

# **The US Response to China's National Security Law**

A Game Theoretical Explanation of US Response to China's  
National Security Law in Hong Kong

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# 1. Introduction

In June 2020, the People's Republic of China (PRC) passed the National Security Law (NSL)<sup>2</sup>. This law effectively discarded many of the civil liberties previously available to Hong Kong residents. The NSL provided "Chinese officials with the authority to monitor, try, and punish "succession, subversion, terrorism, and colluding with foreign governments" (Jain et al. 2020, 3)<sup>1</sup>. The implementation of this law led to international criticism as it simultaneously violated the Sino-British Joint-Declaration and disposed Hong Kong's autonomy.

The people of Hong Kong and remaining pro-democratic officials and activists have actively vilified the US response to China's political infringement as contradictory to its incentives. US actions taken to date have been perceived as symbolic, futile, and purposefully counterproductive. This provides me with a premise to pose my research question. What are the US motives for remaining impartial in Hong Kong's fight for autonomy? Assuming promoting the spread of democracy is the main goal for the US, why did its attempt to preserve Hong Kong's freedom revolve around targeted sanctions of its officials and exports?

This argumentative essay suggests the US' foremost objective in Hong Kong is not to protect the territory's status quo but rather, to remain politically ambiguous with the PRC. I construct a game theory model to propose the US response to China's breach of the rules-based system was a methodical decision based on cost-benefit analyses through possible outcomes given intervention tactics various severities.

The structure for my model is adapted from Nelson Chung's "Game Theory Analysis"<sup>2</sup> in *The Sino-Taiwanese Crisis* where he puts Taiwan in a hypothetical scenario where the de-facto government must either take a leap towards independence or enter reunification talks with China. Chung develops sequential game trees, defines unitary actor interests and derives actor outcome preference inequalities for each possible outcome. He then uses Pareto optimal and Nash

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<sup>1</sup>Jain et al. "Countering China's National Security Law" in *Hong Kong's Future on Edge* (Atlantic Council: Scowcroft Center for Strategy and Security, 2020), 3.

<sup>2</sup> Chung, "The Sino-Taiwanese Crisis: A Game Theoretic Analysis" (Sigma: Journal of Political and International Studies, 2005)

equilibrium solutions to conclude that the payoff maximizing choice for all actors (Taiwan, China, and the US) in his model lies on a sequential move branch where the US isn't required to move.

### 1.1. Methods and Data

*The first section* of this adaptation offers background information on the NSL and the following US response. I dissect notable consequences of the law and its international retaliatory reactions. Following this I explain Hong Kong's discontent over the NSL and its criticism of the HKAA and EO 13936.

*The second section* will lay out an overview of Chung's model by reviewing his unitary actors, actor interests and choices, model assumptions, sequential move trees and possible outcomes. I will then introduce my adapted model and identify similarities and differences between the two. My model will be referred to as "Game 2."

The *third section* complements Chung's analysis by introducing Mathew Wong in "A Game Theory Model of Democratization and Political Reform in Hong Kong"<sup>3</sup>. Wong uses game theory to suggest the successes toward democratic reform in Hong Kong have been inversely related to the strength of its civil society at its time. This provides Game 2 with plausible evidence of overlap in preference inequalities with Chung's game. I will also discuss how Wong's model assists in defining certain assumptions within Game 2. This section will conclude with an ordinal payoff chart of preferences and overlay them with corresponding outcomes in Game 2's sequential move tree.

*The fourth section* discusses Game 2's Pareto optimal and Nash equilibrium outcome payoffs to offer an explanation to the US decision of political ambiguity. I will complete this segment by discussing the viability of the used model to suggest that Game 2 should be interpreted as an explanation of perceived US apathy for Hong Kong's autonomy rather than a prediction of the course of action during a crisis.

Our *fifth and concluding section*, summarizes similarities between a hypothetical Sino-Taiwanese crisis and Hong Kong's loss of autonomy in 2020 and displays my findings in Game 2's. I then add my concluding remarks in three parts: (1) the Hong Kong Autonomy Act and

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<sup>3</sup> Wong, "Conditional Factor: Strength of Civil Society," *A Game Theory Model of Democratization and Political Reform in Hong Kong* (Taiwan Journal of Democracy, 2016), 135

Executive Order 13936 were enacted as legal obligations by the US to uphold the International Emergency Economic Powers Act (IEEPA) and Hong Kong Policy Act of 1992 (HKPA), (2) from assessing Game 2's Nash equilibrium solution, the US is better off in a game in which it isn't involved or is an impartial actor within the game, (3) the US holds climate change and stable US-China relations as higher priorities than the well-being of Hong Kong sovereignty.

## 2. Background

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### 2.2 National Security Law

The Hong Kong Extradition Bill of 2019 (HKEB) sparked severe civil unrest and mass protests known now as the 2019 Anti-Extradition Protests. Hong Kong citizens, dubbed "Hong Kongers," saw their government's persistence to pass the HKEB as evident political influence from Beijing on Hong Kong officials. The HKEB directly opposed *Hong Kong Basic Law*, which guarantees Hong Kong a high degree of autonomy under China's rule and protects fundamental rights such as freedom of speech, freedom of assembly, freedom of the press, etc. (China, Joint Pub. HK 1991)<sup>4</sup>. The protests peaked on the 16<sup>th</sup> of June 2019, when protest organizers claimed an estimated 2 million Hong Kong residents joined their march from Victoria Peak to the Legislative Council in Admiralty, HK (Purbrick 2019, 471)<sup>5</sup>. Political hesitation on the HKEB lasted almost five months of protests until the 23<sup>rd</sup> of October 2019 when Secretary for Security John Lee announced the government's formal withdrawal of the bill.

The HKEB served as a stark reminder of the end date of the "one country, two systems" policy and the Hong Kong Basic Law. The reminder motivated activists to continue their demands for democratic protections even after the bill's withdrawal. Civil unrest and disobedience continued through January 2020 until the coronavirus outbreak.

HK government was appalled by the discontent amongst the population and failed to comprehend the changing expectations of their citizens. Beijing interpreted their hesitation to act

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<sup>4</sup> The Basic Law of The Hong Kong Special Administrative Region of The People's Republic of China, 1991

<sup>5</sup> Purbrick, "A Report of the 2019 Hong Kong Protests" in *Asian Affairs* (Routledge, 2019), 471

as a need for PRC intervention. “Under pretext of preventing further street unrest once the pandemic subsided, Beijing passed the Law of the People’s Republic of China on Safeguarding National Security in the Hong Kong Special Administrative Region (SAR), commonly known as the National Security Law, in June 2020” (Jain et al. 2020, 3)<sup>6</sup>. The broad definition of national security in the law makes it illegal to publicly criticize the Hong Kong and Chinese government. In other words, the NSL dismantles Hong Kong’s Basic Law 27-years earlier than agreed upon in the *Sino-British Joint Declaration*

## 2.2 The US Response

US response was based on the authority provided by the International Emergency Economic Powers Act (IEEPA) and the Hong Kong Policy Act of 1992 (HKPA). The IEEPA, enacted in 1977, “gives the executive branch broad discretion to oversee “any interest of any foreign country of national thereof” while the latter was an attempt to uphold the obligations established previously by Congress in the Hong Kong Policy Act of 1992 and the Hong Kong Human Rights and Democracy Act of 2019” (Peters 2020, 538)<sup>7</sup>.

This authority propagated into two US policies: The Hong Kong Autonomy Act (HKAA) and Executive Order 13936 (EO). The HKAA allows the imposition of targeted “sanctions on foreign individuals and entities that materially contribute to China’s Failure to preserve Hong Kong’s autonomy,” (116<sup>th</sup> Congress 2020, 1)<sup>8</sup>. EO 13936 stated, “the Special Administrative Region of Hong Kong (Hong Kong) is no longer sufficiently autonomous to justify differential treatment in relation to the People’s Republic of China (PRC or China)” (Exec. Order No. 13936)<sup>9</sup>. The order removed Hong Kong’s different and preferential treatment. This made HK susceptible to the existing tariffs, sanctions, and restrictions impose on the mainland. The most consequence

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<sup>6</sup> Jain et al. “Countering China’s National Security Law,” 3

<sup>7</sup> Peters “Background and Purpose of the Hong Kong Autonomy Act” in *Targeted Economic Sanctions in Light of the Hong Kong Autonomy Act and US-China Tensions* (North Carolina Banking Institution, 2020) 538

<sup>8</sup> H.R.7440 - 116th Congress (2019-2020): Hong Kong Autonomy Act, H.R.7440, 116th Cong. (2020), <https://www.congress.gov/bill/116th-congress/house-bill/7440>.

<sup>9</sup> Exec. Order No. 13936, (2020) <https://www.federalregister.gov/documents/2020/07/17/2020-15646/the-presidents-executive-order-on-hong-kong-normalization>

of this order lies within a notice issued by the US Customs and Border Protection (USCBP), “requiring imports from HK to be marked with “China” as their origin” (Yu 2022, 176)<sup>10</sup>.

The territory later initiated a WTO complaint against the US with Hong Kong Commerce Secretary Edward Yau, comparing the USCBP mandate to *calling white, black*. Yau issued a strongly worded statement criticizing EO 13936 and objected to the USCBP notice as a likely violation of World Trade Organization (WTO) rules because of the US disregard of HK’s status as a separate entity from China (Yau, 2020)<sup>11</sup>. This *not only worsens already tense relations between the United States, HK, and the PRC, but the WTO complaint also draws international attention away from the NSL* (Yu 2022, 176)<sup>12</sup>.

The collective response from the US contributes to the demise of liberty in Hong Kong due to the PRC’s ability to have a tighter grasp over the city, worsens political tension, and negatively influences international perception of the once autonomous Chinese territory. These two US policies were ultimately ineffective in convincing the PRC to uphold the Sino-British Joint Declaration and inadvertently harmed US banks and assisted in the demise of Hong Kong’s autonomy.

### 3. Model

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To build Game 2, I adapt Chung’s game first by defining actors, individual actor interests and choices. Chung’s Unit of Analysis states, “[He] will treat Taiwan, China, and the United States as unitary actors for simplification. Rational choice theory allows the aggregation of each policymaker’s decision calculus into a whole, assuming that each politician within a country faces roughly the same incentive structure” (Chung 2005, 116)<sup>13</sup>. I will utilize the same choice of unitary actors apart from swapping Taiwan for Hong Kong. Game 2’s actors are as stated: Hong Kong (HK), China (C), and the US (A).

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<sup>10</sup> Yu, “Elimination of Hong Kong’s Special Treatment Under Executive Order 13936’ *The United State’s Ineffective Response* (University of California, Hastings College of the Law, 2022) 176

<sup>11</sup> See note 10 above.

<sup>12</sup> See note 10 above.

<sup>13</sup> Chung “Unit of Analysis” *The Sino-Taiwanese Crisis: A Game Theoretic Analysis* (Sigma: Journal of Political and International Studies, 2005) 176

### 3.1 Actor Interests

#### *Hong Kong*

I follow Chung's outline in this paragraph by giving overall summaries of each actor's individual interests. "The Article 23 protests in 2003 was the consequence of China's attempt to amend the Basic Law that would "prohibit any act of treason, secession, sedition, subversion against the Central People's Government" (Hong Kong Basic Law Article 23 2003)<sup>14</sup>"Studies showed that the level of trust in the Beijing Government has been fluctuating with roughly 47.7% of the respondents having no trust in the first months of 2019 (Shek 2020, 620)<sup>15</sup>. Since their handover to China in 1997, Hong Kong has demonstrated ongoing efforts followed by demands for political reform to their status quo that shifts towards a more democratic system. This produces Hong Kong's first interest.

*Promoting Political Reform Talks with China.* Historically, "many social unrests are triggered by economic factors" (Shek 2020, 620)<sup>16</sup>. However, the 2019 protests in Hong Kong occurred when the SAR had close to full employment in 2018. The high employment rate and repetitive pro-democratic movements insinuate the main concern for HK. In "The July 1<sup>st</sup> Protest and the First Political Reform Effort (2003-2005)," Wong describes the *political decay*<sup>17</sup> of the HKSAR government in the years leading into 2003 as a contributing factor of the historic downfall in citizen and scholar approval. Hong Kong's trend of reoccurring anti-authoritarian protests clearly signifies HK's dissatisfaction with China's transparency of its intentions for the territory.

*The Distinction of Identities.* "Studies have shown that 75% of the young respondents regarded themselves as 'Hongkonger' rather than Chinese" (Shek 2020, 623)<sup>18</sup> Views on individual freedom and political systems leads Hong Kong to harbor weak national identity. Mainlanders have deeply rooted stereotypes in Hong Kong society and are profiled as rude, lacking hygiene, greedy, and nicknamed "lambs" (unknowingly oppressed people). Hong Kong's de-facto

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<sup>14</sup> Hong Kong Basic Law (2003)

<sup>15</sup>Shek, "A Perspective Based on Quality of Life and Well-Being" Protests in Hong Kong (2019-2020) (2020) 620

<sup>16</sup> Shek 620

<sup>17</sup> Wong, 139

<sup>18</sup> Shek, 623



identity has been the fuel to the pro-democratic movements demonstrated with Chinese political interference being the match that ignites it.

*Promoting Economic Prosperity.* I could have argued the economic independence that Hong Kong could have achieved if this were 1993, where “Hong Kong was 25% of China’s total GDP.” (Jain et al. 2020, 6)<sup>19</sup> Today, Hong Kong’s total GDP is roughly 2-3% (Jain et al. 2020, 6)<sup>20</sup> The rapid growth of China to become the economic powerhouse it is today is a phenomenon that was possible through economic reforms that led to higher efficiency and productivity. Despite Hongkongers’ desire for democracy, their government recognizes its reliant economic relationship with China.

The Hong Kong list of interests is much easier to define as it has shown clear and definitive movements towards the singular goal of democracy and independence. Chung’s model acknowledges China and the US as having a broader set of interests constrained by certain factors due to their widespread influence. Game 2 will carry over these same interests and are listed below for simplicity.

### ***Chinese Interest***

1. *Closing the Chapter of National Humiliation*<sup>21</sup>: obtaining control Hong Kong will rectify the CCP’s humiliating loss to the British after the first Opium War.
2. *Enhancing National Power*<sup>22</sup>: having internationally recognized ownership of Hong Kong will boost the PRC’s strategic position and influence.
3. *Developing Economy*<sup>23</sup>: decisive influence in Hong Kong financial markets will continue China’s rapid economic growth, which will contribute to legitimizing the CCP’s status as a world power.

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<sup>19</sup> Jain et al. (2020) 6

<sup>20</sup> Jain et al. (2020) 6

<sup>21</sup> Chung 119

<sup>22</sup> See note 19 above.

<sup>23</sup> Chung, 120

### ***Chinese Constraints***

1. *International Constraints*<sup>24</sup>: China is subject to global norms and institutions.
2. *Expected International Intervention*: the invasion or breaking of the rules-based system could lead to severe sanctions and NATO intervention.
3. *International Norms*<sup>25</sup>: forceful reintegration of Hong Kong would adversely affect China's "soft power" or the "ability to get others to do things through enticement" (Chung 2020, 120)<sup>26</sup>

### ***US Interest***

1. *US Strategic Interests in Hong Kong*<sup>27</sup>: preserving Hong Kong as a geopolitical buffer zone serves as a medium to suppress China's growing power economically/militarily and upholds the US credibility regarding international commitments.
2. *US Economic Interests in Hong Kong*<sup>28</sup>: "Hong Kong is the third-largest US dollar funding centre globally, and major profit centre for the most profitable US investment and commercial banks" (Chin 2022, 660)<sup>29</sup>.
3. *US Strategic Interests in China*<sup>30</sup>: "China has the potential to join the US in the global war on terror and in non-proliferation. Coming to [Hong Kong's] defense may complicate China's willingness to help on those fronts," (Chung, 2020, 121)<sup>31</sup>.
4. *US Economic Interests in China*<sup>32</sup>: China is "essential to the US economy as it being its biggest merchandise trading partner, the most significant source of imports, 3<sup>rd</sup> US export market, and the largest foreign holder of United States Treasury," (Chin 2020, 17)<sup>33</sup>

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<sup>24</sup> See note 21 above.

<sup>25</sup> See note 21 above.

<sup>26</sup> See note 21 above.

<sup>27</sup> Chung, 121

<sup>28</sup> See note 25 above.

<sup>29</sup> Chin, "Geopolitics and Hong Kong as international financial centre: a dynamic IPE perspective" (Routledge Taylor & Francis Group, 2022) 660

<sup>30</sup> See note 25 above.

<sup>31</sup> See note 25 above.

<sup>32</sup> See note 25 above.

<sup>33</sup> See note 27 above.

### 3.2 Actor Choices

With each actor's interests outlined above, I can now merge Wong's argument with Chung's model<sup>34</sup> specifications to designate Hong Kong's strategy set. Chung's game allows Taiwan four choices: reunification (*r*), confederacy (*cf*), commonwealth (*cw*), and independence (*idp*).

“It is argued that the strong strength of civil society [of Hong Kong] in 2005 and 2015 ruled out any probable negotiation between the Beijing and the democrats, resulting in deadlocks and the eventual rejection of the proposals. In contrast, the weaker and apolitical nature of civil society in 2010 allowed moderate democrats to reach an agreement with Beijing over a proposed reform” (Wong 2016, 127)<sup>35</sup>. The strong civil society studied in 2005 and 2015 movements have shown similar presence in the 2019 Anti-Extradition protests. The nature of the 2019 protests provides Game 2 with Hong Kong's first move of independence.

China's strategy set ( $S^C$ ) contains three options: invade (*nv*), not invade but impose sanctions ( $\sim nv/sc$ ), and not invade and not impose sanctions ( $\sim nv/\sim sc$ ). The strategy set for the US is where Chung's model and Game 2's model diverges. In Chung's game, he only specifies the US to have two choices: help (*h*) and not help ( $\sim h$ ). I will further Chung's model by allowing the US to have the same strategy set as China with caveats I will discuss in the next section. I construct a sequential game tree of all outcomes given the defined strategy sets and summarize Game 2's actor choices in a list on the following page.

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<sup>34</sup> Chung, 122

<sup>35</sup> Wong, 127

Figure 1. Full sequential move tree of Game 2

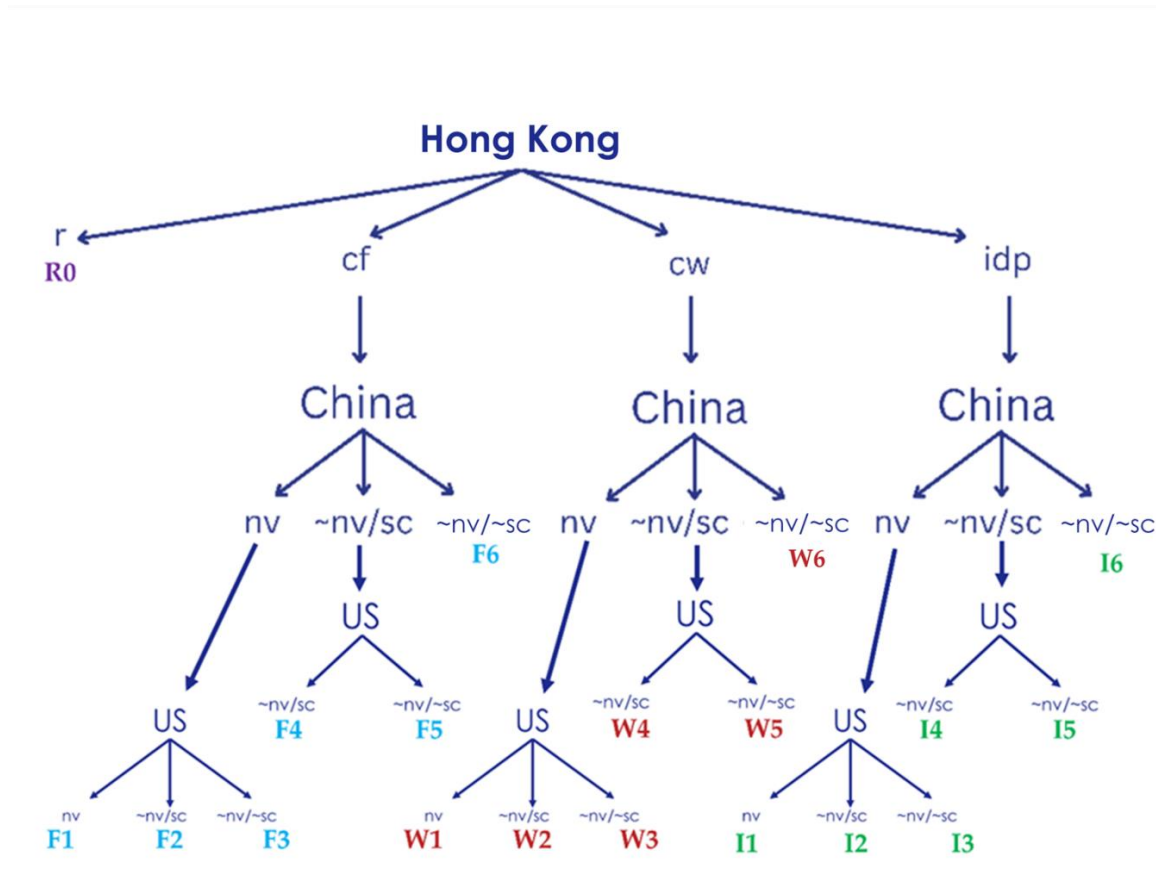


Table 1. Actor Strategy Set Table with Hong Kong's Choice of Independence

Hong Kong	China	United States
$S^T = \{r, cf, cw, idp\}$	$S^C = \{nv, \sim nv/sc, \sim nv/\sim sc\}$	$S^A = \{nv, \sim nv/sc, \sim nv/\sim sc\}$
(r) reunification	(nv) invade	(nv) invade
(cf) confederacy	(~nv/sc) not invade but impose sanctions	(~nv/sc) not invade but impose sanctions
(cw) commonwealth	(~nv/~sc) not invade and not impose sanctions	(~nv/~sc) not invade and not impose sanctions
(idp) independence		

### 3.3 Model Assumptions

Game 2 model must hold assumptions to isolate relevant outcomes and to avoid tracking every permutation of choices. *First*, my model will assume that Hong Kong has the first move. *Second*, as per Wong's model, the strength of Hong Kong's political movement dictates its decision. *Third*, if Hong Kong chooses reunification ( $r$ ), the game will end with the peaceful reunification of China and Hong Kong. *Fourth*, if Hong Kong chooses any other decision besides reunification, then China always has the second move. *Fifth*, if China enters the game and chooses not to invade and not impose sanctions, then game ends with Hong Kong's initial choice being the outcome. *Sixth*, the US enters the game only if China enters the game and chooses either to invade ( $nv$ ) or not invade but impose sanctions ( $\sim nv/sc$ ). *Seventh*, the US cannot choose to intervene militarily ( $nv$ ) unless China has chosen to invade ( $nv$ ) Hong Kong. if the US enters the game and chooses to not invade and not impose sanctions ( $\sim nv/\sim sc$ ), then the game ends with Hong Kong reunifying with China regardless of Hong Kong's first move. *Eighth*, if the US chooses to intervene militarily, then it is assumed that Hong Kong will become independent. *Nineth*, if the US enters the game and chooses to not invade and not impose sanctions ( $\sim nv/\sim sc$ ), then the game ends with Hong Kong reunifying with China regardless of Hong Kong's first move.

### 3.3 Game 2 Outcomes

To conclude this section, I have summarized each outcome of the independence branch below with a list and legend that explains its outcome notation. This notation provides the model with a labelling system that effectively tracks outcomes via a sequential move tree and provides a platform of analysis of outcome preferences.

#### Legend for Outcomes List

- **I:** Hong Kong outcomes from ( $idp$ )
- **-1:** Chinese invasion ( $nv$ ) without US response ( $\sim nv/\sim sc$ )
- **-2:** Chinese invasion ( $nv$ ) with US sanctions ( $\sim nv/sc$ )

- **-3:** Chinese invasion (*nv*) with US military intervention (*nv*)
- **-4:** Chinese sanctions only ( $\sim nv/sc$ ) without US response ( $\sim nv/\sim sc$ )
- **-5:** Chinese sanctions only ( $\sim nv/sc$ ) with US sanctions ( $\sim nv/sc$ )
- **-6:** Chinese without response ( $\sim nv/\sim sc$ ), game ends

### List of Possible Outcomes

- **I1:** (*idp*, *nv*,  $\sim nv/\sim sc$ )
- **I2:** (*idp*, *nv*,  $\sim nv/sc$ )
- **I3:** (*idp*, *nv*, *nv*)
- **I4:** (*idp*,  $\sim nv/sc$ ,  $\sim nv/\sim sc$ )
- **I5:** (*idp*,  $\sim nv/sc$ ,  $\sim nv/sc$ )
- **I6:** (*idp*,  $\sim nv/\sim sc$ )

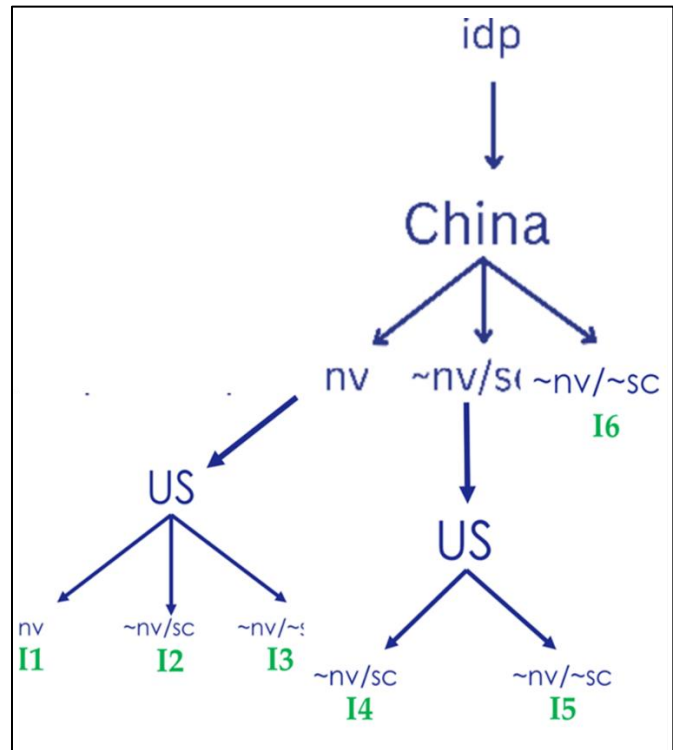


Figure 2. Game 2 Sequential Move Tree

## 4. Game 2 Analysis

### 4.1 Actor Preferences

I begin my model analysis by holding the model assumptions constant and take each actor interests list into account when building the country's relative payoff inequalities to identify the most preferential route of action of all players. The process to this analysis is like a proof by induction. I isolate like-terms and outcomes, compare the linked outcomes, and relate actor interests as “theorems” to create payoff inequalities and explanations between similar outcomes. I then check my work for inconsistencies with a squeeze theorem method in which I arrange the outcomes in a singular inequality relationship and cross reference the outcomes term by term.

#### *Hong Kong*

If the US does not intervene regardless of China's move, then HK reunifies with China by assumptions seven. I can deduce outcome I3 and I5 will have the least payoffs generated for Hong Kong. With I5 being the lesser of the two scenarios where the US does not intervene because Hong

Kong's payoff will always be lower in a scenario where China invades, and the US does not intervene since HK will suffer not only severe economic loss but also loss of their national identity, and loss of the possibility for reform discussions with the CCP. Outcomes ending in -3 directly contradict Hong Kong interests, which identifies HK's lowest payoff outcomes I can therefore say: if  $(\sim nv, sc) \in S^A$ , then  $I5 > I3$  is true by assumption 7.

Knowing that HK is the worst off with forceful reunification with no US aid as the worst outcome, I can confer that  $I6$  will yield Hong Kong's higher payoffs because HK's decision for independence with no Chinese opposition will open discussion for reform, distinguish national identities and promote economic growth for both involved. However, I must note that not all outcomes ending with -6 are equal because assumption five states, "if China enters the game and chooses not to invade and not impose sanctions, then the game ends with the outcome being Hong Kong's initial choice." The observed inequality is as follows:  $I6 > I5 > I3$  by assumption 5. All outcomes ending in -1 are equal by assumption 9 as Hong Kong has assumed to achieve independence if the US intervenes militarily. This allows me to know that all outcomes ending in -2 have less payoff outcomes ending with -1.

Therefore, I complete Hong Kong's preferences of payoffs given its move for independence.

$$I6 > I1 > I4 > I5 > I2 > I3$$

### ***China***

Regardless of the constraints pulling on the reigns of Chinese determination for Hong Kong, the 2019 protests have made China's intentions with Hong Kong noticeably clear. This made solving for China's preferences simple. Using the fifth and eighth assumption, and the common sense of China not wanting to be invaded by the US, I can state: If  $(nv) \in S^A$  or  $(\sim nv/\sim sc) \in S^c$ ,  $I6 \geq I1$  by assumption 6 and 8. I then use assumption 9 to state: If  $(\sim nv/\sim sc) \in S^A$  then  $I5 > I3$  and if  $(\sim nv/sc) \in S^A$  then  $I4 > I2$ . China's complete payoff preferences for the "I" outcomes is

$$I5 > I4 > I3 > I2 > I6 > I1$$

### ***United States***

The US preference is less definitive than the previous two actors at first glance. The US has a multitude of reasons to protect Hong Kong's status quo or even promote the Hong Kong attempt at democracy. On the other hand, the US also has more far-reaching incentive to maintain

and nurture US-China relations. Despite the US being stuck between two rocks, it is trivial to see the most preferred outcome for the US mirroring HK's.

The balancing of strategic and economic interests between Hong Kong and China-relations dictates the US' preference. Ideally, the US would prefer the same outcome as Hong Kong, where the Hong Kong chooses the route of independence and China is non-responsive. Leading to the US preference max of I6.

The utmost important policy priority for the US is to minimize the risk harming US-China relations and therefore outcome I1 of US military intervention will never be considered. Therefore, I1 will be the US' least preferred plan of action. Despite I1 being the bottommost favorable outcome for the US, it risks severe international criticism if the country does not act against a Chinese invasion of Hong Kong. This makes I2 and second least favorable option.

The juggle between not responding to Chinese sanctions on Hong Kong and responding with retaliatory sanctions is decided by previous international agreements between the US and Hong Kong stated in the IEEPA and HKPA. Despite the US preferring the non-response option to a questionable imposing of power on Hong Kong, the US has legal obligations to act. With these considerations, I state the US outcome preference.

$$I6 > I5 > I5 > I3 > I2 > I1$$

## 4.2 Nash Equilibrium Solution

I mimic Chung's study by assigning an ordinal ranking system of each outcome produced from a hypothetical stride towards Hong Kong independence based on the analyzed inequalities. The chart below assigns each outcome with an ordinal utility ranking ranging from 1-6 with the number 6 having the highest utility.



Outcome	Hong Kong	China	US
I1	5	1	1
I2	2	3	3
I3	1	4	2
I4	4	5	4
I5	3	6	5
I6	6	2	6

Table 2. Ordinal Ranking Chart of I1-I6 Outcomes

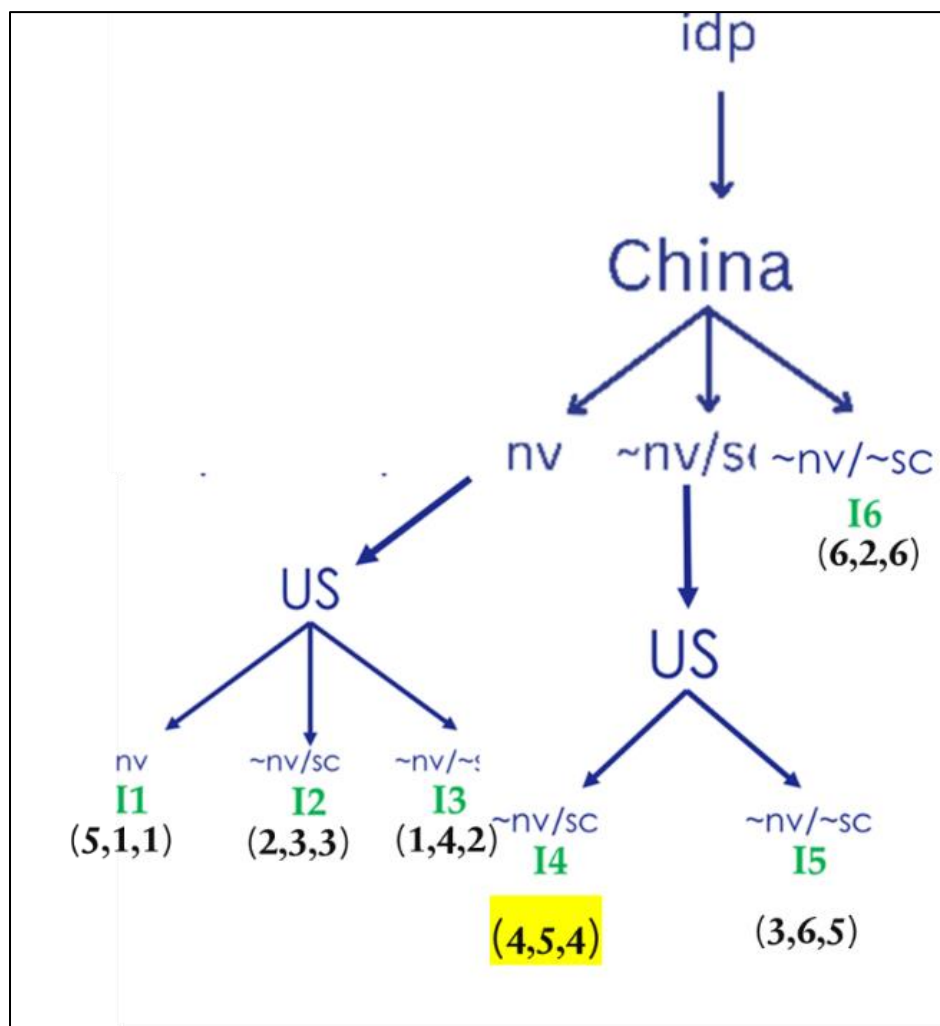


Figure 3. Game 2 Sequential Move Tree with Associated Ordinal Payoffs

The Nash equilibrium solution in Game 2's model (highlighted in green in the table and yellow in the tree diagram) suggests that I4 is the overall optimal solution for all actors in this scenario. The I4 equilibrium outcome happens when Hong Kong initially chooses independence, China chooses not to invade but imposes certain sanctions such as the 2020 Nation Security Law, and the US chooses to respond with retaliatory sanctions, in this case the Hong Kong Autonomy Act and Executive Order 13936. This analysis reveals that the US response to China's National Security Law may have very well been a calculated decision to remain an impartial figure in Hong Kong's fight for democracy.

## 6. Discussion

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### 6.1 Model Effectiveness

Although Hong Kong and Taiwan both operate under the one country two systems policy and are both recognize internationally as a part of China, they are not the same. Hong Kong's semi-autonomous system was guaranteed under the Sino-British declaration, which clearly states the termination of the territory's western political freedom. Taiwan's one country two policies agreement with China was approved for an indefinite amount of time. Despite this crucial difference, the Hong Kong-Taiwanese attitude towards the CCP lie parallel to each other. This shared mentality fuels the continued tension between their relations with their mainland, which makes their preferences for the future identical.

The limitations of game theory have been subject to criticism due to its reliance on its framework and assumptions specifically pertaining to its assumption of rational actors. I cannot defend its ability to forecast the human element but given Chung's cohesive structure and in-depth analysis techniques, I am confident that game theory can offer an explanation to the US apathy towards Hong Kong autonomy.

## 7. Conclusion

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This argumentative analysis is adapted from Nelson Chung's *The Sino-Taiwanese Crisis: A Game Theoretical Analysis*. Chung constructs a game theory model centered around a

hypothetical Sino-Taiwanese crisis where it must choose either a stride towards independence or enter an agreement towards reunification with China. I emulate Chung's theoretical approach to suggest that the widely criticized US response to China's National Security Law was a strategic decision for the US to minimize US-Chinese relations while also upholding their legal duty to defend Hong Kong's autonomous government as agreed upon in the Emergency Economic Powers Act and Hong Kong Policy Act of 1992.

I start off the analysis by offering background information on Hong Kong's relationship with China. Then define the used model actor interests, actor choices, and model assumptions. Before beginning a systematic approach in obtaining outcome preferences, I isolate a specific branch in the model's sequential move trees to emphasize the research question pertaining to events that have already occurred. Once the preferences are defined, I follow Chung's outline and assign ordinal rankings to each outcome for each actor and overlay them on the focused sequential move branch. Finally, I discover the Nash equilibrium solution of the second-best option for all actors being a similar route of action that the US purposefully took in 2020 by passing the HKAA and EO 13936. Concluding that the US is not apathetic for the future of Hong Kong's autonomy, but rather seeking to improve overall relations with all involved parties.

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