

# **Guns and Votes: The logic behind China's Military Exercises in Taiwan's Presidential Elections**

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## I · Research Background :

In July 1995, the People's Liberation Army (PLA) launched six missiles aimed at a sea area 65 miles away from the Keelung harbor. They were meant as a sign of objection against Taiwanese President Lee Teng Hui's visit to the United States. During the Taiwanese legislative and mayor-magistrate elections in November later that same year, the PLA held an amphibious landing exercise in Dongshan Island, Fujian. On 8 March 1996, two weeks away from the presidential election, China sent off three missiles. Two landed in the sea near Kaohsiung and one near Keelung, only 23 miles away from the main island. During election week, China even held two military drills on the Fujian coast. These incidents not only constituted the first military crisis between Taiwan and China since 1958, but also the first time the island of Taiwan experienced a direct military threat from China since the separation across the Taiwan Strait. This series of military activities had a direct impact on the social and economic stability of Taiwan, amongst others resulting in a dramatic decrease in foreign direct investment and a shift from positive to negative economic growth. Fortunately, due to the intervention of two US aircraft carriers battle groups, the drills peacefully settled down and did not escalate into international war.

When President Lee Teng Hui announced the "Two-States" theory in his last term before the 2000 presidential election, he again ignited cross-strait conflict. Lee's announcement gave rise to official objections from the PRC's Taiwan Affairs Office of the State Council and the Ministry of Foreign Affairs, which claimed that Lee twisted the cross-strait relationship, divided Chinese territory and sovereignty, and was endangering the unification and peace of China. Jiang Zemin, the former General Secretary of the Communist Party, even called off the official interactions between the Association for Relations across the Taiwan Straits (ARATS) and the Strait Exchange

Foundation (SEF). Despite all these complaints, China neither launched a single missile, nor held any military exercise during the presidential campaign.

In 2004, Presidential Chen Shui-bian run for reelection, and faced the challenge from Lien Chan and James Sung, a unified pan-blue coalition. Based on the presidential authority granted by the Referendum Law, he issued the first referendum and hence induced the tension between cross-straits. Despite the warnings from the US and the objection from the Taiwan Affairs Office of the State Council, there was no military activity in the presidential campaign.

Since the third Taiwan Strait Crisis of 1996, cross-strait relations have been peaceful during presidential campaign for 20 years. While most Taiwanese had forgotten past threats from China, in September 2015, four months before the 2016 presidential election, the PLA again held a 3-day military drill on the Fujian coast. Due to self-restraint of the PLA, the exercise did not turn into a military crisis. However, we are curious why China picked up its stick and launched military activities exactly at this specific time before the Taiwanese presidential election?

This project sets out to examine the motivation behind China's military exercises during Taiwanese elections. The following questions will be answered: First, what was the reason for China's military activities during Taiwan's presidential elections? Did they intend to influence the electoral results or were they simply issuing a warning for Taiwan not to declare independence? If the answer is the former, empirical results and electoral outcomes have proven it wrong. For instance, due to the military threat from China before the 1995 legislative election, the pro-independence DPP's vote share increased by 2%, together with a 3-seat increase. Similarly, the 76% electoral turnout and Lee's 54% vote share in the 1996 presidential election also show the invalidity of the military exercises. If China is aware that its

military activities could not influence electoral outcomes in a positive way for China, it certainly has no reason to launch a military drill in 2016. If military exercises were only meant to transmit a warning signal to pro-independence supporters, it is hard to explain why China did not practice military exercises during the announcement of Lee's Two-States theory and Chen's referendum. Similarly, it also fails to explain why China relaunched its military activities despite a lack of significant provocations from either the DPP or KMT candidates. If the logic behind China's military activities is to emphasize its sovereignty over Taiwan, it is also hard to understand why China did not choose to deploy military forces during some presidential elections or when it would launch military exercises.

In order to understand the reasoning behind China's military activities during Taiwan's elections, we have used signaling theory. By constructing a signaling game, we derive the logic behind China's military activities from a rational choice perspective. In this project, we will further test our theoretical hypotheses against empirical data.

## II. Literature Review

The 1996 missile crisis has drawn a lot of attention to the cross-strait relationship. Scholars all agree with the following premises: 1) the disparity of the cross-strait military forces;<sup>1</sup> 2) China controls the war initiative;<sup>2</sup> 3) war is the least-preferred

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<sup>1</sup> According to Taiwan's Minister of Defense Minister, in the wargames of recent Han Kuang Exercises, Taiwan had never defeated the PLA's invasion without the military intervention from of the United States.

<sup>2</sup> Due to the disparity of forces between Taiwan and China and the geographical distance between the United States and the west Pacific, it is reasonable to argue that neither Taiwan nor the US would initiate a war against China.

alternative of China,<sup>3</sup> and 4) given the third premise above, China's military activities only make for unconvincing threats.<sup>4</sup> Based on the four premises above, we further examine how coercive diplomacy theory, domestic mobilization theory, and prospect theory explain the reasons behind China's military activities during Taiwan's presidential elections.

#### A. Coercive Diplomacy Theory:

Coercive diplomacy is a diplomatic strategy that attempts to alter a rival's objectionable behavior through either the threat to use force or the actual use of limited force. For instance, Garver (1997) suggests that the 1996 missile crisis was designed to intimidate Taiwanese voters as they elected their president for the first time.<sup>5</sup> Waldron (1997, 47) also claims that the military activity "intended to cow an increasingly independent-minded Taiwan." Monk (2005, 92) directly points out that "the Communist Party's preferred strategy is not to use force, but to prevail through a combination of coercive diplomacy and economic inducements".

Nonetheless, successful coercive diplomacy requires threats and assurances about the conditionality of those threats. For instance, Nye (2011, 25) emphasizes that coercive diplomacy depends upon the credibility and the cost of the threat. An

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<sup>3</sup> For instance, Scobell (2000) asserts that the PLA uses dramatic theatrical displays to overawe Taiwan in order to avoid actual combat.

<sup>4</sup> Due to the information revealed by Liu Liankun, a Major General of the PLA who had been recruited as a secret agent by Taiwan, the ROC's Defense Ministry notified the public that the missiles lobbed by the People's Republic of China actually carried unarmed warheads during the 1996 missile crisis.

<sup>5</sup> According to biography of Jiang Zemin published on 2006, the reason behind the missile tests conducted around Taiwan's presidential election was to postpone or even to stop the election.

incredible threat might not only fails to produce acceptance, but also leads to costs to the reputation of the coercing state. Failed threats induce heavy costs on a leader's credibility and reputation at home and abroad if he or she backs down the military action (Fearon, 1997; Gusinger and Smith, 2002; Christensen 2002). In short, threats are costly when they fail and discovering how to reduce the security dilemma without undercutting the credibility of the deterrent threat is the art of coercive diplomacy (Christensen 2002, 7).<sup>6</sup>

## B. Domestic Mobilization Theory

Instead of focusing on the strategic exertion of military forces, the domestic mobilization theory aims its attention on the domestic influence of the international dispute. Christense (1996) asserts that nationalism is one of the most important ideologies the CCP government applies to cope with its internal integrity. A possible Taiwanese independence directly challenges the decades of CCP propaganda about Taiwan's unbreakable links to the motherland, would encourage domestic forces bent on the overthrowing of the Chinese Communist Party or the breakup of the country, and thus would have an immense impact on China's national integrity. Lee Teng-hui's visit to the U.S and the first presidential election held in 1996 caused massive pressure on Beijing, which then decided to deploy its military forces to deter Taiwan's tendency toward independence. Scobell (2000) also suggests that the Taiwan issue evokes intensely emotional nationalism among the PLA soldiers and that the crisis gave the PLA a chance to show that it has a central role in Beijing's carrot and stick policy

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<sup>6</sup> Recalling Chinese military activities during the 1996 presidential campaign, most of them took place on the Fujian coast, the missiles fired during the test were also unarmed. Such a military activity, objectively, could not make for a credible threat and might instead damage the CCP leader, Jiang Zemin's reputation.

toward Taiwan.<sup>7</sup>

### C. Prospect Theory

Unlike coercive diplomacy theory or domestic mobilization theory that merely consider either external dispute or internal security, He and Feng (2009) incorporated prospect theory to address the deficiencies of existing explanations regarding China's policy toward Taiwan and take both international and domestic impacts on the CCP government into account. Prospect theory posits that individuals evaluate outcomes with respect to deviations from a reference point rather than with respect to net asset levels. People tend to give more weight to losses than to comparable gains, and that they are generally risk averse with respect to gains and risk-acceptant with respect to losses (Levy 1992). He and Feng (2009) assume that Chinese leaders are more likely to exert military coercion to intimidate Taiwan's pro-independence movement when they face serious domestic and international challenges. Contrarily, if Chinese leaders perceive that their power and regime security are assured, they will prefer a less risky policy of political pressure to respond to Taiwan's provocative behavior. For example, they claim that due to serious internal challenges from the society and the military and international pressure from the United States, Jiang made decisions toward Taiwan in a domain of losses. Therefore, to avoid possible losses in the Taiwan Strait and to secure his leadership, Jiang decided to practice military exercises and missile tests

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<sup>7</sup> Scobell (2000) asserts that 1995–1996 Taiwan Strait Crisis was a successful instance of coercive diplomacy by Beijing. Nonetheless, based on the way he discusses in the paper, the approach he applied to analyze the missile crisis is more prone to domestic mobilization theory from its emphasis on the interest and the reactions of the PLA with regard to the military activity instead of their attitude toward Taiwan's reactions to the military drill.

during Taiwan’s presidential election.

The studies above have their theoretical roots in the 1996 missile crisis and indeed shed light on a better understanding of the cause and effects of the 1996 missile crisis. Nevertheless, while we extend their arguments to include China-Taiwan interactions during other presidential elections, the studies above seem inadequate in providing a consistent explanation. Table 1 compares the prediction of the three different theories on the existence of military activities during Taiwan’s presidential elections. As shown in Table 1, while all of them can be applied to explain the military drills of 1996, none of them can successfully predict the absence of military activities in the following 2000, 2004, and 2008 elections in which Lee Teng-hui’s two state theory and Chen Shui-bian’s defensive referendum respectively and significantly moved the island closer toward formal independence and thus hit China’s bottom line. Nor can they interpret the unexpected military threat during the 2016 presidential campaign in which the DPP candidate had never tried to provoke China.

Table 1 : Theoretical Prediction of Conventional IR Theories

		1996	2000	2004	2008	2012	2016
Real Observation	External Provocation	Y	Y	Y	Y	N	N
	Internal Conflicts	Y	N	Y	N	N	N
	Military Threat	Y	N	N	N	N	Y
Theoretical Prediction	Deterrence Theory	Y	Y	Y	Y	N	N
	Domestic Mobilization Theory	Y	N	Y	N	N	N
	Prospect Theory	Y	Y	Y	N	N	N

Why do conventional studies fail to provide convincing explanations and precise predictions for the cross-strait relations during the presidential elections? First of all,



while these studies focus more on the external and internal challenges of the communist regime, they ignore the fact that China's self-restraint in deploying military forces during Taiwan's presidential campaign could neither possibly pose a threat, nor influence electoral outcomes. Moreover, none of these studies has identified and analyzed China's preference regarding the outcome of Taiwan's elections nor have they investigated the electoral competition among presidential candidates. To address the problems above, we have constructed a signaling game between an authoritarian regime and a democratic country to analyze how they interact with each other.

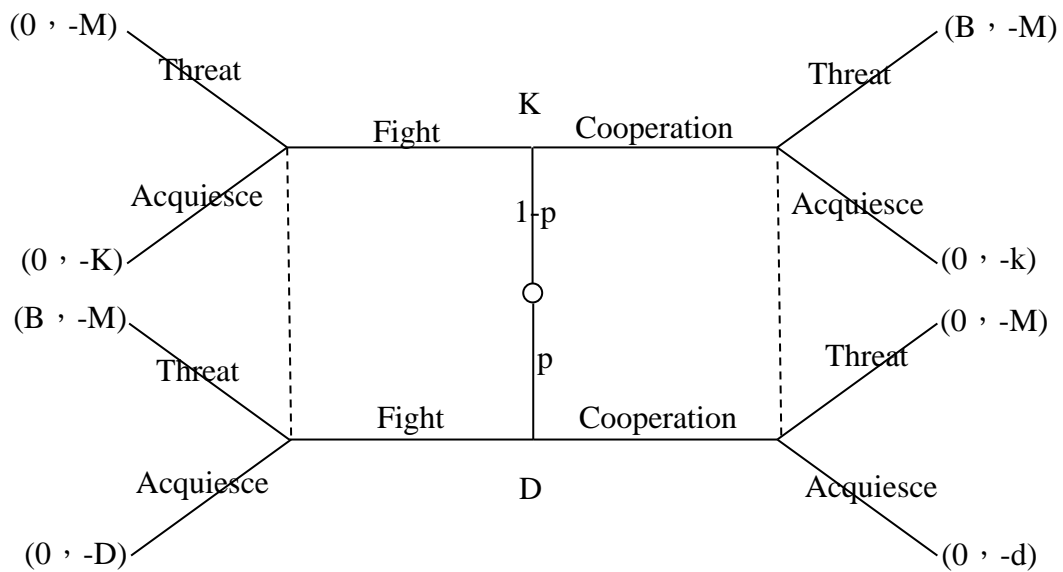


Figure 1 The Signaling Game of Cross-Strait Relations

Suppose there are two players: Player 1 represents the population as a whole of the democratic country and Player 2 an authoritarian regime. Player 1 faces two alternatives in an election: Candidate K, who is preferred by the authoritarian leader, or Candidate D, who is less preferred.. The nature selects a candidate from the two alternatives and we define that the chance Candidate D is elected is  $p$ , and that thus

the election probability of Candidate K should be  $1-p$ . We further assume that only Player 1, namely, the population of the democratic state, knows who will be elected in the election. Player 2, the authoritarian leader, can only form a belief about the probability. Player 1 has two strategies after observing who will win the election. It can choose either to fight against the authoritarian regime, or decides to comply with it. After observing Player 1's tendency toward the authoritarian regime, the leader can either decide to threaten Player 1 by launching a military activity, or he can just acquiesce.

We then define the payoffs for each player. First of all, Player 1's payoff is simply defined by the electoral outcome and its reaction to the military threat from Player 2. If Player 1 decides to comply with the authoritarian leader's military threat, and the leader's preferred Candidate K is to be elected, we assign  $B$  as its payoff to represent the reward and incentives of its cooperation with the authoritarian leader's coercive policy. Similarly, if the unfavored Candidate D will be elected and Player 1 chooses to fight against the military threat from Player 2, we assign  $B$  to Player 1's payoff because the electoral outcome is identical with its strategic goal.

Player 2's payoff is defined by the price that he/she pays for implementing a military exercise and the cost that he/she loses for failing to fulfill the domestic audience's expectations. We suggest that leaders face two sorts of costs. The first are the financial and organizational costs of mobilizing and deploying troops and missile tests. These costs occur whenever a drill is implemented. The second type of costs, on the other hand, arises only when a leader decides to back down, postpone, or delay a dispute that has stirred the discontent of a domestic audience. Fearon (1994, 581) asserts that such an audience cost mainly depends on the extent to which shared ideologies and expectations are perceived and implemented in a society. For instance,

if China failed to respond toughly with regard to the Diaoyutai Islands (or Senkaku Islands in Japanese) dispute, the anti-Japanese sentiments within the country might have a profound impact on the CCP's legitimacy. Based on the discussion above, whenever a leader launches a drill, he/she has to pay  $-M$  for the military activity. We then assume that Player 1's acquiesce is bound for, more or less, an audience cost. If D is finally elected and Player 1 rebels, but the authoritarian leader does not take any action with regard to the election, he/she will suffer  $-D$  for the audience cost. If K is to be elected and the people still decide to fight against the authoritarian regime, the leader bears domestic cost  $-K$ . However, because K is more preferable than D, we can simply assume that  $D > K \geq 0$ . Similarly, the leader pays domestic cost  $-d$  or  $-k$  if D or K is respectively elected but Player 1 decides to comply with the authoritarian leader. Because Player 2 prefers his/her opponent to cooperate rather than to fight, we can reasonably assume that  $D > d \geq 0$ ;  $K > k \geq 0$ . Moreover, since K is the more preferable candidate of Player 2, to simplify the following discussion, we assume that the authoritarian leader would not launch military exercises in any situation if he/she expects that K will win the election because the audience cost  $K$  is smaller than the military expense  $M$ . Nevertheless, despite the cooperation of Player 1, we presume that Player 2 still prefers to practice the drill because the audience cost outweighs the military expense if he/she perceives that the less preferable D will win the election, i.e.  $d > M$ . In summarizing the discussion above, the payoff sequence of Player 2 is the following:  $D > d > M > K > k \geq 0$ .

## **Equilibrium**

The signaling game above has two equilibria: one separate equilibrium and one pooling equilibrium. The separate equilibrium, as shown in Figure 2, shows the

situation in which Player 2 can acquire information from an opponent's reaction and attitude and thus predict which candidate will be elected. If Player 1 decides to fight, the authoritarian leader expects that the less preferable D will be elected and will launch a military threat. Similarly, if Player 2 observes Player 1's cooperation, he expects that his preferred candidate K can win the election and thus will not launch a drill

(See Appendix for the proof).

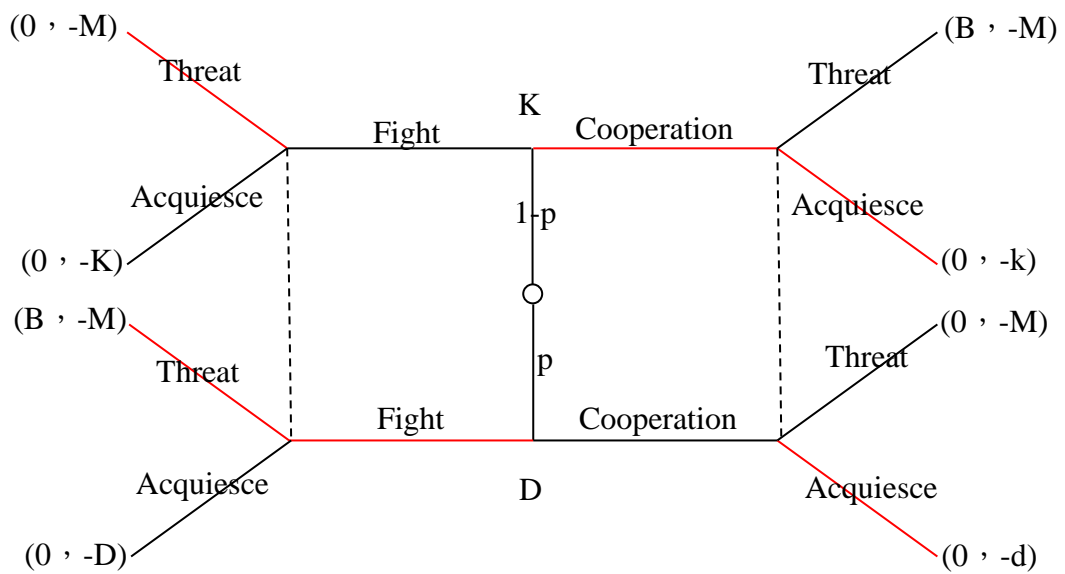


Figure 2 The Separate Equilibrium of the Signaling Game

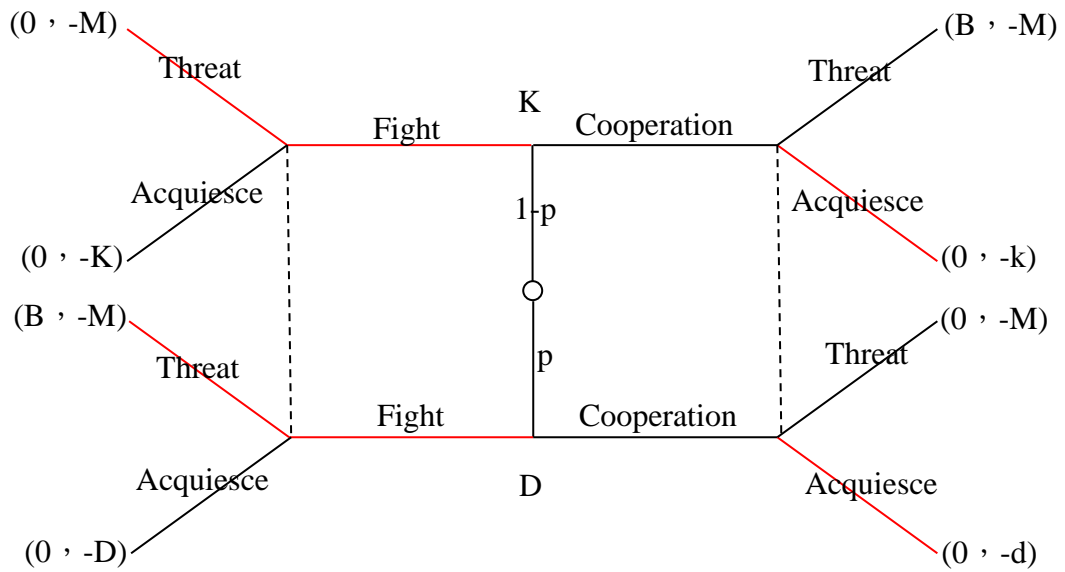


Figure 3 The Pooling Equilibrium of the Signaling Game

In addition to the separate equilibrium above, the signaling game also has a pooling equilibrium in which Player 2 might not be able to figure out who is to be elected based on Player 1's behavior. In this case, Player 1 will decide to rebel against the authoritarian regime no matter who will be elected. Since Player 2 cannot predict who will be elected based on Player 1's attitude, he/she can only form a belief about the probability of D's victory, i.e.  $p$ . If the leader believes that  $p \geq \frac{M - K}{D - K}$  when he/she observes Player 1's rebellion and that  $p < \frac{M - k}{d - k}$  when seeing Player 1's cooperation, he will then decide to launch a military drill (See Appendix for the proof).

The two equilibria above show that the authoritarian leader's perception of the probability of the less preferable candidate D's election, i.e.  $p$ , determines his decision of launching a military drill when Player 1's rebellion is detected. As depicted on Figure 3, when the leader's belief of  $p$  is below the threshold  $\frac{M - K}{D - K}$ , he will not

practice the military activities during the election because his preferred candidate K still has a chance to win the election and the cost of military drills outweighs the expected payoff of K's election. Nevertheless, if Player 2's belief of  $p$  passes the threshold, he will not hesitate to launch the drills because the chance of Candidate K's victory is rare and his/her expected audience cost due to D's election apparently exceeds the military cost.

How do we interpret this finding? Recalling the definition of  $p$ , which indicates the probability of Candidate D's election, the discussion above presents a straightforward hypothesis: Other things being equal, the more likely D is to win the election, the more likely it becomes that Player 2 will exert a military threat. That is, the authoritarian leader will compare the election probability of the two candidates, if he/she perceives that his/her preferred candidate has no chance to defeat the opponent and that the less preferred candidate's election will inevitably lead to enormous impacts on him/her, the leader will practice a military drill to prevent his dramatic loss in audience cost.

The signaling game perfectly matches the Cross-strait situation. First, it takes the CCP government's preference over Taiwanese parties. The CCP government has consistently emphasizes its "One China Policy" and requested Taiwan to accept the 1992 Consensus. Therefore, between the two major Taiwanese parties, the Kuomintang (KMT) and the Democratic Progressive Party (DPP), the authoritarian government apparently has a clear preference for the former, which advocates unification with China on a democratic basis and in a peaceful way and conditionally agrees with the One China with respective interpretations. With regard to the DPP, which affiliates more or less with Taiwanese Independence, and has consistently refused the One-China Principle and the existence of the 92 Consensus, the State

Council office for Taiwan Affairs has urged the party to accept its One-China Policy and warned it not to knock the bottom out of the mutual trust established in Cross-Strait Relations.

More importantly, the signaling game not only considers the preference of the CCP government, but also includes the election probability of candidates into the model. The model suggests that the authoritarian leader will not deploy military forces if he/she perceives that the preferred candidate still has enough chance to win the election. This thus explains why the CCP did not take military actions on the Fujian coast during the 2000 presidential election in spite of Lee Teng Hui's Two-States theory, but decided to launch a drill during the 2016 presidential election.

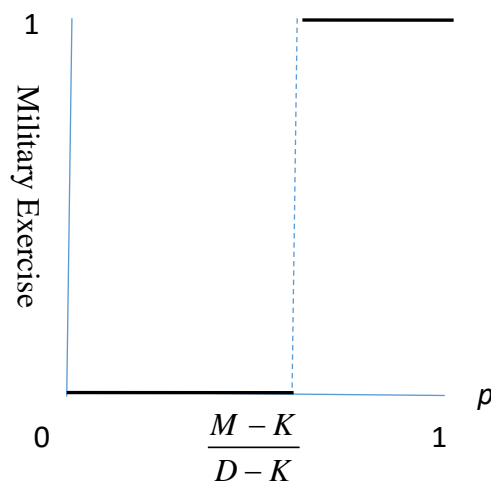


Figure 4 The Probability of the unfavored Candidate's Election and Military Threat

#### *Empirical Test*

To provide evidence to support the hypothesis derived from the signaling game, we test our assumptions against the empirical data collected from the 1996 to the 2016

presidential elections. We start to trace the data a year before the election day of the presidential elections and weekly record the following variables.

### Dependent Variable

This paper sets out to discover the logic behind the Beijing government's military threats during Taiwan's presidential elections. Therefore, the dependent variable is whether the PLA deployed its military force during the period of presidential elections. Nevertheless, when we collect the weekly data for the military activities of PLA, three problems come out with regard to defining military threats. First, military operations of the PLA could range from multi-country maritime exercises to a small-scale army drill or artillery test. We cannot possibly trace every military activity of the PLA if the activity is not broadcasted on the media. Moreover, in order to avoid tension in Cross-Strait relations, the escalation of its military activities, and the intervention from the United States, the PLA has never officially directed its military exercises toward Taiwan.

More importantly, even though the PLA could hold its exercises anywhere in China's territory, not all locations can exert diplomatic pressure on or disseminate warning messages to Taiwan. For instance, according to the China Central Television (CCTV), the PLA has constructed a building in the Inner Mongolia autonomous region that closely resembles Taiwan's Presidential Office Building in Taipei for military training purposes. Practicing an assault on the replica layout, as broadcast by CCTV on July 5, 2015, apparently targeted Taiwan. Nevertheless, objectively, such a military practice could not transmit a clear and present warning signal to the Taiwan Government and cannot be defined as a military threat.

To deal with the three problems above of defining and coding China's military



threats to Taiwan, we first delimit our focus only on military activities broadcasted by the official media of the CCP government. Such a disposal is consistent with the theoretical hypotheses of coercive diplomacy theory and domestic mobilization theory. No matter whether the purpose behind a military practice is to exert pressure on the Taiwanese government or to comfort the domestic audience in China, the goal of the military exercise could never be achieved if neither the Taiwanese nor the Chinese publics had ever noticed it.

In addition to the broadcasting condition above, to concentrate on military activities that can objectively place stress on the Taiwan government. Therefore, we have only focused on the military activities that have taken place along the coastline of China's Fujian province.<sup>8</sup> As shown in Figure 5, Fujian, located opposite to Taiwan, accounts for one-tenth of China's 32,000 KM coastline, and is therefore adjacent to the western waters of Taiwan. Due to Fujian's geographical position, in contrast with other drills, military exercises held along its coastline should exert more pressure on the Taiwanese government.

Based on the principles above, we trace military activities from the official media of the Beijing government such as the People's Daily, the CCTV, the Liberation Army Daily, etc. If a drill has occurred along a Fujian seashore, we code that week as 1, and 0 otherwise.

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<sup>8</sup> Military airplanes that cross the mid-line of Taiwan Strait will also be defined as a threat.

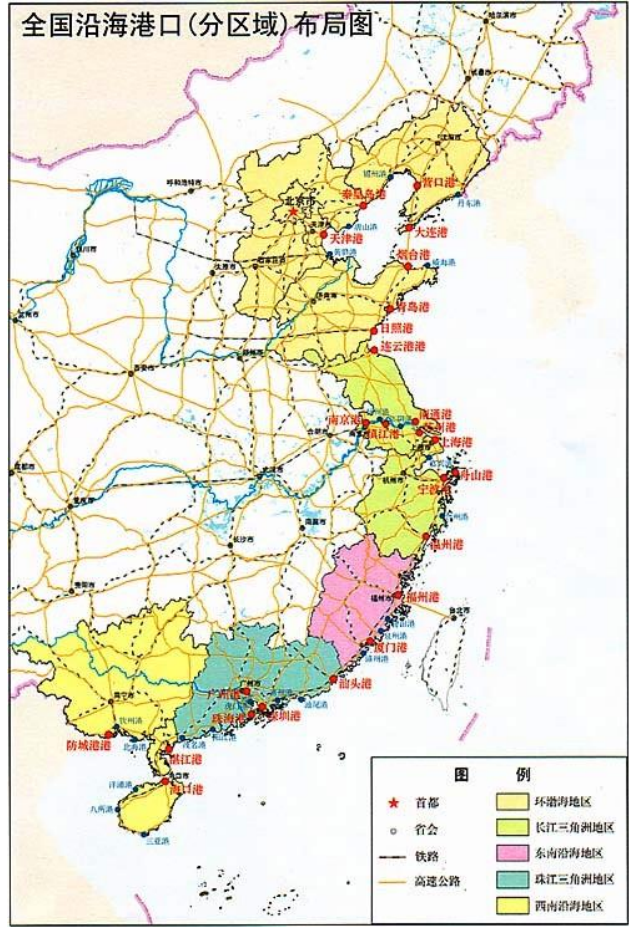


Figure 5 The Coastline of China

Independent Variable:

According to the equilibria derived from the signaling game, the perceived probability of a less preferred candidate’s election determines whether a CCP leader would implement a drill or not during Taiwan’s presidential elections. Therefore, theoretically, we just need to measure the difference between the election probability of the DPP candidate and that of the CCP’s preferred KMT candidate. Nevertheless, empirically, the evolution of Cross-Strait Relations and drastic electoral competition in Taiwan’s presidential elections complicate our coding procedure. For instance, in the 1996 presidential election, due to his visit to the United States, Lee Teng-hui became the least preferred candidate of the CCP despite his KMT membership.

Among the four presidential candidates, the CCP should be in favor of Lin Yang-kang or Chen Li-an who defected from the KMT and ran as independent candidates in the presidential election. In view of this, we have first classified presidential candidates into two subsets: favored ( $F$ ) and unfavored candidates ( $U$ ). We weekly traced their approval ratings based on opinion polls published in newspapers, and derived the election outcome probabilities for the two groups of candidates in Week  $K$ :  $P_{Uk} : \{P_{U1k}, P_{U2k}, P_{U3k}, \dots, P_{Ujk}\}$  and  $P_{Fk} : \{P_{F1k}, P_{F2k}, P_{F3k}, \dots, P_{Fik}\}$ .<sup>9</sup> We then selected the candidate with the highest chance to be elected from each group, and further calculated the difference in election probability by subtracting the latter from the former, i.e.  $\max(P_{Uk}) - \max(P_{Fk})$ . The greater the value, the more likely the non-preferred candidate will win the election.

In addition to the difference in election chances of candidates, we further calculated the number of weeks to the election day and set it as a control variable. Because electoral uncertainty decreases as voting approaches, we assumed that the closer to the voting day, the more likely Beijing would launch a drill.

## Model and Analysis

Intuitively, the model that best fits the binary dependent variable is logistic regression or the probit model. Nevertheless, the distribution of switching presents a rare-event distribution: of the 318 weeks during the elections, only 12 exist in which military drills have been observed. Because statistical procedures as logistic regression can sharply underestimate the probability of rare events (King and Zeng,

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<sup>9</sup> If two or more public polls were polished on different newspapers in a week, we simply average them. If no new poll was released, we assume that candidates' approval ratings had not been updated and remained the same.

2001), we applied both logistic regression and the rare-events logistic model of Tomz et al. (2003) to analyze the data.

Table 2 An Analysis of the PLA’s Military Activity during Taiwanese Presidential Campaigns

	Logit	Rare Event Logit
Difference in Approval Rating [Small→Great]	0.131*** (0.035)	0.115*** (0.035)
Weeks to the Election Day	-0.027 (0.027)	-0.024 (0.027)
Intercept	-4.762*** (1.102)	-4.329*** (1.102)

As presented in Table 2, both logit and rare event logit models present similar results: the difference in a candidate’s approval ratings has a significant and positive association with the occurrence of a military drill. As the gap between the election chance of unpreferred and preferred candidates increases, the probability that Beijing government deploys military exercises during Taiwan’s presidential elections also increases. In other words, this supports our theoretical hypothesis that suggests that the PLA would launch military drills if it is of the opinion that its preferred candidate has no chance to win the election.

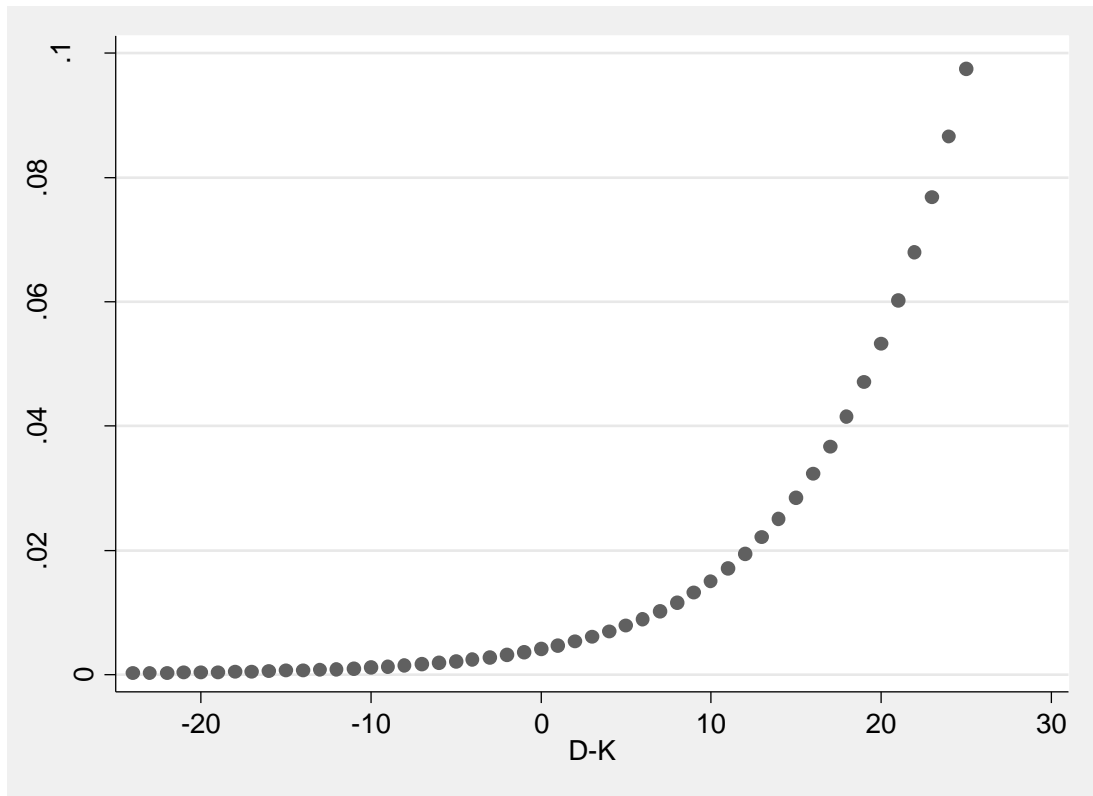


Figure 6 Predicted Probability of Military Threat

This thus explains the puzzle why the PLA did not implement military exercises along the Fujian coastline even though Lee Teng-hui's Two-State Theory clearly violated the One-China principle and thus infuriated Beijing. Meanwhile, the telephone poll showed that in contrast with the DPP presidential candidate Chen Shui-bian, the independent candidate James Sung who defected from the KMT, enjoyed a great chance to win the presidency. Because Lee Teng-hui was about to step down and its preferred candidate might win the election, the CCP government had no need to implement a military threat during the presidential campaign. Similarly, it can also explain the PLA's military activities near the 2016 presidential election despite no significant provocation from the DPP candidate Tsai Ing-wen. Because Tsai was consistently far ahead of the KMT candidate Hung Hsiu-chu, about 20 percent in the polling, the CCP leader could perceived Tsai's election and thus deployed a military

practice during the electoral campaign.

Table 2 also shows that the number of weeks to the election day has a negative, although insignificant, influence on the occurrence of a military drill. In other words, due to the electoral uncertainty, China was less likely to launch a military exercise at the early stage of Taiwan’s presidential campaign.

### Discussion and Conclusion

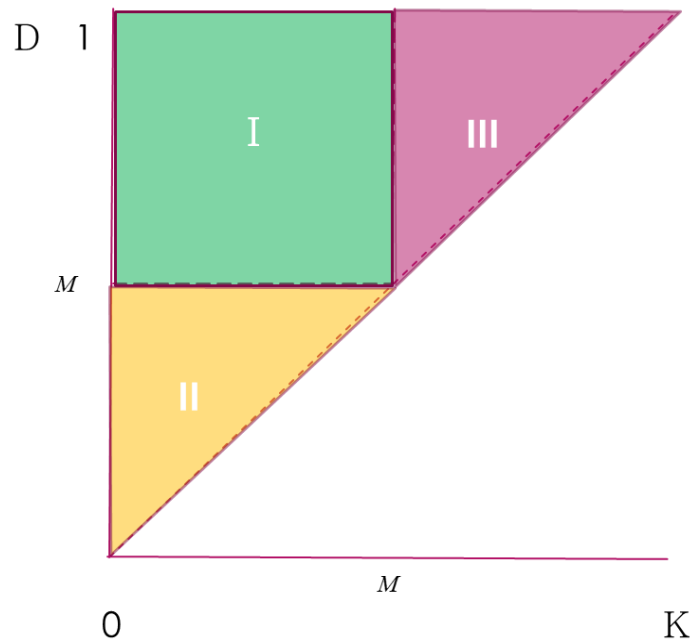


Figure 6 The Extension of the Signaling Game

This paper has offered a systematic analysis and rigorous test of the logic behind Beijing’s military activities during Taiwan’s presidential campaign and has at least provided three contributions to the studies and the literature of cross-strait relations and international relations. First of all, unlike previous studies that focused either on international pressures or on domestic audience costs, the signaling game in this paper has incorporated both assumptions by redefining the payoffs and utilities of both

players. More importantly, the signaling game takes the CCP government's preference over presidential candidates and the uncertainty of electoral results into account. By simply solving the nash equilibrium of the signaling game, we find that the decision behind the deployment of forces during the electoral campaign was simply based on the perceived election probability of the unfavored candidate. The more likely it is that an unfavored candidate would win the presidency in the coming election, the more likely the Beijing government would launch a drill during the election period.

The signaling game can further be applied to analyze international relations other than China-Taiwan relations. For instance, in October 2003 a territorial dispute over the ownership of the Tuzla Island aggravated the relations between Ukraine and Russia. Meanwhile, two candidates, the Pro-Russia Viktor Yanukovich and the Pro-western Viktor Yushchenko ran for the presidency. Because the pre-election poll showed Yanukovich and Yushchenko in a virtual tie, Putin expected that his favored candidate, Yanukovich, still had a great chance to win the election, he thus had no reason to deploy military forces along their common border.

The third contribution of this signaling game is its theoretical extension. Attentive readers might notice that in this manuscript we intentionally focus on the election probability of the unfavored candidate, but not the threshold  $\frac{M - K}{D - K}$ . We have simplified our discussion by assuming that  $D > M > K \geq 0$ . Based on the history of cross-strait relations and the official announcement of the CCP government, it is clear that Beijing opposed Taiwan's independence and that in contrast with the KMT, the DPP's victory in a presidential election would result in higher audience costs in China. Although such an assumption should not deviate from the facts, it does delimit the scope of the theoretical application of the signaling game.

Figure 6 illustrates the relations among the three factors in it: M, K, and D. Area I, in

which  $D > d > M > K > k \geq 0$  , is the main topic of discussion in this manuscript. The signaling game shows that one separate and one polling Nash equilibria exist. In Area II, knowing that the military expense  $M$  is greater than the local audience costs from D and K's election, i.e.,  $M > D > d > K > k \geq 0$ , the authoritarian leader would acquiesce in any situation no matter who is to be elected. In other words, we would not observe military activities even during the non-election period because the leader would not engage in military exercises in spite of the inauguration of the less preferred candidate. By the same token, if both D and K are greater than M, i.e.,  $D > d > K > k > M \geq 0$ , since the authoritarian leader prefers exercising military drills rather than acquiescing to either of their election, he/she will exert military exercises even though Candidate K who yields less audience cost is to be elected. In this case, we might observe military drills during the non-election phase. This model thus can be applied to explain the North Korea-South Korea relations and Sino-Japan Relations. Because the authoritarian leaders did not have a clear preference for either the dominant or the opposition parties, the communist government will not hesitate to launch a drill no matter who is in charge of the government. In short, the signaling game not only can be applied to analyze the logic behind military exercises in the election time, but can also explain those during the regular phase.



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