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U.S. Presidential Elections and the Taiwanese Stock Market*

Ling-Chun Hung

Elections are considered to be the political events that have the most influence on stock markets. The previous literature has examined three types of election effects: the election cycle effect, the bull-run election effect, and the party effect. This study investigates the international impact of United States presidential elections on the Taiwanese stock market. The findings indicate that the Taiwanese stock market is sensitive to the U.S.-China-Taiwan relationship.

Keywords: United States presidential election; Taiwan; political business cycle; bull-run election effect; party effect.

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論 The effect of political events on the market constitutes one of the main research topics in political economy. Of all political events, elections are considered to have the most influence on the market. The previous literature has mostly focused on two kinds of effects: one is the election cycle effect—the long-term influence associated with the political business cycles of elections (particularly presidential elections); the other is the bull-run election effect—the short-term re-

Ling-Chun Hung (洪綾君) is an assistant professor in the Department of Public Policy and Management, Shih Hsin University, Taipei. Her research interests include policy analysis, political economy, and public policy. She can be reached at <lchung@cc.shu.edu.tw>.

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sponse of the stock market during the several weeks or days around the time of elections. In addition to these two effects, certain scholars are also interested in the different possible responses to the various parties involved in democratic elections. This third influence is called the party effect.

Most of the previous literature on this topic has examined elections in the United States, due to that country's long-established two-party democratic election system and the availability of high-quality stock market data. Recently, some scholars have studied elections and markets outside the United States[1] or have expanded the study target from a single country to multiple countries.[2] Among these studies, Foerster and Schmitz raise the interesting research question, is the U.S. presidential election cycle an international phenomenon?[3] Their research findings suggest that it is. Furthermore, Nippani and Arize also discover that the announcement of the winner of the 2000 U.S. presidential election affected the Canadian and Mexican stock markets.[4] In other words, previous research provides evidence of both the long-term and short-term international impact of U.S. presidential elections. The research question of this study is the following: Does the international impact of U.S. presidential elections extend to Taiwan as well? The author explores the question by using Taiwanese stock market data from 1981 to 2011, covering eight U.S. presidential elections from term forty-nine to term fifty-six.

The paper is organized as follows: after a review of the literature on the theory of the political business cycle and the relationship between

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[1]Helge Berger and Ulrich Woitek, "Searching for Political Business Cycles in Germany," *Public Choice* 91, no. 2 (April 1997): 179-97; Gordon Gemmill, "Political Risk and Market Efficiency: Tests Based in British Stock and Options Markets in the 1987 Election," *Journal of Banking and Finance* 16, no. 1 (February 1992): 211-31.

[2]Christos Pantzalis, David A. Stangeland, and Harry J. Turtle, "Political Elections and the Resolution of Uncertainty: The International Evidence," *Journal of Banking & Finance* 24, no. 10 (October 2000): 1575-604.

[3]Steven R. Foerster and John J. Schmitz, "The Transmission of U.S. Election Cycles to International Stock Returns," *Journal of International Business Studies* 28, no. 1 (1997): 1-27.

[4]Srinivas Nippani and Augustine C. Arize, "U.S. Presidential Election Impact on Canadian and Mexican Stock Markets," *Journal of Economics and Finance* 29, no. 2 (Summer 2005): 271-79.

presidential elections and the stock market, the data and methodology is outlined. Then, after presenting the empirical results, conclusions and implications of this research are provided.

Literature Review

The term "political business cycle" (PBS) was first used by Kalecki to refer to the process whereby politicians create an economic boom before elections and leave a slump after elections because the electorate is myopic.[5] Nordhaus uses real data from nine countries to demonstrate that when a democratic political system faces a choice between present and future welfare (that is, the trade-off between inflation and unemployment), the decisions made will be biased against future generations with the retrospective evaluation of parties. During an incumbent's term of office, there is a predictable pattern with regards to policy, starting with relative austerity in the early years and ending with "potlatch" on the eve of an election.[6] Nordhaus's study was the first to provide empirical evidence of the political business cycle. Subsequent studies examine the patterns of unemployment and (or) inflation rates with respect to the four-year presidential cycle in the United States.[7] Many of these studies, however, do not find evidence to support the hypothesis that unemployment

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[5]Michael Kalecki, "Political Aspects of Full Employment," *Political Quarterly* 14 (1943): 322-31.

[6]William D. Nordhaus, "The Political Business Cycle," *Review of Economic Studies* 42, no. 2 (April 1975): 169-90.

[7]Nathaniel Beck, "Does There Exist a Political Business Cycle: A Box-Tiao Analysis," *Public Choice* 38, no. 2 (1982): 205-9; David G. Golden and James M. Poterba, "The Price of Popularity: The Political Business Cycle Reexamined," *American Journal of Political Science* 24, no. 4 (November 1980): 696-714; C. Duncan MacRae, "A Political Model of the Business Cycle," *Journal of Political Economy* 85, no. 2 (April 1977): 239-63; Bennett T. McCallum, "The Political Business Cycle: An Empirical Test," *Southern Economic Journal* 44, no. 3 (January 1978): 504-15; Martin Paldam, "Is There an Election Cycle? A Comparative Study of National Accounts," *Scandinavian Journal of Economics* 81, no. 2 (1979): 323-42; Edward R. Tufte, *Political Control of the Economy* (Princeton, N.J.: Princeton University Press, 1978).

or inflation rates have been manipulated before elections. Beck explains that the lack of evidence for PBS may have two causes: either presidents do not try to manipulate the economy according to the prescriptions of the PBS theory, or they do try but their manipulations are not successful.[8]

The majority of researchers concentrate on macroeconomic variables/instruments, but there are some scholars who are attracted to the relationship between elections and the market over the four-year period. Niederhoffer, Gibbs, and Bullock conducted one of the very early studies in this field. They scientifically analyze eighteen presidential elections in the United States, from 1900 to 1968. In addition to stock market movement in the days and weeks surrounding election day, they also examine the traditional Wall Street view that the market prefers Republicans. Using the modern Dow Jones Averages, the study finds that short-term market movements are intimately related to presidential elections, but there is no evidence for Wall Street's Republican bias.[9] The study, however, does not utilize statistical tests or consider long-term market responses. Rather than focusing on short-term market movements, Allvine and O'Neill are interested in the presidential election cycle. Using Standard & Poor's index of 400 common stocks (S&P 400), Allvine and O'Neill demonstrate that stock prices exhibit a strong four-year cycle in the period 1948-60. The odds strongly favor stock prices rising over the two years prior to a presidential election.[10] Huang's research approach is similar to that of Allvine and O'Neill, but he uses stock market annual rates of return to measure stock market movements over the four-year presidential election period in the United States.[11] His findings also support the existence of a four-year election cycle, which indicates a political effect on the economy.

[8]Beck, "A Box-Tiao Analysis," 205-9.

[9]Victor Niederhoffer, Steven Gibbs, and Jim Bullock, "Presidential Elections and the Stock Market," *Financial Analysts Journal* 26, no. 2 (March-April 1970): 111-13.

[10]Fred C. Allvine and Daniel E. O'Neill, "Stock Market Returns and the Presidential Election Cycle," *Financial Analysts Journal* 36, no. 5 (September-October 1980): 49-56.

[11]Roger D. Huang, "Common Stock Returns and Presidential Elections," *Financial Analysts Journal* 41, no. 2 (March-April 1985): 58-61.

Like Niederhoffer et al., Huang finds no significant difference in market returns during Republican and Democratic administrations.

Pantzalis et al. investigate the behavior of stock market indices around political election dates across thirty-three countries during the sample period 1974-95. They find a positive abnormal return during the two-week period prior to the election week. Moreover, the positive reaction of the stock market to elections is shown to be a function of a country's degree of political, economic, and press freedom, as well as a function of the election timing and the success of the incumbent in being re-elected.[12] Hsu and Yu examine stock market returns over nine elections between 1992 and 2004 in Taiwan. Their results show that short-run positive abnormal returns are created before elections, which indicates that the election bull-run does occur for Taiwan's elections.[13] However, Hung does not obtain the same results when examining Taiwanese presidential elections only.[14] Through these previous studies, researchers have demonstrated three different effects of elections on the stock market, as described in the introduction: the long-term effect (election cycle), the short-term effect (bull-run election), and the party effect.

Following the early studies, most of the more recent research still focuses on the effects of U.S. elections on stock markets.[15] Scholars have

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[12]Pantzalis, Stangeland, and Turtle, "Political Elections and the Resolution of Uncertainty," 1575-604.

[13]Ching-jun Hsu and Wen-yan Yu, "Xuanju shijian dui Taiwan gushi zhi yingxiang" (A study on the relationship between election and Taiwan's stock market), *Yuandong xuebao* (Journal of Far East University) (Tainan) 22, no. 2 (June 2005): 231-49.

[14]Ling-Chun Hung, "Presidential Election and Stock Market in Taiwan" (paper presented at the Global Accounting, Finance and Economics Conference, organized by Monash University, Melbourne, Australia, February 14-15, 2011).

[15]Denis Halcoussis, Anton D. Lowenberg, and G. Michael Phillips, "The Obama Effect," *Journal of Economics and Finance* 33, no. 3 (2009): 324-29; Steven Jones and Kevin Banning, "US Elections and Monthly Stock Market Returns," *Journal of Economics and Finance* 33, no. 3 (July 2009): 273-87; Bento J. Lobo, "Jump Risk in the U.S. Stock Market: Evidence Using Political Information," *Review of Financial Economics* 8, no. 2 (1999): 149-63; Andrea Mattozzi, "Can We Insure against Political Uncertainty? Evidence from the U.S. Stock Market," *Public Choice* 137, no. 1 (October 2008): 43-55; Srinivas Nippani and W. Booby Medlin, "The 2000 Presidential Election and the Stock Market," *Journal of Economics and Finance* 26, no. 2 (Summer 2002): 162-69.

examined the relationship between elections and the market more broadly: some have focused on the partisan effects of elections,[16] some have concentrated on individual countries outside the United States,[17] and others have even analyzed cases across countries.[18]

Although most research examines local elections and the stock market, there are two studies that focus on the international impact of U.S. presidential elections. Foerster and Schmitz reveal the influence of a pervasive four-year U.S. election cycle on international stock market returns. They examine the stock markets in eighteen countries from 1957 to 1996, a period that includes ten full U.S. election cycles.[19] Their findings suggest that the U.S. election cycle is an important factor in predicting not only American, but also international, stock returns.[20] Nippani and Arize (2005) examine the impact that the delay in the 2000 U.S. presidential election results had on the performance of the Canadian and Mexican

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[16]Kartono Liano, Kadir Liano, and Herman Manakyan, "Presidential Administrations and the Day-of-the-Week Effect in Stock Returns," *Review of Financial Economics* 8, no. 1 (June 1999): 93-99; Lobo, "Jump Risk in the U.S. Stock Market," 149-63; Fotios Siokis and Panayotis Kapopoulos, "Parties, Elections and Stock Market Volatility: Evidence from a Small Open Economy," *Economics & Politics* 19, no. 1 (March 2007): 123-34.

[17]Roland Füss and Michael M. Bechtel, "Partisan Politics and Stock Market Performance: The Effect of Expected Government Partisanship on Stock Returns in the 2002 German Federal Election," *Public Choice* 135, no. 3 (June 2008): 131-50; Gemmill, "Political Risk and Market Efficiency"; Jui-Chen Hung, Shi-Jie Jiang, and Chien-Liang Chiu, "Jump Risk of Presidential Election: Evidence from Taiwan Stock and Foreign Exchange Markets," *Applied Economics* 39, no. 17 (2007): 2231-40; Harold Y. Kim and Jianping P. Mei, "What Makes the Stock Market Jump? An Analysis of Political Risk on Hong Kong Stock Returns," *Journal of International Money and Finance* 20, no. 7 (December 2001): 1003-16; Bumba Mukherjee and David Leblang, "Partisan Politics, Interest Rates and the Stock Market: Evidence from American and British Returns in the Twentieth Century," *Economics & Politics* 19, no. 2 (July 2007): 135-67; Fotios Siokis and Panayotis Kapopoulos, "Parties, Elections and Stock Market Volatility: Evidence from a Small Open Economy," *Economics & Politics* 19, no. 1 (March 2007): 123-34.

[18]Jedrzej Bialkowski, Katrin Gottschalk, and Tomasz Piotr Wisniewski, "Stock Market Volatility around National Elections," *Journal of Banking & Finance* 32, no. 9 (September 2008): 1941-53; Foerster and Schmitz, "The Transmission," 1-27; Pantzalis, Stangeland, and Turtle, "Political Elections," 1575-604.

[19]The eighteen countries were Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, the U.K., and the U.S.

[20]Foerster and Schmitz, "The Transmission," 1-27.

stock markets. They find that the delay in the announcement of the winner negatively affected the Canadian and Mexican stock markets in the short term. This indicates that the stock markets of Mexico and Canada were highly integrated with the U.S. markets with regard to the situation in 2000, which supports the assertion that "international markets follow the U.S. presidential elections closely."[21]

The previous literature has provided empirical evidence for interaction between elections and stock markets, and moreover, the influence of U.S. presidential elections outside the United States has been demonstrated. The question is whether this influence reaches Taiwan.

Although Taiwan is on the opposite side of the Pacific Ocean to the United States, the two countries have had a strong relationship both politically and economically since Chiang Kai-shek retreated to Taiwan from mainland China in 1949. According to the literature, the election cycle effect and the bull-run effect are most relevant for countries that have a close relationship with the United States,[22] so this study will explore these two effects. I shall also consider whether the party effect of U.S. presidential elections is relevant to the Taiwanese stock market, and if it is, which party does the Taiwanese stock market prefer. In order to answer these questions, it is necessary to understand certain historical issues pertaining to the U.S.-China-Taiwan relationship. Since the end of the Chinese Civil War in 1949, the United States has played a crucial role in Taiwan-China relations. In 1954, Washington signed a Mutual Defense Treaty with Taiwan to prevent "the occupation of Formosa by Communist forces." After President Carter abrogated the treaty in 1979, the U.S. Congress passed the Taiwan Relations Act to protect Taiwan's security.[23] Since then, although subsequent presidents have followed a "one China" policy, the United States has at the same time helped Taiwan to defend

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[21]Nippani and Arize, "U.S. Presidential Election Impact," 278.

[22]Ibid., 271-79; Foerster and Schmitz, "The Transmission," 1-27.

[23]Winberg Chai, "Missile Envy: New Tensions in China-U.S.-Taiwan Relations," *Asian Affairs: An American Review* 34, no. 1 (2007): 39-40.

itself against China.[24]

Today, the U.S.-Taiwan defense relationship is probably the most controversial issue affecting relations between the United States and the People's Republic of China (PRC).[25] In the complicated U.S.-Taiwan-PRC trilateral relationship, Taiwan sees the United States as its "protector" against the threat from China.[26] There is no doubt that the stock market dislikes uncertainties. A presidential election means a possible change of leadership and consequently a possible change in U.S. policy toward Taiwan. Therefore, unlike most stock markets, which prefer a "right-wing" or "pro-business" party, the Taiwanese stock market is more concerned about Taiwan's security. By this token, the Taiwanese stock market prefers the party that is friendlier to Taiwan in the Taiwan-China relationship. Because the Republican Party is generally considered more supportive of Taiwan,[27] this study assumes that the Taiwanese stock market would prefer a Republican victory.

Data and Methodology

Research Question and Hypotheses

Empirical research suggests that U.S. presidential elections affect other countries' stock markets, possibly both in the short-term and the long-term. Taiwan has had a close trade and political relationship with

[24]Readers who are interested in the history of U.S.-Taiwan-China relations can read Chai, "Missile Envy," 38-41.

[25]Peter Brookes, "U.S.-Taiwan Defense Relations in the Bush Administration," *Heritage Lectures*, no. 808 (2003): 1.

[26]Frank Ching, "China and Taiwan: What Role for the U.S.?" *Great Decisions*, 2001: 21-30, http://www.fpa.org/usr_doc/02China21to30pagesfinal.pdf (accessed April 30, 2012).

[27]Fu Yalan, "Jiuyiyi shijian dui Mei-Zhong-Tai sanbian quanxi de yingxiang" (The impact of the September 11 attacks on U.S.-China-Taiwan triangular relationship), *Gongdang wenti yanjiu* (Studies of Communism) (Taipei) 28, no. 1 (January 2002): 81; Scott L. Kastner and Douglas B. Grob, "Legislative Foundations of U.S.–Taiwan Relations: A New Look at the Congressional Taiwan Caucus," *Foreign Policy Analysis* 5, no. 1 (January 2009): 63.

Table 1
U.S. Presidents from Term 49 to 56

Term	Year of voting	President	Party
49	1980	Ronald Reagan	Republican
50	1984	Ronald Reagan	Republican
51	1988	George H. W. Bush	Republican
52	1992	William J. Clinton	Democrat
53	1996	William J. Clinton	Democrat
54	2000	George W. Bush	Republican
55	2004	George W. Bush	Republican
56	2008	Barack Obama	Democrat

Source: http://www.whitehouse.gov/about/presidents (accessed June 21, 2011).

the United States since 1949. In order to discover whether U.S. presidential elections affect the Taiwanese stock market, the author collected Taiwanese stock market data from 1981 to 2011, a period covering eight U.S. presidential elections (see table 1).

According to the previous literature, there are three ways in which the stock market may respond to presidential elections: according to the election cycle, the bull-run election, and the party effect. Therefore, three hypotheses were formed:

H1: There is a U.S. presidential election cycle on the Taiwanese stock market. Therefore, aggregate stock prices should decline in the first two years after, but rise in the two years prior to, a U.S. presidential election.

H2: There is a U.S. presidential bull-run effect on the Taiwanese stock market. Therefore, there should be abnormal positive returns for a short period (i.e., several days or weeks) after a U.S. presidential election.

H3: The Taiwanese stock market prefers Republican candidates in U.S. presidential elections. Therefore, there should be abnormal positive returns after a Republican victory and negative returns after a Democratic victory.

Data and Measures

Data was retrieved from the Taiwan Economic Journal (TEJ) database. The election cycle (long-term) effect was measured through monthly stock market returns, and the bull-run election (short-term) effect was measured through abnormal returns calculated using the event-study method. This method, developed by Fama and based on market efficiency or rational expectation, is used to measure the adjustment of stock prices to new information.[28] A major concern in the event-study method is to assess the extent to which security price performance around the time of the event has been abnormal—that is, the extent to which security returns are different from those expected, given the model determining equilibrium expected return.[29] In short, the event-study method compares the realized return and the expected return of the stock price of a firm to capture the abnormal effects around a specific event, which economists call the abnormal return (or excess return). Cumulative abnormal return (CAR) is a common variable used in event-study research to measure the stock market response to new information, such as a merger, advertisements, and new product announcements.[30] Although the event-study method is widely used in finance, economics, and accounting research, it is used less often to evaluate the impact of political events. Studies that use this method with regard to political events focus on three applications of the method: evaluating the financial impact of presidential or national elections,[31]

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[28]Eugene F. Fama, "Efficient Capital Markets: A Review of Theory and Empirical Works," *Journal of Finance* 25, no. 2 (May 1970): 383-417.

[29]Stephen J. Brown and Jerold B. Warner, "Measuring Security Price Performance," *Journal of Financial Economics* 8, no. 3 (September 1980): 205.

[30]Su Han Chan, John D. Martin, and John W. Kensinger, "Corporate Research and Development Expenditures and Share Value," *Journal of Financial Economics* 26, no. 2 (August 1990): 255-76; John Doukas and Lorne Switzer, "The Stock Market's Valuation of R&D Spending and Market Concentration," *Journal of Economics and Business* 44, no. 2 (May 1992): 95-114; Kathryn M. Kelm, V. K. Narayanan, and George E. Pinches, "Shareholder Value Creation during R&D Innovation and Commercialization Stages," *The Academy of Management Journal* 38, no. 3 (June 1995): 770-86.

[31]For example, Pantzalis, Stangeland, and Turtle, "Political Elections," 1575-604; Ching-jun Hsu and Wen-yan Yu, "Xuanju shijian dui Taiwan gushi zhi yingxiang" (A study on the relationship between election and Taiwan's stock market), *Yuandong xuebao* (Journal of Far East University) (Tainan) 22, no. 2 (June 2005): 231-49.

examining the passing or amending of financial or tax regulations,[32] and understanding announcements of public policy.[33] The advantage of the event-study method is that abnormal returns are calculated according to a model that is benchmarked in the market portfolio. Therefore, the impact of economic or political events that may affect all securities in the market is eliminated.

The TEJ database provides an event-study method module to calculate the average abnormal returns (AAR) and the CAR in various models. The main approach selected for this study is the Generalized Auto Regressive Conditional Heteroscedasticity (GARCH) model. The GARCH model captures the tendency of leptokurtic (fat tails) and volatility clustering in financial data.[34] The estimated period is between three hundred and thirty-one days before the election date, denoted as (-300, -31). Previous studies have used different time frames as event windows, such as a week, five days, or one day before and one day after the event date, with the underlying idea that a relatively short time period (i.e., several days) has a higher probability of reflecting the stock response to a happening event. In order to obtain robust results, this study uses four periods: one, five, fifteen, and thirty days before and after the election date, denoted as (-1, +1), (-5, +5), (-15, +15) and (-30, +30), as event windows. Only those stocks that had a more than a hundred-day trading record during the esti-

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[32]James C. Ellert, "Mergers, Antitrust Law Enforcement and Stockholder Returns," *Journal of Finance* 31, no. 2 (May 1976): 715-32; William N. Evans, Jeanne Ringel, and Diana Stech, "Tobacco Taxes and Public Policy to Discourage Smoking," in *Tax Policy and the Economy*, vol. 13, ed. James Poterba (Cambridge, Mass.: National Bureau of Economic Research, 1999), 1-56; Sara F. Ellison and Wallace P. Mullin, "Economics and Politics: The Case of Sugar Tariff Reform," *Journal of Law and Economics* 38, no. 2 (October 1995): 335-66.

[33]Ling-Chun Hung, "Liyong caiwu ziliao hengliang xiaofeiquan zhengce zhi yuqi xiaoguo" (Using financial data to measure the estimated effects of shopping coupons), in *Jinrong haixiao yu gonggong zhengce* (Economic tsunami and public policy), ed. Ren-hui Hsu et al. (Taipei: Bestwise, 2009), 237-59.

[34]Please see Robert F. Engle, "Autoregressive Conditional Heteroscedasticity with Estimates of the Variance of United Kingdom Inflation," *Econometrica* 50, no. 4 (July 1982): 987-1007, and Tim Bollerslev, Ray Y. Chou, and Kenneth F. Kroner, "ARCH Modeling in Finance: A Review of the Theory and Empirical Evidence," *Journal of Econometrics* 52, nos. 1-2 (1992): 5-59, for a more detailed discussion of the GARCH model.

Table 2
The Election Results Announcement Dates and Sample Size (Companies)

Election Year \ Event Windows	(-30, +30)	(-15, +15)	(-5, +5)	(-1, +1)
1980	56	56	56	56
1984	65	65	65	65
1988	84	84	84	84
1992	164	164	164	164
1996	269	269	269	269
2000	461	461	461	461
2004	658	658	657	656
2008	727	727	727	727

Source: udndata.com and TEJ database.

mated period were included in the calculations. Since this study is capturing the response of the Taiwanese stock market, the election result dates were identified as the dates the results were announced in the Taiwanese media. Table 2 provides the result announcement dates and the sample size for the eight elections.

Empirical Results

Election Cycle

The annualized mean monthly returns of the Taiwanese stock market and the standard deviation risks for each year of the U.S. presidential election cycle are presented in columns 3 through 6 of table 3. In 2000, due to the controversy over the awarding of Florida's twenty-five electoral votes, the declaration of the winner was delayed for a month. In order to avoid bias, the stock returns during this period of delay were not included in the calculations.

According to the results of previous studies, the pattern of the U.S. presidential election cycle is such that the returns of year 3 and year 4 are

Table 3
Annualized Mean Monthly Taiwanese Stock Market Returns and Standard Deviation Risks (in parentheses) of the U.S. Presidential Election Cycle (January 1981-July 2011)

Date result announced in Taiwan media	Full sample	Year 1	Year 2	Year 3	Year 4
11.06.1980	1.063	-0.501	-0.429	3.833	1.217
	(6.525)	(3.14)	(5.165)	(9.589)	(5.187)
11.08.1984	5.392	-0.159	2.476	10.344	8.907
	(13.348)	(4.934)	(4.705)	(19.751)	(14.138)
11.09.1988	-0.467	3.926	-6.281	2.517	-2.029
	(13.093)	(10.503)	(18.058)	(12.491)	(5.373)
11.05.1992	1.729	2.022	4.457	-2.024	2.462
	(9.695)	(11.256)	(12.592)	(6.534)	(5.085)
11.06.1996	0.159	1.648	-1.122	1.499	-1.391
	(8.643)	(5.997)	(5.974)	(11.2)	(9.679)
12.14.2000	0.340	-2.138	1.448	2.120	-0.279
	(8.816)	(8.872)	(11.918)	(6.367)	(6.268)
11.04.2004	-0.399	0.187	1.305	1.882	-4.971
	(5.888)	(3.109)	(5.18)	(4.579)	(7.202)
11.05.2008	2.128	3.723	1.373	0.870	N/A
	(6.834)	(9.07)	(5.692)	(2.927)	N/A
Average	1.207	1.140	0.403	2.707	0.559
	(9.781)	(8.039)	(10.311)	(11.252)	(9.172)
		F = 1.062			

positive and higher than the ones of year 1 and year 2.[35] Among the four years, the return in year 2 is the lowest. The data in table 3 shows that, on average, year 2 had the lowest and year 3 had the highest stock returns

[35] Allvine and O'Neill, "Stock Market Returns," 49-56; Huang, "Common Stock Returns," 58-61.

across the four years, which is consistent with the results of Allvine and O'Neill (1980), Foerster and Schmitz (1997), and Huang (1985).[36] However, the differences in returns between the years are not as great as those noted by Huang (1985), or by Allvine and O'Neill (1980).[37] An F-test shows that there is no significant difference among the returns in the four-year cycle.

Next, the author followed Huang (1985) in dividing the election cycle into two halves: years 1 and 2 form the first half, and years 3 and 4 form the second half, as shown in table 4. Although the averaged totals show that the returns of years 1 and 2 are lower than the returns of years 3 and 4, when observing cycles individually, the returns of years 1 and 2 are higher than the returns of years 3 and 4 in four of the eight election cycles. In addition, there is no statistical significance in most cases when comparing the average returns of the two halves of each election cycle.

Foerster and Schmitz, however, find the difference between the annualized mean returns for year 2 and the combined means of years 1, 3, and 4 to be striking.[38] In the same way, table 5 presents a comparison of the differences between the mean returns of years 1, 3, and 4 and the mean of year 2. The results are similar to those presented in table 4. The average return of year 2 is lower than the mean returns of years 1, 2, and 3, but the difference is not statistically significant. Also, although five annualized mean monthly returns in year 2 are lower than the mean of years 1, 2, and 3 combined, there are still three contrasting cases.

Bull-run Election and Party Effect

Table 6 summarizes the ARs for the eleven days as well as the CARs around the announcement of the U.S. presidential election result in the Taiwanese media. As mentioned earlier, there was a delay of more than

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[36]Allvine and O'Neill, "Stock Market Returns," 49-56; Huang, "Common Stock Returns," 58-61; Foerster and Schmitz, "The Transmission of U.S. Election Cycles," 1-27.

[37]Huang, "Common Stock Returns," 58-61; Allvine and O'Neill, "Stock Market Returns," 49-56.

[38]Foerster and Schmitz, "The Transmission of U.S. Election Cycles," 1-27.

Table 4
Annualized Mean Monthly Taiwanese Stock Market Returns and Standard Deviation Risks (in parentheses) for Years 1 and 2 versus Years 3 and 4 of the U.S. Presidential Election Cycle (January 1981-July 2011)

Date result announced in Taiwan media	Year 1 and 2	Year 3 and 4	*t*-statistics	
11.06.1980	-0.463	2.525	-1.578	
	(4.414)	(7.988)		
11.08.1984	1.158	9.625	-2.268	**
	(5.105)	(17.560)		
11.09.1988	-1.178	0.244	-0.369	
	(15.965)	(10.092)		
11.05.1992	3.240	0.219	1.070	
	(12.263)	(6.404)		
11.06.1996	0.263	0.054	0.082	
	(6.276)	(10.794)		
12.14.2000	-0.267	0.921	-0.453	
	(10.963)	(6.569)		
11.04.2004	0.746	-1.544	1.345	
	(4.401)	(7.089)		
11.05.2008	2.548	0.870	0.863	
	(7.827)	(3.129)		
Average	0.768	1.682	-0.893	
	(9.240)	(10.339)		

one month in the announcement of the controversial 2000 election, so the actual date of the announcement for that particular election was December 14, 2000.

Table 6 shows that ARs in the first two elections (1980 and 1984) were mostly not statistically significant, as was the case with the four CARs. This indicates that the elections in 1980 and 1984 had almost no significant short-term impact on the Taiwanese stock market. Consequently, the following discussion excludes the elections of 1980 and 1984

Table 5
Annualized Mean Monthly Taiwanese Stock Market Returns and Standard Deviation Risks (in parentheses) for Year 2 and Years 1, 3 and 4 of the U.S. Presidential Election Cycle (January 1981-July 2011)

Date result announced in Taiwan media	Year 1, 3, & 4 Mean	Year 2	*t*-statistics
11.06.1980	1.516	-0.429	0.906
	(6.956)	(5.165)	
11.08.1984	6.364	2.476	1.335
	(15.260)	(4.705)	
11.09.1988	1.471	-6.281	1.357
	(10.385)	(18.058)	
11.05.1992	0.820	4.457	-1.116
	(8.434)	(12.592)	
11.06.1996	0.585	-1.122	0.582
	(9.459)	(5.974)	
12.14.2000	-0.041	1.448	-0.495
	(7.532)	(11.918)	
11.04.2004	-0.967	1.305	-1.150
	(6.084)	(5.18)	
11.05.2008	2.582	1.373	0.471
	(7.591)	(5.692)	
Average	1.493	0.403	0.937
	(9.590)	(10.311)	

and only considers the six elections from the fifty-first to the fifty-sixth terms for the bull-run election and party effect analyses.

First, if there is a bull-run election effect, the CARs in the event window should be positive and statistically significant. Table 6 shows the calculations for four symmetric CARs: (-1, +1) [3-day window], (-5, +5) [11-day window], (-15, +15) [31-day window], and (-30, +30) [61-day window]. The positive and significant CARs happened in different windows in different elections except for the 2000 election. For instance, in the shortest event window—the 3-day window, the CARs were posi-

Table 6
ARs and CARs during Event Windows

AR/CAR \ Year		1980	1984	1988	1992	1996	2000	2004	2008
	Day n								
AR	-5	0.13	-0.10	0.14***	-0.28***	-0.09***	-1.25***	-0.06***	-0.65
	-4	0.29	-0.21	0.19**	-0.13	-0.29***	-0.13***	-1.20***	0.16***
	-3	0.11	0.07	-0.26	-0.31	-0.43***	0.78***	-0.66***	-0.61
	-2	0.08**	0.14	0.26	0.15	0.64	1.06***	-0.36***	0.39**
	-1	0.09	-0.19	0.12**	-0.14**	0.38	1.52***	-0.27***	-0.37***
	0	0.08	-0.11	-0.71**	0.43***	-0.11***	1.44***	-0.07**	1.12***
	1	0.01*	-0.33	-0.09*	-0.35***	0.11	0.25**	0.07	0.30**
	2	0.14	0.12	0.60***	-0.01*	-0.09	-0.65***	-0.23***	1.17***
	3	-0.04	-0.03	2.34***	-0.05	-0.35***	-0.54***	-0.17***	0.32***
	4	-0.05	0.21	1.64***	-0.25***	0.48*	-0.17**	0.34***	-0.93***
	5	-0.12	-0.13***	-0.47	-0.11***	0.09***	-0.18***	0.51***	-0.53**
CAR(-1, +1)		0.17	-0.63	-0.68***	-0.06	0.38**	3.21***	-0.27***	1.06*
CAR(-5, +5)		0.72	-0.57	3.76***	-1.06***	0.33***	2.14***	-2.11***	0.37
CAR(-15, +15)		0.90	-0.39	4.29	3.24***	-0.67***	13.51***	-2.40***	-0.11
CAR(-30, +30)		3.18	1.71*	-6.34	13.43***	3.93**	18.53***	-1.36***	7.31***

Note:
*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

tive and significant in the elections of 1996, 2000, and 2008; however, in the longest 61-day event window, the CARs were positive and significant in the elections of 1992, 1996, 2000, and 2008. As for the 11-day event window used by most previous studies, the positive and significant CARs happened in the elections of 1988, 1996, and 2000. Therefore, there is no evidence that a U.S. presidential election has a bull-run effect on the Taiwanese stock market. The ARs in table 6 indicate the same phenomenon: there were both positive and negative numbers during the 11-day windows, but no apparent pattern.

The party effect was also considered. Although, the market might not have an overall positive response to the U.S. presidential elections, it might show a preference for a particular party (i.e., the Republican Party). The ARs and CARs are organized according to the winning party for the six elections in table 7.

Of these six elections, the Republicans and Democrats won three each. The market did not show a party preference according to the results of the CARs in table 7. For the 3-day event window, only one Republican victory had a positive and significant CAR (i.e., the election of 2000); there were two positive and significant CARs for elections won by the Democrats. For the 5-day event window, the three CARs were all statistically significant in three elections that the Republicans won, but one of them was negative; however, of the two statistically significant CARs for Democrat victories, one was positive and one negative. There were also mixed results for the other two longer event windows.

Nevertheless, there were two consistent results in all event windows for Republican victories: the elections of 2000 and 2004. In other words, the Taiwanese stock market consistently responded to both of these elections. But the results of the two elections were very different: the CARs were significantly positive for 2000 but all significantly negative for 2004. Why did the Taiwanese stock market respond differently to the victories of George W. Bush, a Republican, in 2000 and 2004?

The U.S. presidential election of 2000 was very controversial. Shortly after the United States went to the polls on November 7, it was clear that the Democratic candidate, Al Gore, had won 267 electoral votes,

Table 7
ARs and CARs by Winning Party: 1988-2008

AR/CAR \ Party/Year		Republicans			Democrats		
		1988	2000	2004	1992	1996	2008
	Day n						
AR	-5	0.14***	-1.25***	-0.06***	-0.28***	-0.09***	-0.65
	-4	0.19**	-0.13***	-1.20***	-0.13	-0.29***	0.16***
	-3	-0.26	0.78***	-0.66***	-0.31	-0.43***	-0.61
	-2	0.26	1.06***	-0.36***	0.15	0.64	0.39 **
	-1	0.12**	1.52***	-0.27***	-0.14**	0.38	-0.37***
	0	-0.71**	1.44***	-0.07**	0.43***	-0.11***	1.12***
	1	-0.09*	0.25**	0.07	-0.35***	0.11	0.30 **
	2	0.60***	-0.65***	-0.23***	-0.01*	-0.09	1.17***
	3	2.34***	-0.54***	-0.17***	-0.05	-0.35***	0.32***
	4	1.64***	-0.17**	0.34***	-0.25***	0.48*	-0.93***
	5	-0.47	-0.18***	0.51***	-0.11***	0.09***	-0.53 **
CAR(-1, +1)		-0.68***	3.21***	-0.27***	-0.06	0.38**	1.06 *
CAR(-5, +5)		3.76***	2.14***	-2.11***	-1.06***	0.33***	0.37
CAR(-15, +15)		4.29	13.51***	-2.40***	3.24***	-0.67***	-0.11
CAR(-30, +30)		-6.34	18.53***	-1.36***	13.43***	3.93**	7.31***

Note:
1. The significance was tested by sign test method.
2. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

3 short of the 270 necessary to win election. His rival, the Republican candidate George W. Bush, had won 246 electoral votes. Which candidate would win a majority in the electoral college depended on Florida's 25 electoral votes. The nation witnessed impassioned debates over the counting of absentee ballots and both sides sought judicial decrees to structure the recounts in this incredibly close race. A winner was finally identified on December 13, 2000, more than five weeks after the poll.[39] Some studies show that the delay in the 2000 presidential election results negatively impacted stock market performance in the United States[40] as well as in Canada and Mexico.[41] The main reason for this negative impact was the great uncertainty it caused, and it affected the Canadian and Mexican markets because they are closely related to the U.S. stock market.

Once the result was announced on December 14, 2000, the uncertainty was removed from the market, which might explain the positive and significant CARs seen in all event windows of the Taiwanese stock market. As stated earlier in this paper, the Taiwanese stock market is very sensitive to U.S. policy toward Taiwan. Consequently, it is necessary to examine the policies suggested by both the presidential candidates in the election of 2000. Bill Clinton first took office in 1992, and during the eight years of his presidency, the U.S. economy expanded, producing budget surpluses during the last three years of his administration. Therefore, during the 2000 campaign, it was the Democrats' foreign policy, including their policies toward Taiwan and China, that were attacked by the Bush camp. The Republicans accused the Clinton administration of being too soft on China, and their candidate, George W. Bush, claimed that "China is a competitor, not a strategic partner," and pledged to "honor . . . our promises to the people of Taiwan." Bush said that he did not deny that there is only one China, but he emphasized that "we deny the right of

[39]George C. Edwards, III, "The 2000 U. S. Presidential Election," *Taiwan Journal of Democracy* 2, no. 1 (July 2006): 43-44.

[40]Srinivas Nippani and W. Booby Medlin, "The 2000 Presidential Election and the Stock Market," *Journal of Economics and Finance* 26, no. 2 (Summer 2002): 162-69.

[41]Nippani and Arize, "U.S. Presidential Election Impact," 271-79.

Beijing to impose their rule on a free people. As I have said before, we will help Taiwan to defend itself."[42] From the foreign policy principles and proposals expressed by George W. Bush during the 2000 campaign, it was apparent that he might be intending to adjust Washington's global political strategies, especially its policies toward China. Therefore, it was recognized that George W. Bush was friendlier toward Taiwan. This might explain why there were positive CARs in the Taiwan stock market upon the announcement of George W. Bush's victory in 2000.

Why, then, did the Taiwan stock market react very differently to the prospect of George W. Bush winning a second term? One possible explanation may be found in the Bush administration's adjustment of its Taiwan policy. In 2003, as Taiwan's presidential election was approaching, President Chen Shui-bian (陳水扁) proposed holding a referendum on how Taiwan should defend itself against the threat of a Chinese missile attack. This was interpreted as an intention to declare independence, and thus it created tension between Taiwan and the Bush administration. In December 2003, when Premier Wen Jiabao (溫家寶) of China was in Washington, Bush stated that he opposed a Taiwanese referendum that might lead to the independence of the island. In April 2004, Vice President Dick Cheney proclaimed during a visit to China that "the U.S. supports the one-China policy." All these statements suggested a shift in the attitude of the Bush administration toward relations between Taiwan and China. A segment of the Taiwanese public interpreted this change as detrimental to their country, which might explain the negative responses of the Taiwanese stock market to George W. Bush's re-election in 2004.

Conclusions and Future Research Suggestions

Our research findings suggest three conclusions. First, it is hard to say whether the U.S. election cycle affects the Taiwanese stock market

[42] http://www.4president.org/issues/bush2000/bush2000foreignpolicy.htm.

from an analysis of the monthly returns in accordance with a particular U.S. presidential election between 1980 and 2008. However, on average, year 2 did have the lowest mean monthly return of the four-year election cycle. According to the measurements of Foerster and Schmitz, the U.S. election cycle does have an impact on the Taiwanese stock market.[43] However, the *t*-test did not support the premise that differences in returns are significant. Hence, the results of the monthly returns for a four-year cycle do not appear to support the first hypothesis.

Second, the U.S. presidential election has no bull-run election effect on the Taiwanese stock market. According to the CARs calculated for the eleven event windows of each election, three of the five significant CARs were negative, which means the Taiwanese stock market has no consistent reaction to the results of U.S. presidential elections. A bull-run election usually refers to positive reactions of the stock market in the event windows of elections. However, most studies that support this hypothesis examine only the relationship between domestic elections and the domestic market.[44] The result of this study implies that a bull-run election effect might not exist in an international case.

Third, this study finds no evidence to support a party effect in the Taiwanese stock market in the aftermath of U.S. presidential elections. However, CARs in the 2000 and 2004 elections had consistent signs and significance, which is evidence that the Taiwanese stock market is sensitive to the U.S.-China-Taiwan relationship. Political tension provides a possible explanation for the response of Taiwan's stock market to U.S. presidential elections. The complicated U.S.-China-Taiwan relationship makes people in Taiwan concerned about the results of U.S. presidential elections, and their concerns translate into an effect on the stock market.

For scholars who are interested in this topic, there are three suggestions. First, it would be interesting to know if the effect differs in other

[43]Foerster and Schmitz, "The Transmission of U.S. Election Cycles," 1-27.

[44]Pantzalis, Stangeland, and Turtle, "Political Elections," 1575-604; Hsu and Yu, "Xuanju shijian dui Taiwan gushi zhi yingxiang," 231-49.

Asian countries that also have a close relationship with the United States, such as South Korea and Japan. Second, one could compare the differences between the significance and size of the domestic and international effects on stock markets. Finally, besides the presidential election event, some studies examine market activities during the national nominating conventions[45] or during different administrations.[46] Focusing on these events rather than the election itself might be another way of exploring the relationship between political events and the stock market.

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[45]Niederhoffer, Gibbs, and Bullock, "Presidential Elections and the Stock Market," 111-13; Tufte, *Political Control of the Economy*.

[46]Huang, "Common Stock Returns," 58-61.

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