

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.

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.

