

# Maritime Conflicts in East China Sea :Computational approach

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JeJu Forum

# Research Method

- ▶ **Computational Modeling Approach**  
(Stakeholder Analysis+ Agent Based Modeling)
- ▶ Traditional stakeholder analysis has relied on qualitative assessments of stakeholder preferences
  - ▶ *Flexibility and Predictability Issues*
- ◆ **Stakeholder Analysis+ Computer Modeling**
  - ▶ simulate aspects of social behavior

# Research Method

◆ 2 Cases of Maritime Conflict in East China Sea  
in 2015

***Case 1*** : Senkaku / Diaoyudao Case between Japan  
and China

***Case 2*** : Dokdo Case between South Korea and  
Japan

# Computational Modeling

- ▶ Computational modeling approach models the behavior and interaction of stakeholders (such as individuals, families, and firms) within a larger system
  - ▶ Two attributes of Stakeholders : Interest, Influence
  - ▶ Simulates the iterative political decisionmaking calculus among stakeholders with different interests in and varying influence on the political process.
  - ▶ allows analysts to analyze the political dynamics within local, domestic, and international contexts and predicts how the policy positions of competing interests will evolve over time
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# Steps of Computational Analysis

1. Identify Issue
  2. Identify Environment
  3. Identify Stakeholders (interests & influence)
  4. Run computer simulations
  5. Validate the outcome
- 

# 4 Types of Stakeholders

- Large influencers with high importance who can either help or impede progress.  
Opponents should be isolated, while proponents should be empowered to form larger coalitions.
- Large influencers with little importance who can be mobilized to assist the political process if they support it, or blocked if they oppose it.
- Small influencers with high importance who can either help or impede progress.  
Opponents should be isolated, while proponents should be empowered in stronger coalitions.
- Small influencers with little importance who could be motivated to assist the political process, if necessary, but would not be worth the effort to block.

# Senkaku / Diaoyu Dao

## 1. Issue Spectrum

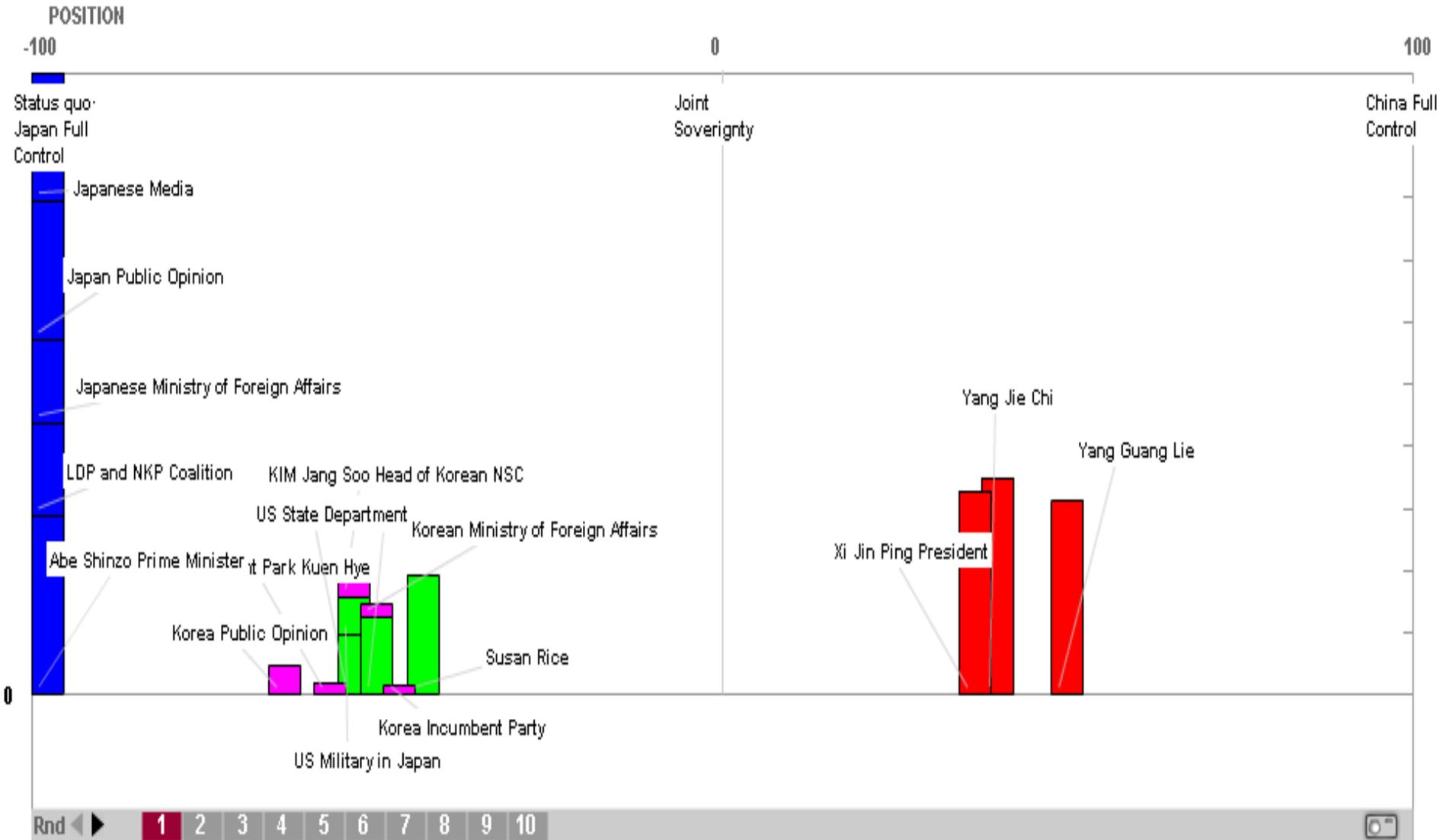


## 2. Stakeholders

- ▶ Japan (*Blue*) : PM Abe, LDP&NKP Coalition, Ministry of Foreign Affairs, Public Opinion, Media
- ▶ China (*Red*) : Xi Jinping, Yang Jie Chi, Yang Guang Lie
- ▶ ROK (*Pink*) : President Park, Kim Jang Soo, Ministry of Foreign Affairs, Incumbent Party, Public Opinion
- ▶ U.S. (*Green*) : State Department, US Military in Japan, Susan Rice

# Senkaku / Diaoyu Dao

## < EXHIBIT 1 >



# Executive Summary

## ON SenKaku/DiaoyuDao Dispute between Japan and China

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- ▶ Xi Jin Ping, the President of PRC, is likely to seek accommodation rather than confrontation with Japan but Japan will hold firm (EXHIBIT 1).
- ▶ Analysis shows that if current positions are held stakeholders have no opportunity to settle. (EXHIBIT 2).
- ▶ In case of an accidental escalation (EXHIBIT 3):
  - a crisis is likely to evolve to bipolarized confrontation, not likely to be resolved by negotiation.
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- ▶ Based on the Monte Carlo diagnostic analysis, we conclude that this result is robust (EXHIBIT 4).

## ON Dokdo dispute between South Korea and Japan

- ▶ There will be no changes in current S.Korea's holding of Dok Do in the foreseeable future.
- ▶ Based on the Monte Carlo diagnostic analysis, we conclude that this result is robust and not likely to be altered.
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- ▶ If South Korean President takes more flexible position, accommodative solution is likely. However, taking flexible position will undermine her political influence domestically.

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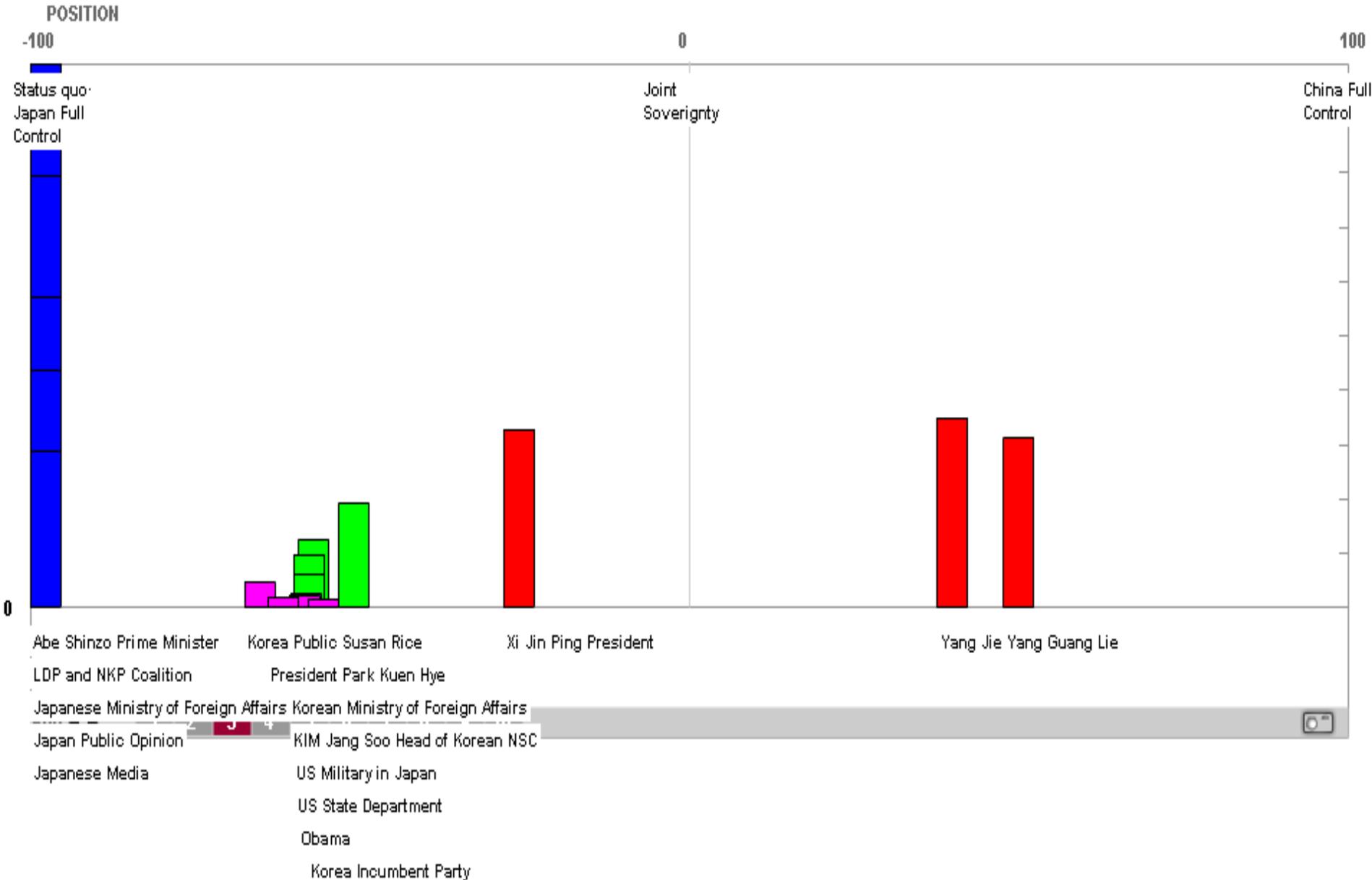
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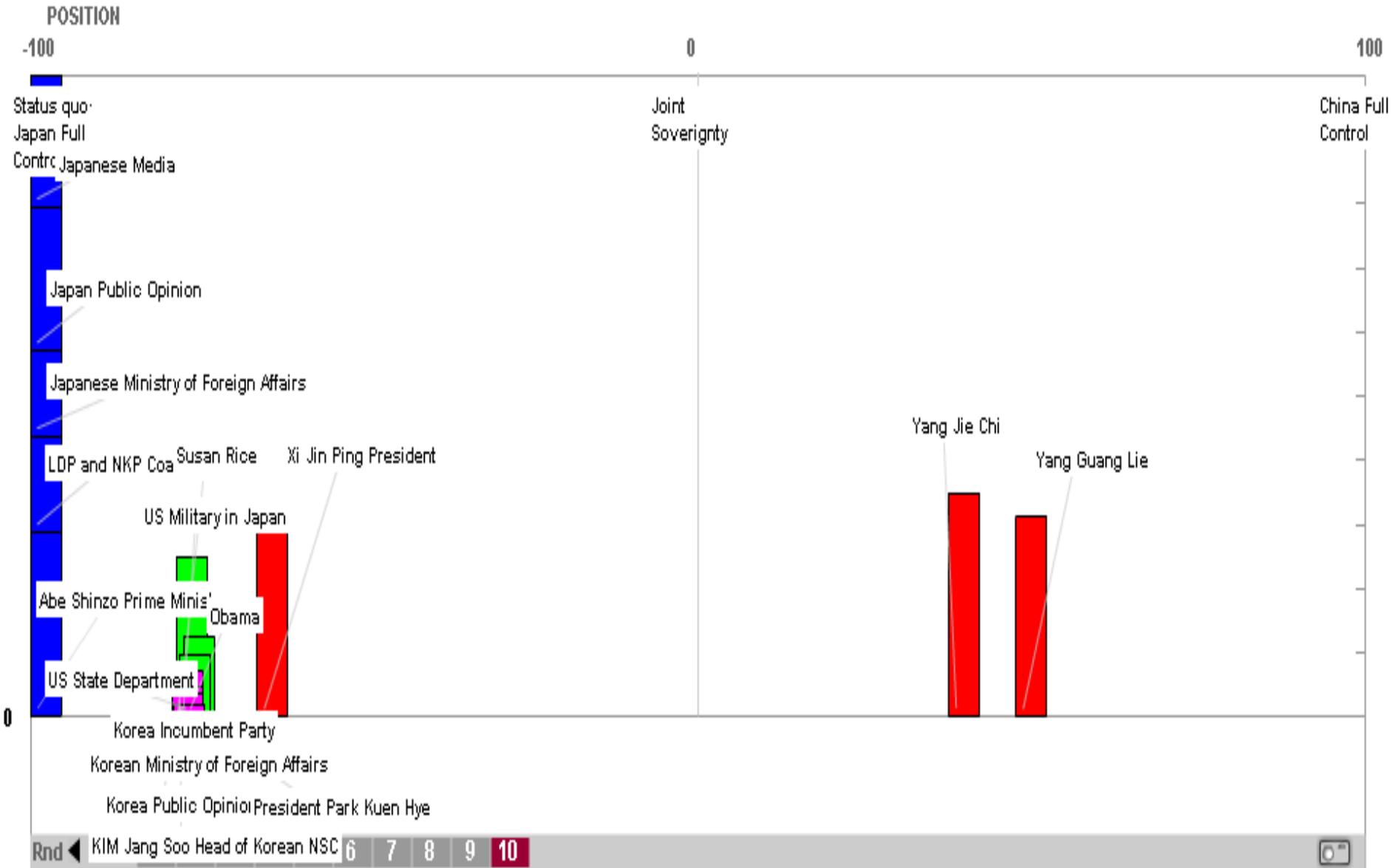
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# Senkaku / Diaoyu Dao



# Senkaku / Diaoyu Dao



# Senkaku / Diaoyu Dao

R	Driver	Target	Proposal
3	Japanese Ministry of F	Xi Jin Ping President	
3	Japan Public Opinion	Xi Jin Ping President	
3	Japanese Media	Xi Jin Ping President	

# Executive Summary

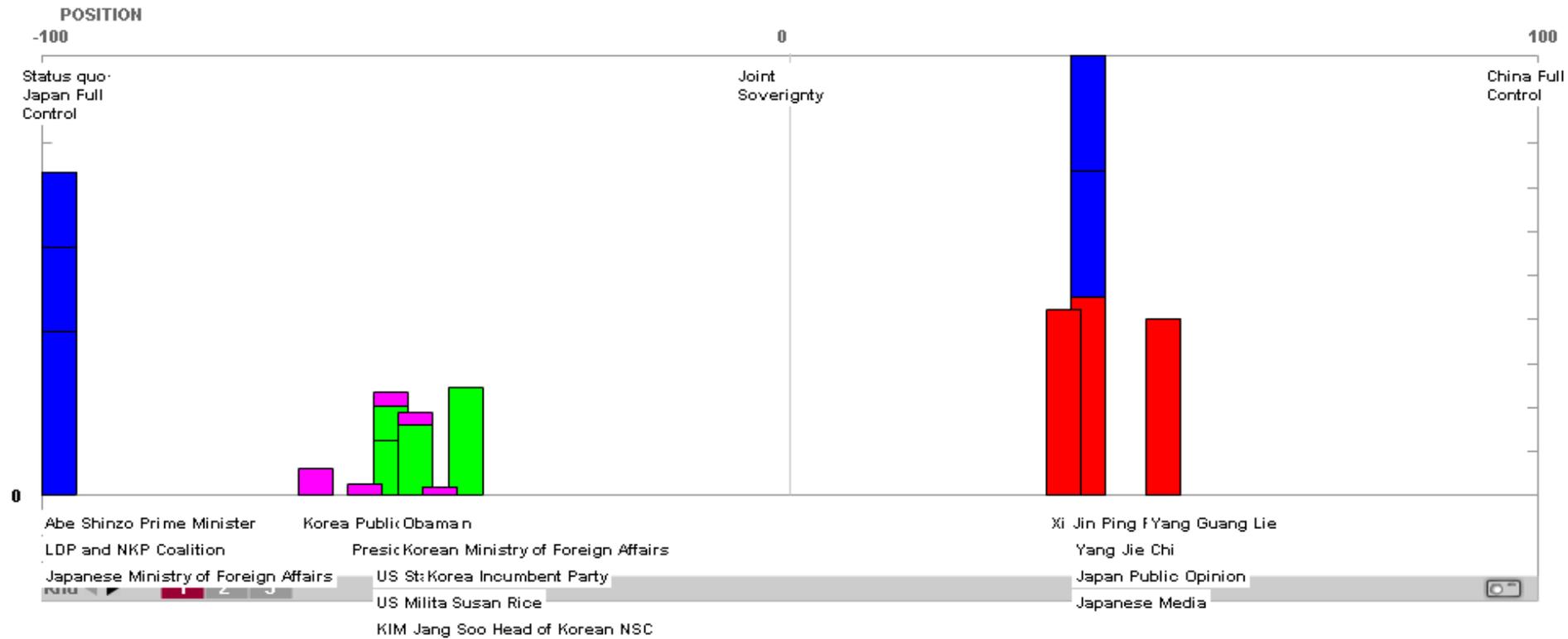
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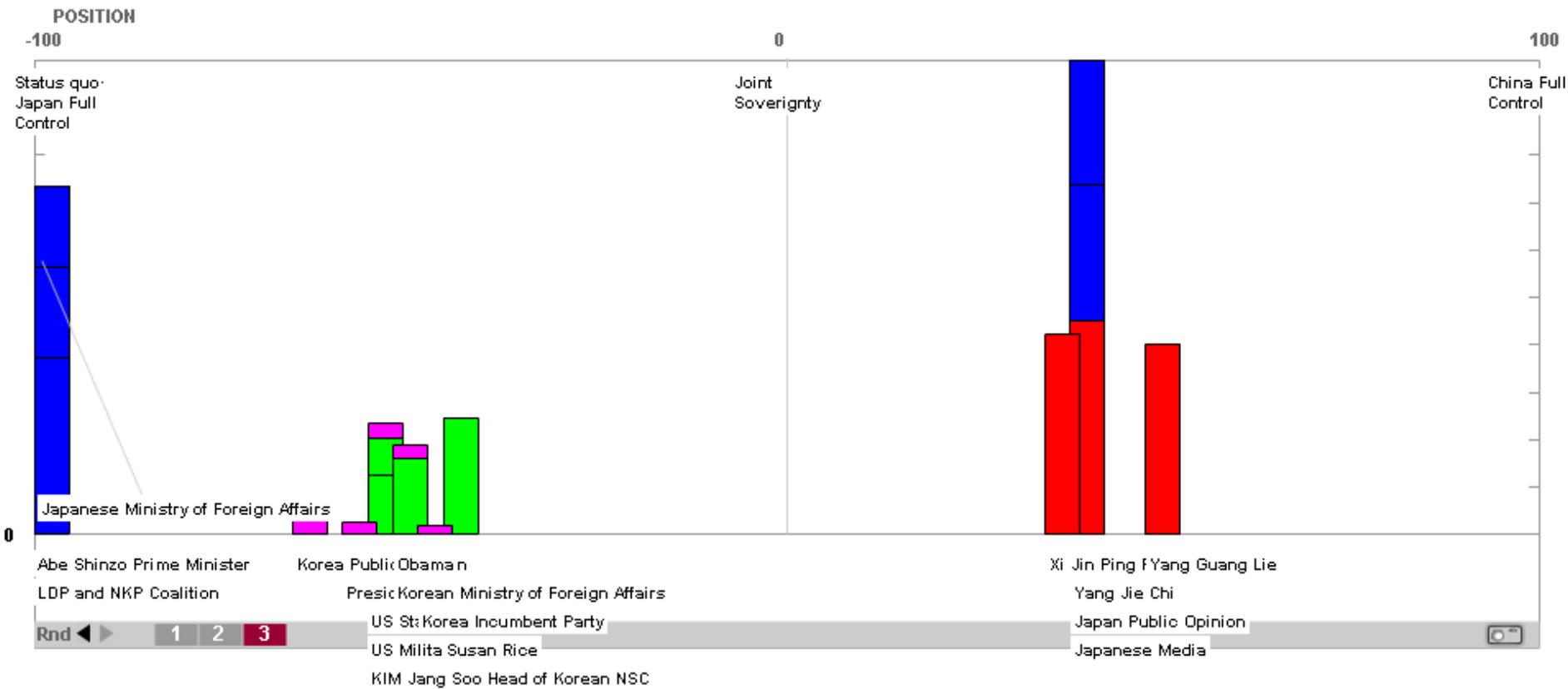
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# Senkaku/DiaoyuDao : Accidental Conflict Simulation



R	Driver	Target	Proposal
1	<b>Yang Jie Chi</b>	<b>Abe Shinzo Prime M</b> <b>LDP and NKP Coaliti</b> <b>Japanese Ministry o</b> <b>Japan Public Opinio</b> <b>Japanese Media</b> <b>Korea Public Opinio</b>	-100      40      100 

# Senkaku / Diaoyu Dao : Accidental Conflict Simulation



# SWOT Analysis

## Strength

: This results show that Xi is willing to compromise China's position and the status quo will hold even if China manages to manipulate Japanese stakeholders.

## Weakness

: This model fails to provide any peaceful solution

## Oppportunity

: This model also suggest that China, especially Xi, is in position to make accommodation and bring peace to the region.

## Threat

: The current level of conflict and tension between Japan and China may last for a while.

# Executive Summary

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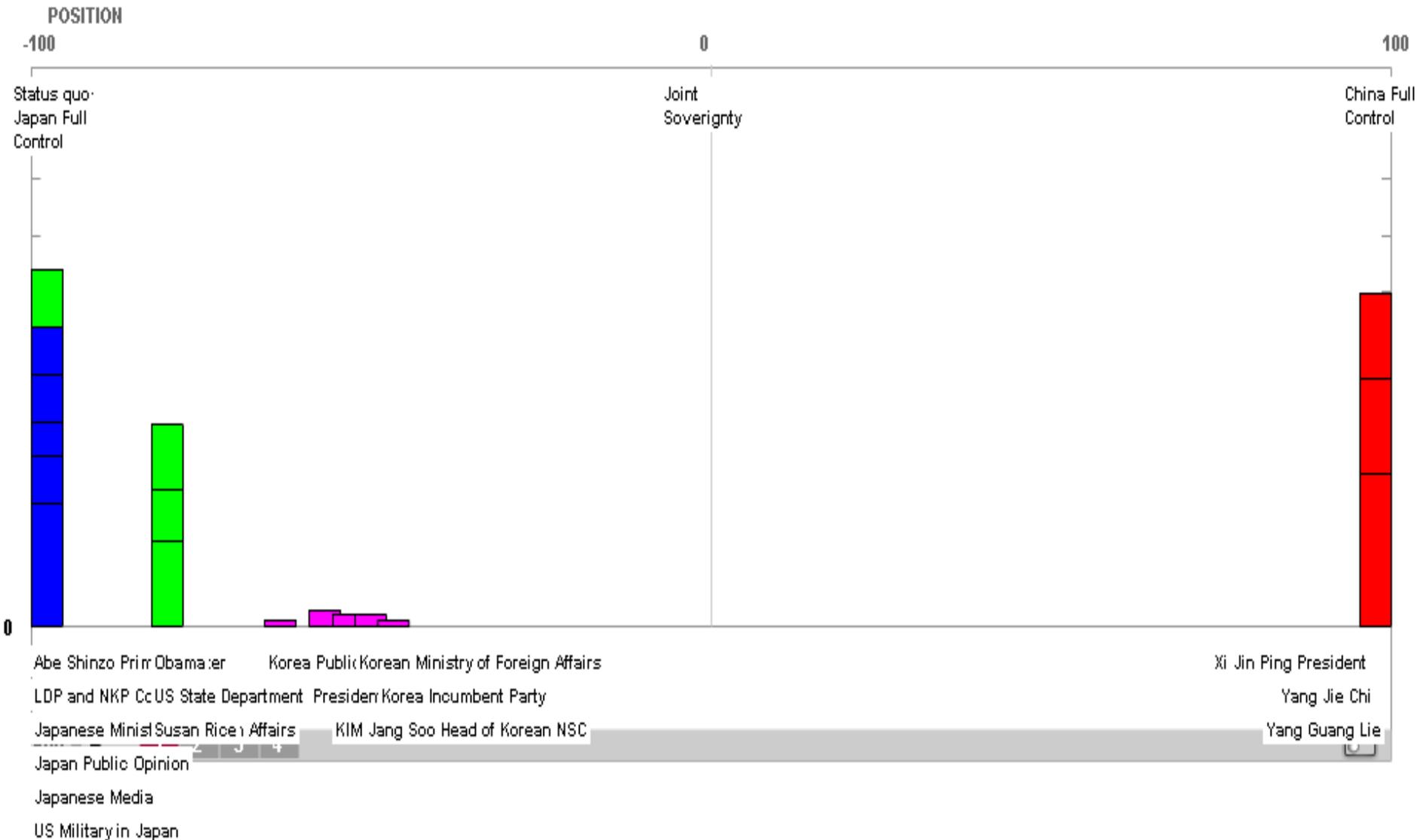
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# Senkaku / Diaoyu Dao

## < EXHIBIT 3 >

### < Militarized Conflict between Japan and China >





# Executive Summary

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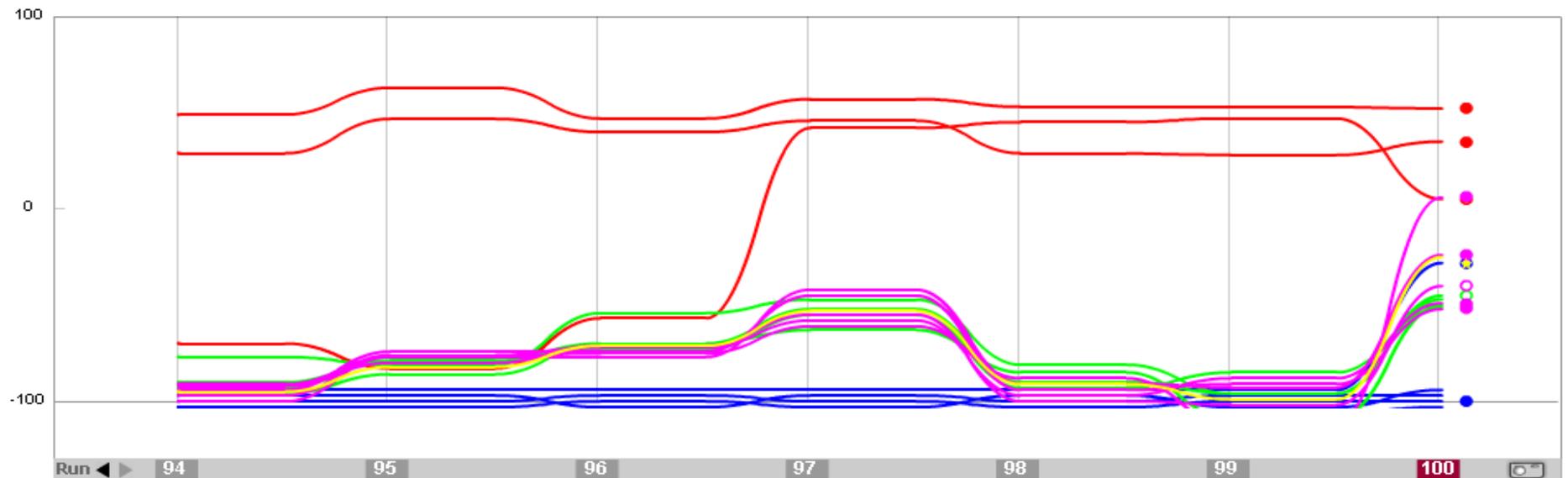
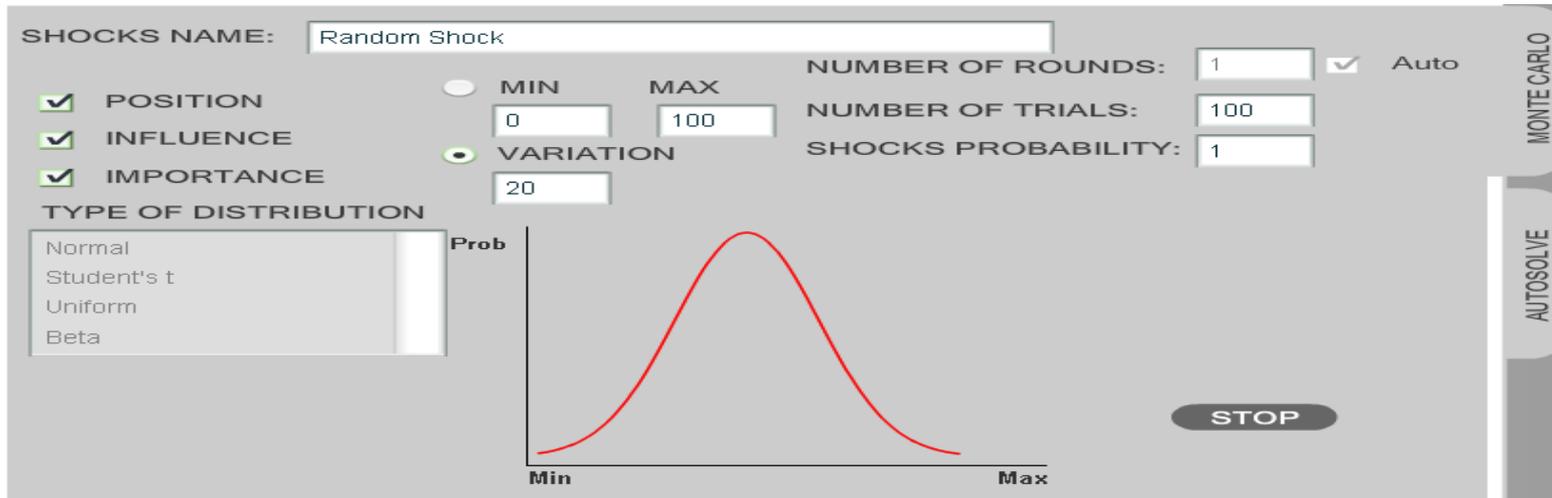
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# Senkaku / Diaoyu Dao

## < EXHIBIT 4 >

### < Monte Carlo Analysis >



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# DokDo Case

## 1. Issue Spectrum



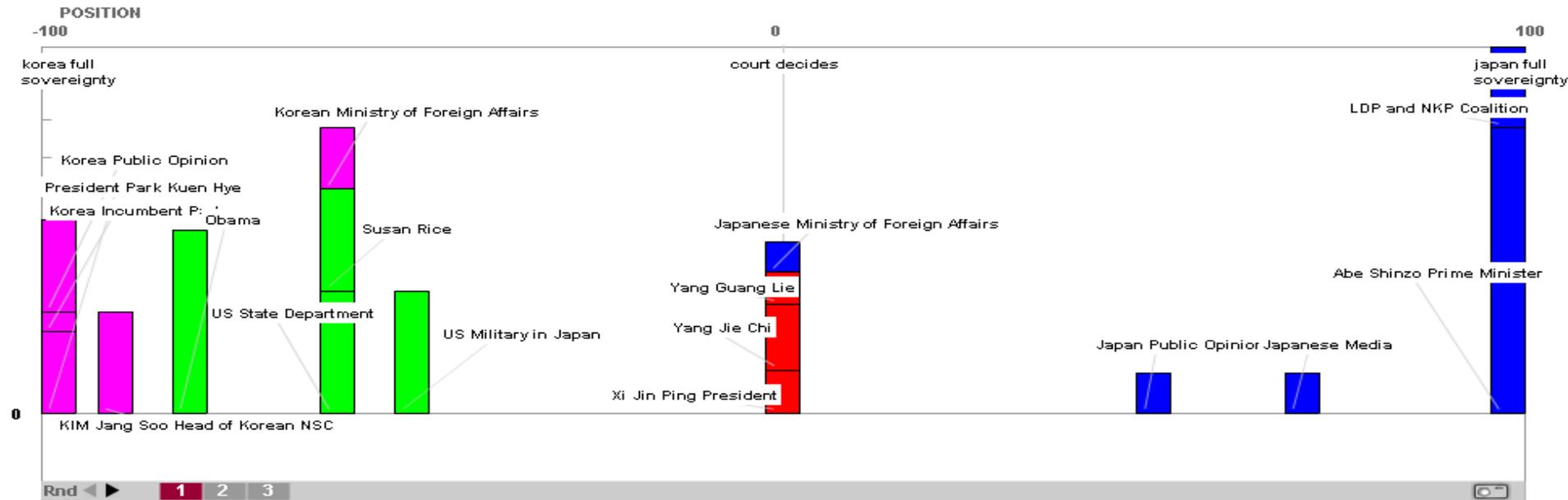
## 2. Stakeholders

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- ▶ China (*Red*) : Xi Jinping, Yang Jie Chi, Yang Guang Lie
- ▶ ROK (*Pink*) : President Park, Kim Jang Soo, Ministry of Foreign Affairs, Incumbent Party, Public Opinion
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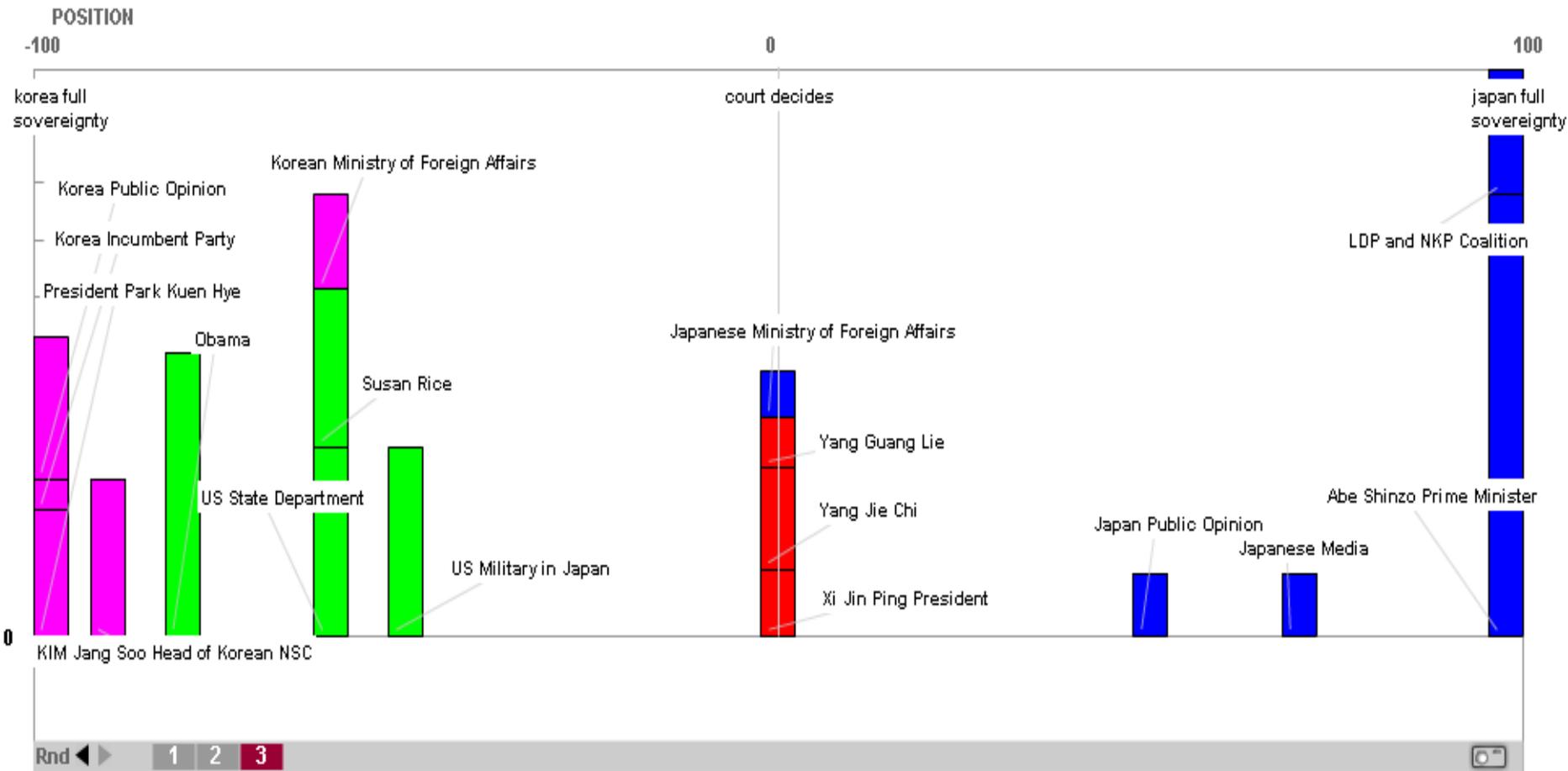
# DokDo Case

## < EXHIBIT 5 >

### < Base Case >



# DokDo Case



# DokDo Case

## < EXHIBIT 5 >

Stakeholder	R1	R2	R3
<b>Median</b>	<b>-60</b>	<b>-60</b>	
Xi Jin Ping President	0	0	0
Yang Jie Chi	0	0	0
Yang Guang Lie	0	0	0
Abe Shinzo Prime Minister	100	100	100
LDP and NKP Coalition	100	100	100
Japanese Ministry of Foreign Affairs	0	0	0
Japan Public Opinion	50	50	50
Japanese Media	70	70	70
Obama	-80	-80	-80
US State Department	-60	-60	-60
US Military in Japan	-50	-50	-50
Susan Rice	-60	-60	-60
President Park Kuen Hye	-100	-100	-100
Korea Incumbent Party	-100	-100	-100
Korea Public Opinion	-100	-100	-100
KIM Jang Soo Head of Korea	-90	-90	-90
Korean Ministry of Foreign Affairs	-60	-60	-60

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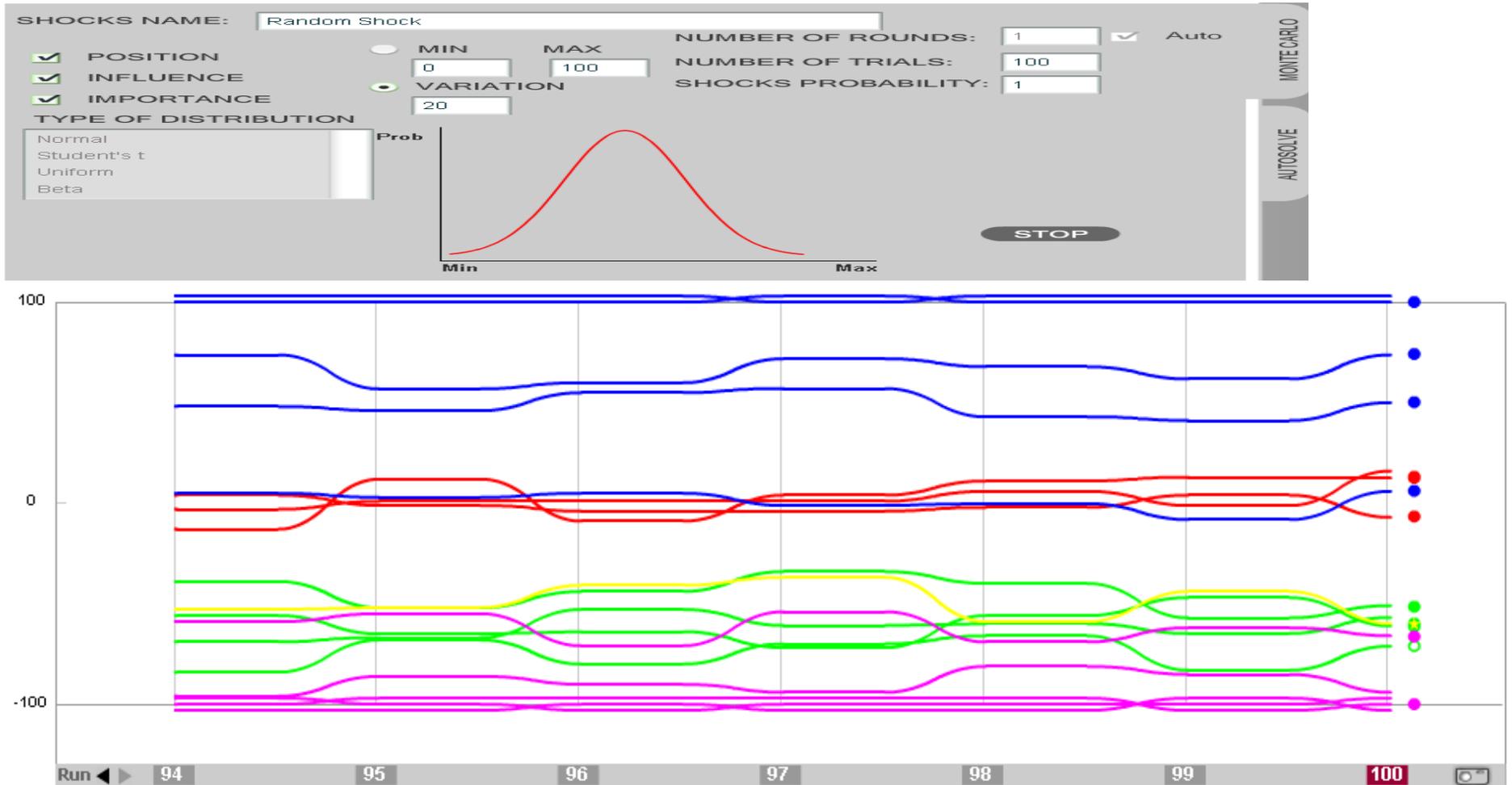
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# DokDo Case

## < EXHIBIT 6 >



Monte Carlo result shows that the outcome of base case analysis is robust

# DokDo Case

## Strength

: This results show that the current status quo is stable.

## Weakness

: This model fails to provide any tangible & peaceful solution to the tension between South Korea and Japan

## Oppportunity

: This model also suggest that both U.S. and China could work as buffer zone between S.Korea and Japan

## Threat

: The current level of conflict and tension between Japan and S Korea may escalate very easily. (high volatility)

# Executive Summary

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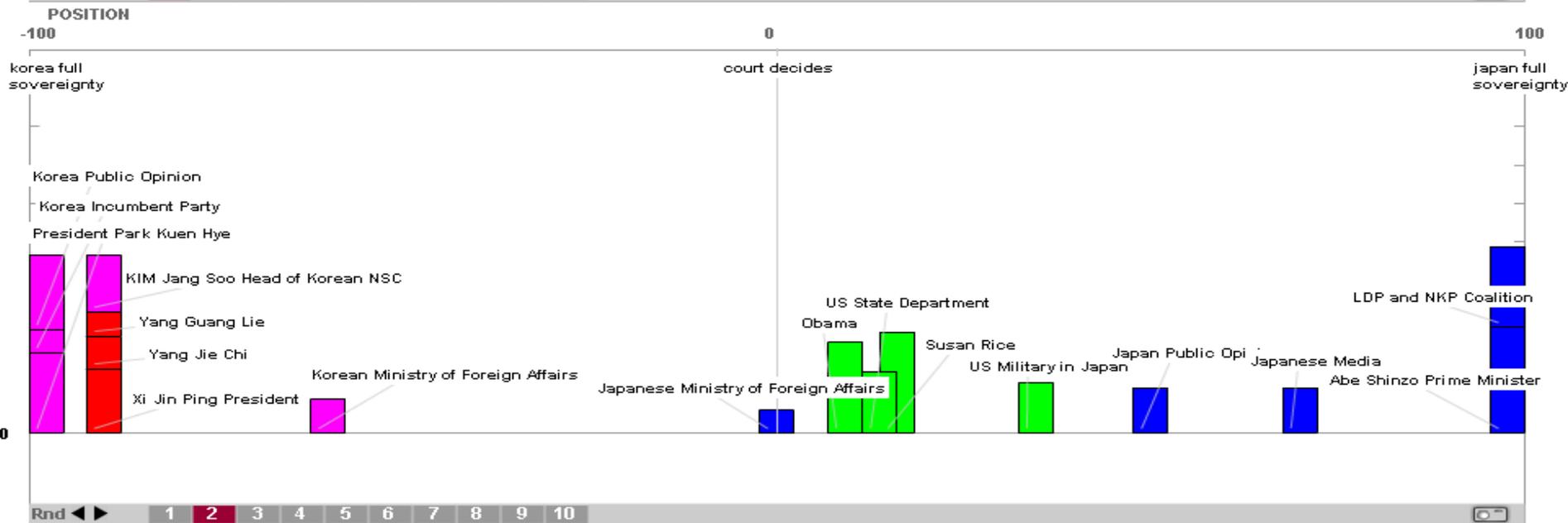
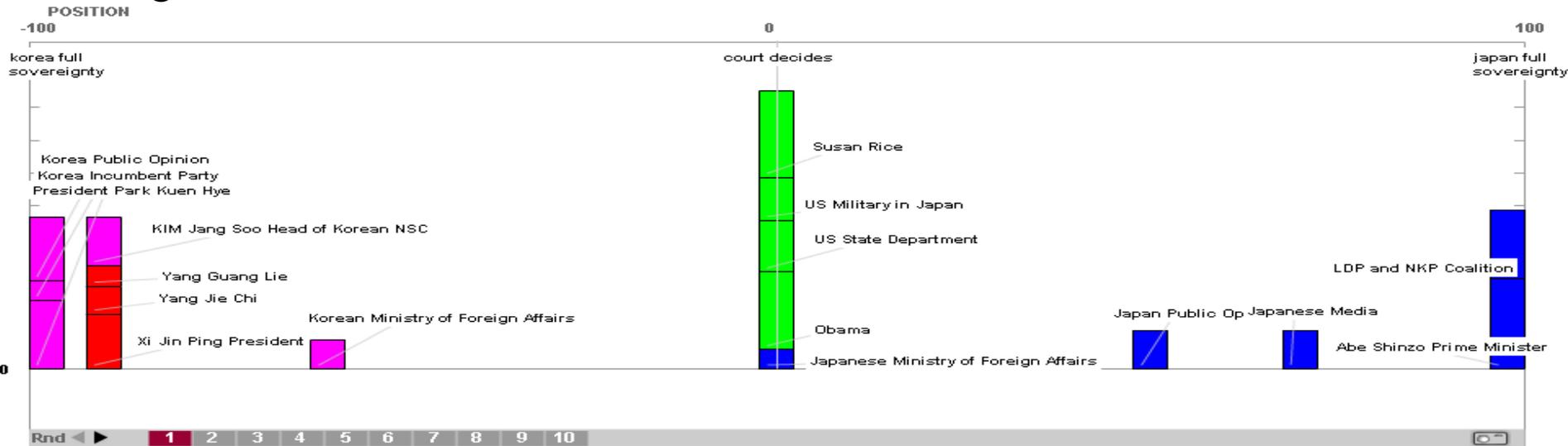
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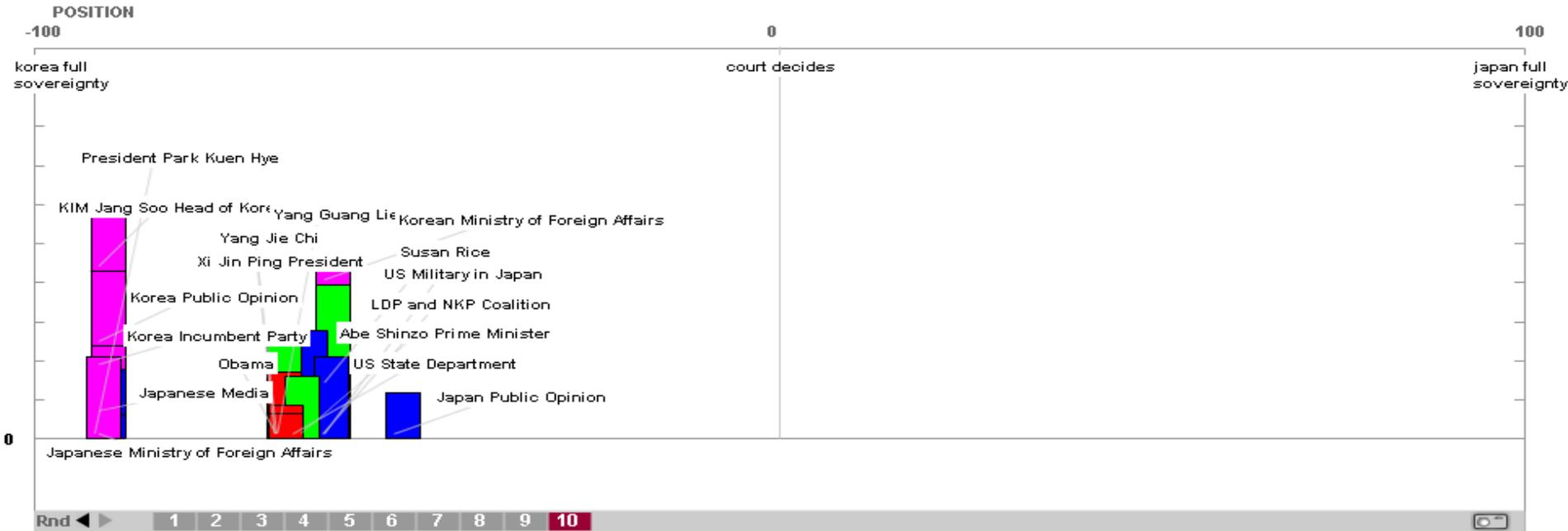
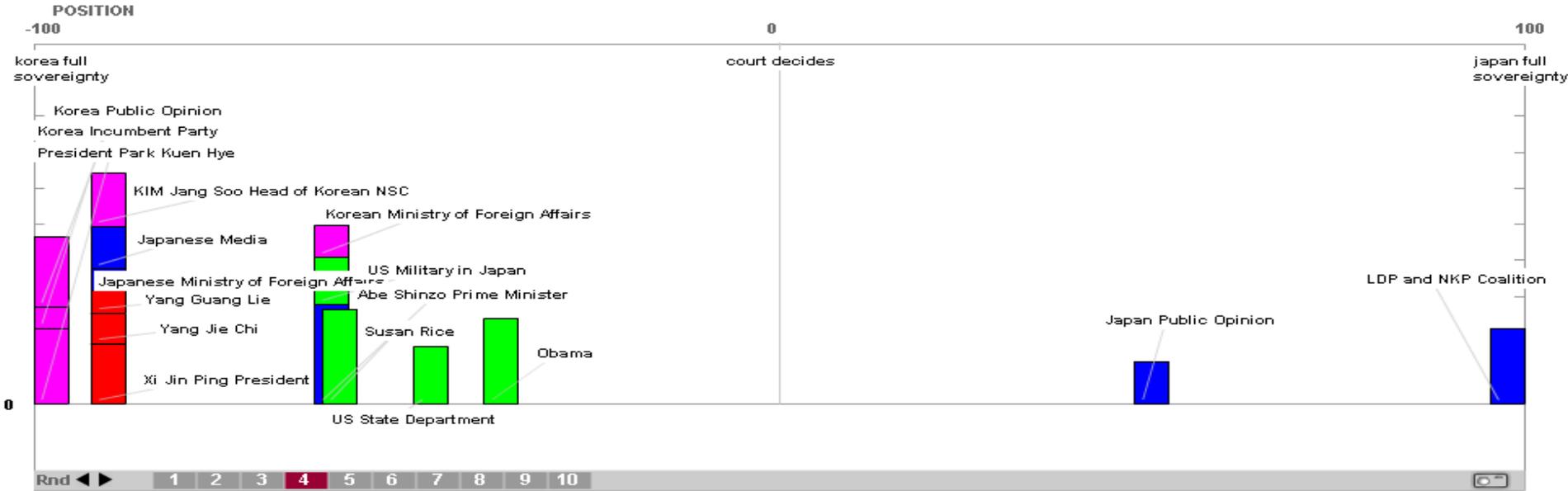
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# < EXHIBIT 7 >

## <J-K Fight, China sides with K and intervene>



# DokDo Case



# DokDo Case

## Strength

: Shows an agreement can be made by major powers' intervention

## Weakness

: Shows that major powers' active involvement is the only way to resolve the issue.

## Opportunity

: For South Korea: unexpected incident may provide South Korea a chance to resolve the issue.

## Threat

: South Korea may need to make serious compromise to gain China's full support for securing the island it already has.

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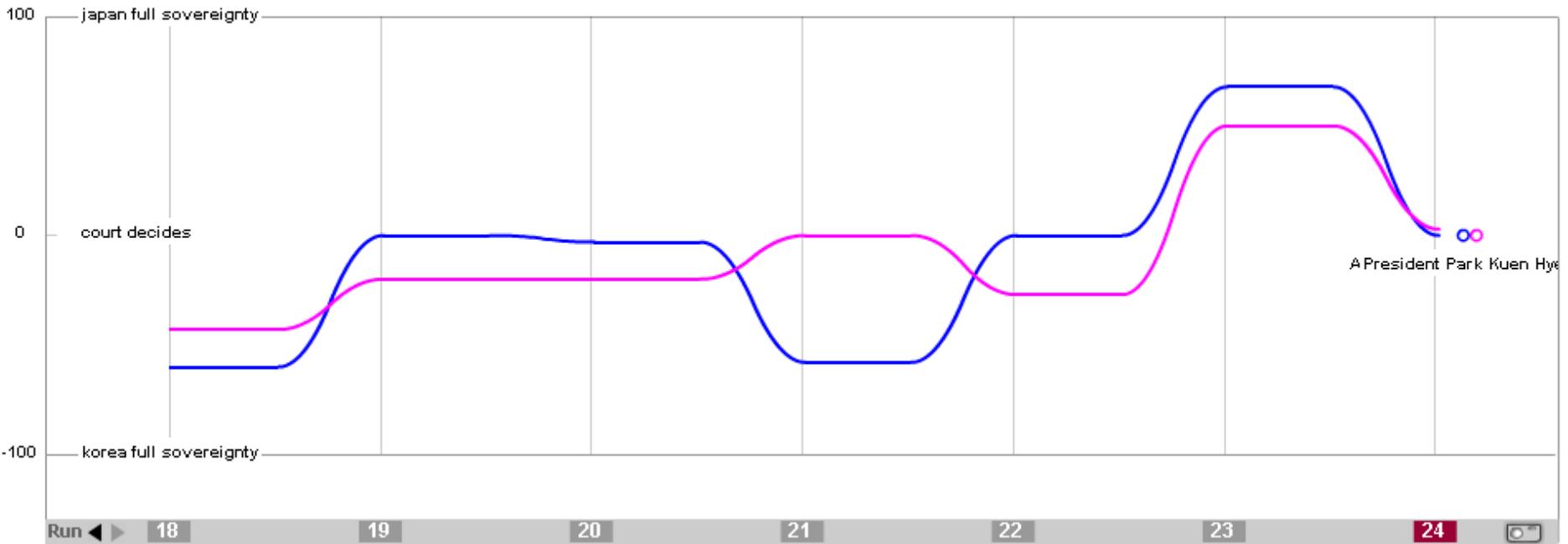
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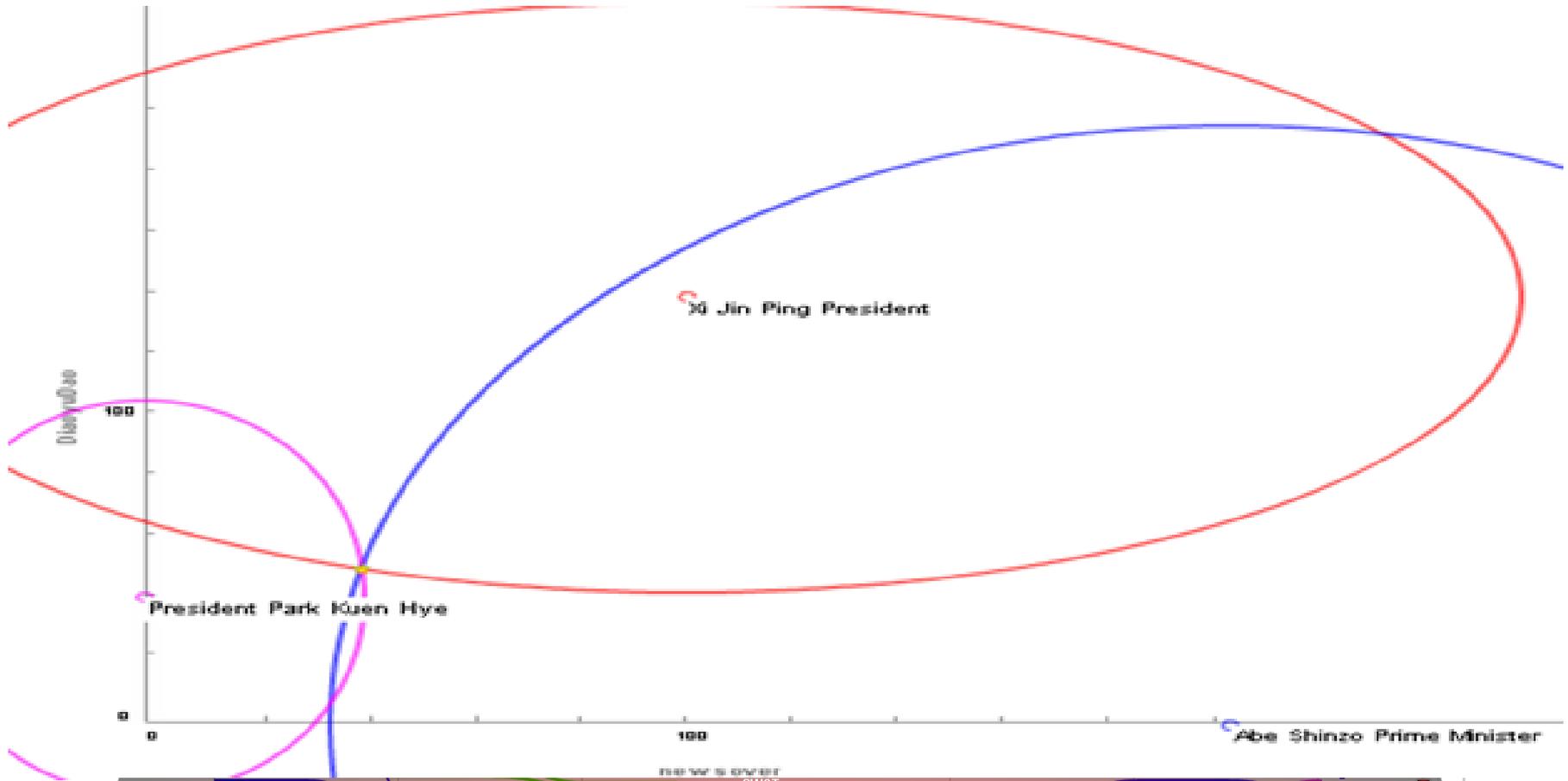
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# DokDo Case



- ▶ President Park can resolve the issue if she were to take more flexible position
- ▶ By taking flexible position, she is likely to be isolated in the domestic setting and going to cost the incumbent party next election.

# Assessment of Concurrent Solutions



SWOT	
<p><b>STRENGTHS</b></p>	<p><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>Tradeoff does not allow collaboration between 3 parties.</li> </ul>
<p><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>China can negotiate with Korea</li> <li>China can negotiate with Japan</li> </ul>	<p><b>THREATS</b></p> <ul style="list-style-type: none"> <li>tradeoff is not useful for this situation.</li> </ul>

# Implications for IEDO

## ◆ Regional Security Environment ◆

- ▶ China's aggressive behavior is growing concern
- ▶ Recent standoff between U.S. and China increases security concerns in the region
- ▶ China's nervousness over the recent development in the Korean Peninsula is a double-edged sword
  - could work as a leverage over China or as a stimuli that increases China's aggression

# Implications for IEDO

## ◆ To Do List ◆

- ▶ Need to understand the nature of dynamics among stakeholders at international level as well as domestic level
  - ▶ Need to understand stakeholders' priorities and their influence
  - ▶ Most importantly, need to identify ROK's policy objectives and setup strategies to accomplish those objectives
- 