

DON'T CHICKEN OUT: A Game Theory Analysis of the U.S.-North Korea Situation

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ORIGINS OF THE CRISIS

In 1985, North Korea signed the Nuclear Non-Proliferation Treaty (NPT), however, it withdrew on Jan 10, 2003.

North Korea has conducted six nuclear tests.

The international community, particularly the U.S., wants to prohibit North Korea from having nuclear weapons.

U.S. & NORTH KOREA: STRATEGIC ACTORS IN A GAME

Each of the players chooses one strategy, which provides a payoff.

United States payoff: the extent to which North Korea will stop building nuclear weapons.

North Korea payoff: the extent that North Korea could continue building its nuclear weapons.

ANALYSIS: THE CHICKEN GAME



		North Korea	
		Continue Nuclear Testing	Stop Testing and Launches
United States	Military Interference	(-1, -1)	(3, 0)
	Economic Sanctions/ Diplomatic Talks	(1, 2)	(2, 1)
	Silence (No Interference)	(0, 3)	(0, 0)

The game of chicken is modeled on the driving competition played by teenagers in the 1950s. As two drivers speed towards each other, the first driver to turn off the road is the "chicken" and subsequent loser of the game (Manson 2012)

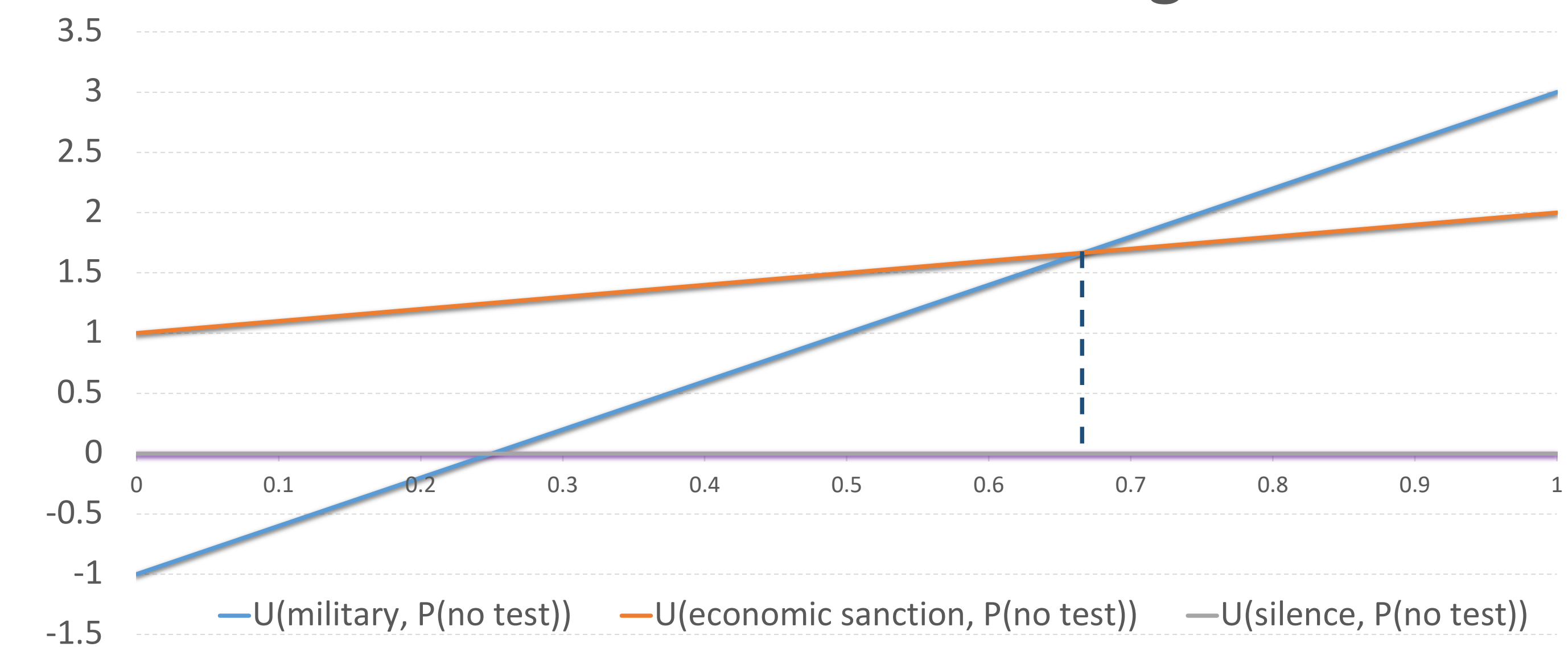
If North Korea continues its nuclear testing, the best strategy for the U.S. is to continue economic sanctions or begin diplomatic talks with North Korea.

If the United States acts militarily and North Korea stops its nuclear tests, then military action is the best strategy for the U.S.

Being silent, or doing nothing, is not a good choice for the United States.

WHAT'S THE BEST STRATEGY?

The Intersection of U.S. Strategies



When the probability of North Korea stopping nuclear tests is less than 66.7%, the U.S. should choose economic sanctions or diplomatic talks

When the probability of North Korea stopping nuclear tests is over 66.7%, the U.S. should choose military interference.

In the event North Korea conducts a 7th test, economic sanctions/diplomatic talks would become a better strategy for the U.S.

Strategies for the United States

- Continue deterrence policy
- Resumption of talks with China, Japan, South Korea
- Support the reunification of Korean Peninsula