4.292**	(1.449)
N	626			
Likelihood ratio test	585.48***			
-2*Log likelihood	777.653			
Pseudo R^2	0.430			

Data: TEDS2008L and TEDS2008P

Note:

1. Coeff. = Regression Coefficient; S.E. = Standard Error.
2. The base category is independents.
3. *** is significant at $p < 0.001$; ** is significant at $p < 0.010$; * is significant at $p < 0.050$; \$ is significant at $p < 0.100$.

support the DPP. Specifically, if people regard themselves as Taiwanese, the probability of their identifying with the KMT decreases by 26.0 percent and their probability of identifying with the DPP increases by 21.0 percent. This finding is not surprising because the DPP was the first opposition

party in Taiwan and has traditionally been seen as the real "local" party for Taiwan people.

Third, ethnicity is also found to have a significant effect on Taiwan people's party identification. In comparison with Mainlanders, Taiwanese Hakka and Taiwanese Minnan are less likely to support the KMT but more likely to support the DPP. Specifically, if people are Taiwanese Hakka, their probability of identifying with the KMT decreases by 41.4 percent; by contrast, their probability of identifying with the DPP increases by 61.0 percent, although it is only marginally significant (i.e., $p = 0.063$). Furthermore, if people are Taiwanese Minnan, their probability of identifying with the KMT decreases by 41.4 percent, but their probability of identifying with the DPP increases by 30.6 percent. In comparison with the KMT's image as an alien political party (it originated in China and retreated to Taiwan), the DPP has been regarded as a local party (one formed in Taiwan). Consequently, most Taiwan natives feel closer to the DPP than to the KMT.

Finally, although Liu indicates that different generations recognize different party images,²¹ this study does not find that political generation has any significant effect on party identification. Furthermore, people's educational level also has no impact on their party identification. Nonetheless, females are more likely than males to identify with the KMT. This is probably because the KMT is viewed as being capable of delivering the healthier economy and better security desired by females in Taiwan.

To sum up, Taiwan people's attitudes toward the independence/unification issue do have a causal effect on their party identification. However, the effect is limited to identification with the DPP only. In other words, people who support Taiwan independence are more likely to identify with the DPP, whereas people's identification with the KMT is not influenced by their attitudes toward the independence/unification issue.

In light of the above findings, it is clear that Taiwan people's attitudes toward the independence/unification issue have a causal effect on their party identification and vice versa. In other words, the causal relationship

²¹Liu, "Taiwan xuanmin zhengdang xingxiang de shidai chayi," 59-70.

in this case is not unidirectional. However, we should note that the mutual impact is limited to the relationship between support for Taiwan independence and identification with the DPP only. That is, people who support Taiwan independence are more likely to identify with the DPP and those who identify with the DPP are also likely to support Taiwan independence. This study does not find any significant relationship between support for unification and identification with the KMT.

Finally, one important concern regarding the multinomial logit model is assumption of the independence of irrelevant alternatives (IIA), which means that the odds of one choice versus another choice do not depend on the number of choice alternatives available. In other words, adding choices to the existing set of choices (or subtracting choices from the existing set) does not affect the odds between any two alternatives.²² As a result, this study uses the Hausman test and Small-Hsiao test to examine whether the models violate the IIA assumption. The results of both tests show that we fail to reject the null hypothesis that odds are independent of other alternatives. Therefore, there is an IIA assumption in this study, so the estimates made would not be biased.

Conclusion

Although previous studies have pointed to the close relationship between Taiwan people's party identification and their attitudes toward the independence/unification issue, the causal relationship between them is seldom seriously examined. Therefore, the purpose of this study is to examine the causal relationship between Taiwan people's party identification and their attitudes toward the independence/unification issue. This study finds that party identification does have a causal effect on attitude

²²Harry P. Bowen and Margarethe F. Wiersema, "Modeling Limited Dependent Variables: Methods and Guidelines for Researchers in Strategic Management," in *Research Methodology in Strategy and Management*, Volume 1, ed. David J. Ketchen and Donald D. Bergh (Amsterdam: Elsevier Press, 2004), 110.

toward the independence/unification issue, and vice versa. The causal relationship between Taiwan people's party identification and their attitudes toward the independence/unification issue is not unidirectional. However, the mutually causal relationship only exists between DPP identifiers and support for Taiwan independence. That is, people who identify with the DPP are more likely to support Taiwan independence and those who support Taiwan independence are also more likely to identify with the DPP. This means that for DPP supporters, party identification and attitude toward the independence/unification issue can strengthen each other. This study does not find any significant causal relationship between being a KMT identifier and attitude toward the independence/unification issue.

More importantly, this study highlights the endogeneity problem that may afflict previous studies which use cross-sectional data to investigate the relationship between Taiwan people's party identification and their attitudes toward the independence/unification issue. Because party identification and attitude toward the independence/unification issue are codetermined, with each affecting the other, simultaneity is an issue when we use cross-sectional data to conduct such analyses and this makes the estimates biased. Therefore, when we examine this issue, we should be careful not merely to include the other variable in the model as the control variable. I believe that the inclusion of a long list of explanatory variables into statistical models will successfully control for the effects of auxiliary factors. As Achen suggests, either a formal model or detailed data analysis is required to give credibility to a statistical specification.²³ As a result, when it comes to the relationship between party identification and the independence/unification issue, we need to select the appropriate methodological approaches.

²³Christopher H. Achen, "Let's Put Garbage-Can Regressions and Garbage-Can Probits Where They Belong," *Conflict Management and Peace Science* 22, no. 4 (September 2005): 336.

Appendix. Question Wording and Coding

Party Identification

TEDS2008L

Among the main political parties in our country, including the KMT, DPP, PFP, NP, and TSU, do you support any particular party?

0 = Independents; 1 = KMT partisans; 2 = DPP partisans; Missing value = other partisans. Then two dummy variables are created for KMT and DPP partisans and independents are treated as the reference group.

TEDS2008P

Among the main political parties in our country, including the KMT, DPP, NP, PFP, and TSU, do you think of yourself as leaning toward any particular party?

0 = Independents; 1 = KMT partisans; 2 = DPP partisans; Missing value = other partisans.

Independence/unification Issue

TEDS2008L

Concerning the relationship between Taiwan and mainland China, which of the following six positions do you agree with: (1) immediate unification; (2) immediate independence; (3) maintain the status quo, move toward unification in the future; (4) maintain the status quo, move toward independence in the future; (5) maintain the status quo, decide either unification or independence in the future; (6) maintain the status quo forever.

0 = support for status quo ("maintain the status quo, decide either unification or independence in the future" and "maintain the status quo forever"); 1 = support for unification ("immediate unification" and "maintain the status quo, move toward unification in the future"); 2 = support for independence ("immediate independence" and "maintain the status quo, move toward independence in the future"). Then two dummy variables are created for people who support unification or independence, and people who support the status quo are treated as the reference group.

TEDS2008P

Concerning the relationship between Taiwan and mainland China, which of the following six positions do you agree with: (1) immediate unification; (2) immediate independence; (3) maintain the status quo, move toward unification in the future; (4) maintain the status quo, move toward independence in the future; (5) maintain the status quo, decide either unification or independence in the future; (6) maintain the status quo forever.

0 = support for status quo ("maintain the status quo, decide either unification or independence in the future" and "maintain the status quo forever"); 1 = support

for unification ("immediate unification" and "maintain the status quo, move toward unification in the future"); 2 = support for independence ("immediate independence" and "maintain the status quo, move toward independence in the future").

Taiwanese/Chinese Identity

TEDS2008P

In Taiwan, some people think they are Taiwanese. There are also some people who think that they are Chinese. Do you consider yourself as Taiwanese, Chinese, or both?

0 = Chinese and dual identities; 1 = Taiwanese identity.

Ethnic identity

TEDS2008P

Respondent's father's ethnic background.

Mainlander: 0 = non-Mainlander; 1 = Mainlander (omitted, reference group).

Taiwanese Hakka: 0 = non-Taiwanese Hakka; 1 = Taiwanese Hakka.

Taiwanese Minnan: 0 = non-Taiwanese Minnan; 1 = Taiwanese Minnan.

Political Generation

TEDS2008P

Respondent's year of birth.

First generation: 1 = people born in or before 1931; 0 otherwise (omitted, reference group).

Second generation: 1 = people born between 1932 and 1953; 0 = otherwise.

Third generation: 1 = people born between 1953 and 1968; 0 = otherwise.

Fourth generation: 1 = people born after 1968; 0 = otherwise.

Education

TEDS2008P

Respondent's educational level: 0 = high school and below; 1 = college and above.

Gender

TEDS2008P

Respondent's gender: 0 = male; 1 = female.

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