

Optimal Trade Policies of South Korea in Changing International Trading Regimes

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Research Question

Find South Korea's ideal tariff strategy amid global trade protectionism

Motivation

Protectionism on the rise worldwide

- Trade war between US and China, imposing high tariffs on counterparts
- War in major parts of the globe

The export-oriented economy of South Korea

- Small domestic market
- Get greatly affected by changes in trade partners and others' trade policies

Relevant Research

Ralph Ossa, Trade Wars and Trade Talks with Data

- Analysis of non- & cooperative trade policy
- A unified framework which nests traditional, new trade, and political economy motives for protection

Model Construction

1. Optimum Tariff in One-shot Game

- Without retaliation

2. Optimum Tariff in Repeated Game

- Nash calculation with retaliation
- Re-optimize given every countries' optimal tariffs

3. Optimum Tariff in Cooperative Game

- Maximize total welfare gains
- Gains redistributed equally to participating countries

Subject of Analysis

3 industries, 5 countries

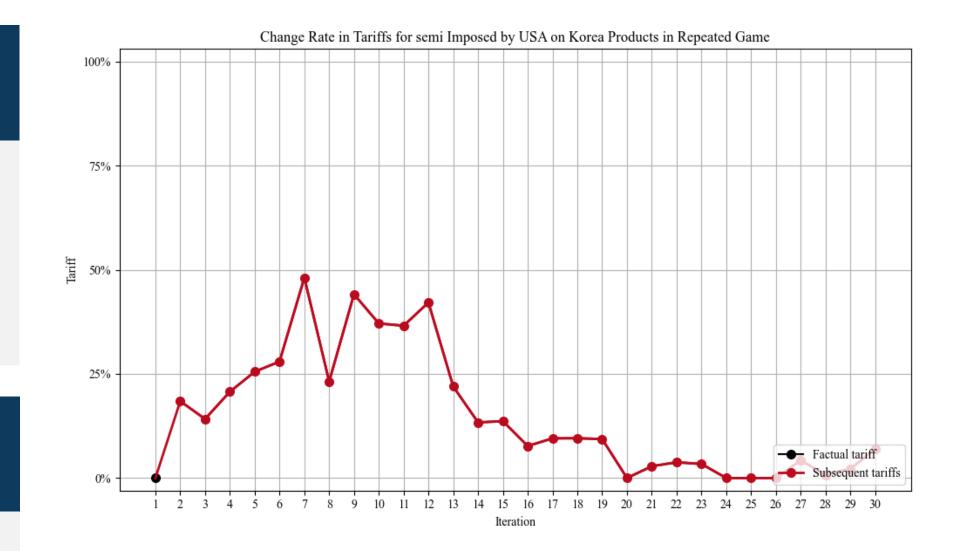
- Steel, semiconductor, Car
- Korea, Japan, USA, China, Germany

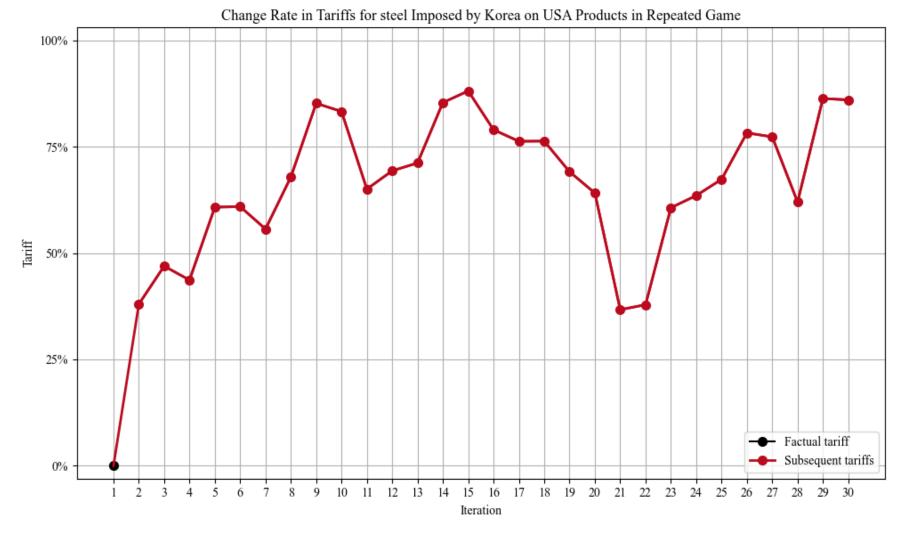
Optimum Tariff in One-Shot Game

- Current international laws (FTA, WTO) promote low tariffs
- Countries could achieve higher welfare with higher tariffs.
 - Optimum tariff > factual tariff in most cases

Optimum Tariff in Repeated Game

- Imposing high tariffs is a strategy that increase welfare for Korea's key industries.
- A possibility of increase in Korean welfare by imposing high tariffs on other countries, when the expected retaliatory tariffs against Korea would be minimal.
- Tariff changes converge, welfare does not.
- Welfare continues to increase, where ultimately the United States dominates. Significant inefficiencies for countries other than the US, providing an incentive for cooperation.





Welfare by Country over Iterations Country China Korea Japan USA Germany 0.50 China Korea Germany Japan Germany Japan

Optimum Tariff in Cooperative Game

- Korea, Japan, Germany tariff ▼, China & USA ▲
- Korean welfare reaches 39% in the repeated game out of the cooperative game.
- Cooperation leads to superior outcomes more rapidly compared to the repeated game.
- Tariffs converge where welfare is distributed relatively equally to countries by the 5th iteration.

Implication

- Countries need to cooperate to achieve better welfare.
- Cooperation leads to the same maximized total welfare shortly than the repeated game
- The welfare distribution gets relatively equal than repeated game where the USA dominates the majority of welfare
- Balancing national interests with global economic stability in trade policies is needed.



