Temporary Trade Barriers: When Will They End?

Kristy Buzard
Syracuse University and The Wallis Institute
kbuzard@syr.edu

May 13, 2016

P

In

- r
- g
- a

Preview of Results

- H
  - R
- E
  - P
  - R
  - T
- T

Outline of Talk

1. B
2. E
3. R
4. F
5. Conclusion

Timeline

1. **Formation**
   i. Executives set trade policy in international agreement
2. **Ratification / Maintenance**
   i. Firms lobby legislatures to break agreement
   ii. Uncertainty is resolved
   iii. Legislatures decide to break or abide by agreement
3. **Trade War** (if agreement is broken)
   i. Firms lobby legislatures to set high trade-war tariff
   ii. Uncertainty is resolved
   iii. Legislatures decide trade-war tariff
4. Private actors make production, consumption decisions

Economy

- Two countries: home and foreign (*)
- Separable in three goods: X and Y (traded) and numeraire
- Demand identical for both goods in both countries
- Supply: $Q_X^*(P_X) > Q_X(P_X)\ \forall P_X$; symmetric for Y
  - Home net importer of X, net exporter of Y

Home levies τ on X, Foreign levies τ^* on Y

- $P_X = P_X^W + \tau$ and $\pi_X(P_X)$ increasing in τ

Non-tradable specific factors motivates political activity

Political Structure

In each country (focus on Home):

- A Unitary Executive
  - Delegated authority to make trade agreement
- A Non-unitary Legislature
  - Can withdraw delegation, break agreement, and set trade-war tariff
  - Susceptible to influence of lobbying
  - Decision determined by median legislator
- A Single Lobby
  - Represents import-competing sector, X (Y in foreign)

Executive Branch

Trade agreement negotiated by unitary executive:

$$W_E = CS_X(\tau) + CS_Y(\tau^*) + \gamma_E \pi_X(\tau) + \pi_Y(\tau^*) + TR(\tau)$$

- $CS_i(\cdot)$: consumer surplus
- $\pi_X(\tau)$: profits of import-competing industry
- $\pi_Y(\tau^*)$: profits of exporting industry
- $TR(\tau)$: tariff revenue
- γ_E: weight on profits in the import-competing industry

Non-Unitary Legislature

Decisions determined by preferences of Median Legislator:

$$W_{ML} = CS_X(\tau) + CS_Y(\tau^*) + \gamma(e,\theta)\pi_X(\tau) + \pi_Y(\tau^*) + TR(\tau)$$

- $\gamma(e,\theta)$: weight on import-competing industry profits
  - e: lobbying effort
  - θ: uncertain element in determination of ML's identity

Assumptions on $\gamma(e,\theta)$

1. $\gamma(e,\theta)$ is increasing and concave in e for all $\theta \in \Theta$.
2. $\gamma(e,\theta) \geqslant \gamma_E \geqslant 1 \ \forall\theta$

Lobby

Lobby chooses effort to maximize:

$$\{1 - \Pr[\text{AD Renewal}]\}\ \pi(\tau^a) + \Pr[\text{AD Renewal}]\,\pi(\tau^{ad}) - e$$

- e: Lobbying effort
- τ^a: home import tariff under trade agreement
- τ^{ad}: home import tariff equivalent under anti-dumping duties

Timeline

1. **Formation**
   i. Executives set trade policy in international agreement
2. **Ratification / Maintenance**
   i. Firms lobby legislatures to break agreement
   ii. Legislatures decide to break or abide by agreement
3. **Trade War** (if agreement is broken)
   i. Firms lobby legislatures to set high trade-war tariff
   ii. Legislatures decide trade-war tariff
4. Private actors make production, consumption decisions

Highlight: Separation of Powers

Legislature

- Breaks agreement if median legislator prefers τ^{ad} to τ^{a}

Lobby

- Given the (τ^{a}, τ^{*a}) it faces, lobby knows what e_b is required to break the agreement
- Lobby pays this e_b if: $\pi(\tau^{tw}) - e > \pi(\tau^{a})$

Executives

- Set (τ^{a}, τ^{*a}) to make paying e_b unprofitable

  $\Rightarrow$ $e_b = 0$, agreement remains in force
- High tariffs, no lobbying, no trade disruptions

Political Uncertainty Illustration

An Example (Bagwell & Staiger 2005)

- $D(P_i) = 1 - P_i$
- $Q_X(P_X) = \frac{P_X}{2}$, $Q_Y(P_Y) = P_Y$
- $P_X^W = \frac{4-3\tau}{7}$, $P_X = \frac{4+4\tau}{7}$
- $\gamma(e, \theta) = 1.25 + e^{0.2} + \theta$
  - $\theta \sim U[-0.25, 0.25]$
- $\gamma_E = 1$

Timeline

1. Formation
   i. Executives set trade policy in international agreement
2. **Ratification / Maintenance**
   i. Firms lobby legislatures to break agreement
   ii. Legislatures decide to break or abide by agreement
3. Trade War (if agreement is broken)
   i. Firms lobby legislatures to set high trade-war tariff
   ii. Legislatures decide trade-war tariff
4. Private actors make production, consumption decisions

Legislature

Legislature breaks trade agreement if median legislator's utility is higher under trade war than trade agreement

- Median legislator's identity is uncertain through θ

Probability that Legislature breaks agreement:

$b(e, \tau^a, \tau^{*a}, \tau^{ad}, \theta)$ probability median legislator prefers τ^{tw} to τ^a for a given θ

Timeline

1. Formation
   i. Executives set trade policy in international agreement
2. Ratification / Maintenance
   i. Firms lobby legislatures to break agreement
   ii. Legislatures decide to break or abide by agreement
3. Trade War (if agreement is broken)
   i. Firms lobby legislatures to set high trade-war tariff
   ii. Legislatures decide trade-war tariff
4. Private actors make production, consumption decisions

Future Work

- C
- E
- P
- A

Conclusion

- S
- E
- F