Contesting an International Trade Agreement

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Motivation

- Real world TAs characterized by
  - **Conflicting lobbying interests**
  - **Ratification uncertainty**

- Uruguay Round (Dam (2001), Strange (2013))
  - Pro-trade: large firms
  - Anti-trade: small firms
  - Ratification uncertainty
    - Senate ratification uncertain, even after House ratified

- TPP
  - Pro-trade: agric (pork, dairy, ...), retailers (Nike, Walmart)
  - Anti-trade: auto, tobacco, labor unions, environ groups
  - Ratification uncertainty
    - Signed Oct 2015 → Obama lame duck → Trump
Motivation: merging literatures

- New political economy framework of TA formation
  - Conflicting lobbying interests, ratification uncertainty
- Merge contest literature and TA literature
- Contest literature
  - Decision made by single decision maker
  - Interest groups contest each other to influence decision
    - EX: worker promotions, firm patent races, lobbying over policy
  - Decision modeled by Contest Success Function
    - ↑ lobbying by Lobby A ⇒ ↑ pr decision in Lobby A’s favor
Motivation: merging literatures

- Our new **parallel contest** framework
  - Each govt decides on TA ratification
    - TA implementation requires mutual TA ratification
  - Anti-trade and pro-trade lobbies contest each other
    - \( \uparrow \) Home pro-trade lobbying \( \Rightarrow \) \( \uparrow \) pr Home TA ratification
  - Parallel contests intrinsically linked
    - Home lobbying intensity depends on pr Foreign ratification
Main results

1. Lobbying is liberalizing force for TA negotiations
   - Most liberal TA possible if govts only care about lobbying
   - Prior lit: consumer interests $\Rightarrow$ liberalization

2. Inherently protectionist govt prefs $\Rightarrow$ protection
   - Tensions balanced by equilibrium protection?
     - Us: liberalizing lobbying vs protectionist govts
     - Prior lit: protectionist lobbying vs liberalizing govts

3. New international political externalities
   - Exist for fixed terms of trade
     - Not internalized by govts who internalize TOT externalities
   - For fixed TOT, Foreign tariff affects home:
     - $Pr$(Foreign ratification) $\Rightarrow$ Home lobbying intensity
     - $Pr$(Foreign ratification) $\Rightarrow$ expected degree of liberalization
Existing literature: purpose of TAs

- Bagwell & Staiger (AER 1999)
  - Sole purpose of TA is internalizing TOT externalities
  - Our govt prefs lie outside BS (AER 1999)
- Maggi & Rodriguez-Clare (AER 2007)
  - TOT externalities and **domestic** political externality
    - Commitment theory of TAs
  - Us: TOT externalities and **international** political externalities
Existing literature: political economy frameworks

- GH “Protection for Sale” menu auction
  - Lobby group contribs *contingent* on policy outcome
  - Govt collects contribs *after* policy outcome realized

- Our contest framework
  - Govt collects contribs *before* policy outcome realized
  - Lobby group contribs *not contingent* on policy outcome

- Empirical interpretation for low observed tariffs
  - PFS: strongly welfare minded govts
  - Us: liberalizing force of lobbying
Outline

Model overview

Backward induction: benchmark case

Backward induction: general case

International political externalities

Conclusion
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TA negotiations & opposing domestic interests

- 2 countries (Home and Foreign)
  - Status quo tariffs: \( \tau_{SQ} = (\tau_{SQ}, \tau_{SQ}^*) \)
  - Agnostic about \( \tau_{SQ} \)
- TA: govts negotiate reciprocal tariff liberalization
  - TA tariffs: \( \tau_{TA} = (\tau_{TA}, \tau_{TA}^*) < \tau_{SQ} \)
  - Possible TAs: a “line” of reciprocal TA tariffs
    - EX 1. Symmetry: \( \tau_{TA} = \tau_{TA}^* \)
    - EX 2. Asymmetry: \( \tau_{TA}, \tau_{TA}^* \) satisfy “principle of reciprocity”
- Each country: “anti-trade” \( (L_A) \) and “pro-trade” \( (L_T) \) lobbies
  - Tension b/w firms
    - Today: agnostic
    - Another time: intra-industry Melitz, inter-industry SF
Payoff structure: local lobby groups

- Lobbies have “valuations”
  - Value to $L_A$ of preventing TA: $v_A (\tau_{TA}, \tau_{SQ}) \geq 0$
  - Value to $L_T$ of TA going ahead: $v_T (\tau_{TA}, \tau_{SQ}) \geq 0$

- Impact of “more liberal” TA?
  - $v_A \uparrow, v_T \uparrow$
    - Greater polarization ▶ Fig.
  - $\frac{v_T}{v_A} \uparrow$
    - Pro-trade biased polarization ▶ Fig.
    - Holds in Melitz model
    - Holds in endowment SF models
    - Holds in GE SF model if not too close to PPF corner
Payoff structure: governments

\[ G = L + a \cdot h(\tau) \]
\[ G^* = L^* + a^* \cdot h^*(\tau) \]

- Aggregate contributions: \( L = \ell_A + \ell_T \)
- Potentially, other factors: \( a \cdot h(\tau) \)
  - “Inverse” political economy weight: \( a \geq 0 \)
  - TA implemented: \( a \cdot h(\tau_{TA}) \)
  - TA not implemented: \( a \cdot h(\tau_{SQ}) \)
- Examples for \( h \)
  - Social welfare
  - Employment in import-competing firms
  - Tariff revenue
Stages

1. Governments announce a TA: $\tau_{TA} = (\tau_{TA}, \tau_{TA}^*)$
   - “Bargaining” structure imposed on $\tau_{TA}$
     - $\tau_{TA}$ “efficient”
     - Satisfies principle of reciprocity given $\tau_{SQ}$

2. Local lobby groups contest the TA

3. Each government decides whether to “ratify” TA
   - TA goes ahead iff both govts ratify
     - Otherwise, $\tau_{SQ}$ prevails
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Stage 3: contesting a TA

- Prob that home govt “ratifies” TA

\[ \rho_T = \frac{\ell_T + a \cdot h(\tau_{TA})}{[\ell_T + a \cdot h(\tau_{TA})] + [\ell_A + a \cdot h(\tau_{SQ})]} \]

- Don’t have to think of this as govt decision rule
  - Can be reduced form representation for...
    - shocks hit govt prefs after lobbying contribs made
Stage 2: optimal lobbying efforts

- Expected payoffs of lobby groups (Home)

\[
E[u_A] = (1 - \rho_T^*) \cdot \nu_A + \rho_T^* \cdot (1 - \rho_T) \cdot \nu_A - \ell_A \\
= \mu_A + (1 - \rho_T (\ell_A, \ell_T)) \cdot \tilde{\nu}_A - \ell_A
\]

\[
E[u_T] = (1 - \rho_T^*) \cdot 0 + \rho_T^* \cdot \rho_T \cdot \nu_T - \ell_T \\
= \mu_T + \rho_T (\ell_A, \ell_T) \cdot \tilde{\nu}_T - \ell_T
\]

- Benchmark case: \(a = 0\)

\[
\ell_i = \rho_T^* \cdot \frac{1}{2} \cdot \frac{1}{1 + \frac{\nu_j}{\nu_i}} \tilde{\nu}
\]

- \(\uparrow \rho_T^* \Rightarrow \uparrow\) lobbying intensity
- Tension
  - \(\tilde{\nu}: \uparrow\) harmonic mean of \(\nu_A, \nu_T \Rightarrow \uparrow\) polarization
  - \(\frac{\nu_j}{\nu_i}: \uparrow\) asymmetry \(\Rightarrow \downarrow\) relative strength of \(L_i\)
Implications for Stage 3

- Prob TA implemented

\[
\rho_T \rho_T^* = \left[ 1 + \frac{v_A}{v_T} \right]^{-1} \left[ 1 + \frac{v_A^*}{v_T^*} \right]^{-1}
\]

- Relative valuation \( \frac{v_T}{v_A} \) sufficient statistic for ratification
  - Pick underlying trade model \( \rightarrow \) tractable comparative statics
  - Scope for future empirical work
Stage 1: equilibrium TA

- **Meaning**: efficient $\tau_{TA}$ subject to reciprocity rule
- **Benchmark** case

$$G = L = \ell_A + \ell_T = \rho_T^* \frac{1}{2} \bar{v}$$

- $\bar{v}$ is harmonic mean of $v_A$ and $v_T$
- **Maximize** $L$ if...
  - max $\bar{v}$ (i.e. max polarization)
  - max $\rho_T^*$ $\iff$ max relative strength of $L_T^*$ (i.e. max $\frac{v_T^*}{v_A^*}$)
- Assumed more liberal TA $\Rightarrow \uparrow v_A, v_T, \frac{v_T}{v_A}$

- **Key result**: Equilibrium TA is “most liberal” TA
- **Corollary**: Free trade equilibrium TA if on line of reciprocity
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- Prob that home govt “ratifies” TA

\[
\rho_T = \frac{\ell_T + a \cdot h(\tau_{TA})}{[\ell_T + a \cdot h(\tau_{TA})] + [\ell_A + a \cdot h(\tau_{SQ})]}
\]
Stage 2: optimal lobbying efforts

“Lobbying leakage”

\[ l_T = l_T(a = 0) - a \cdot h(\tau_{TA}) \]
\[ l_A = l_A(a = 0) - a \cdot h(\tau_{SQ}) \]

- \( l_i \downarrow \) by govt value of additional factors
Implications for Stage 3

- Prob TA implemented

\[ \rho_T \rho_T^* = \left[ 1 + \frac{V_A}{V_T} \right]^{-1} \left[ 1 + \frac{V_A^*}{V_T^*} \right]^{-1} \]

- Relative valuation \( \frac{V_T}{V_A} \) sufficient statistic for ratification
Stage 1: equilibrium TA

\[
E[G] = L + a \left[ \rho_T \rho^*_T h(\tau_{TA}) + (1 - \rho_T \rho^*_T) h(\tau_{SQ}) \right]
\]

Expected “head start”

- Know lobbying acts as liberalizing force
  - \( a = 0 \): lobbying delivers most liberal TA possible
- What about inherent govt preferences \( ah(\cdot) \)?
  - Pro-trade head starts: \( h(\tau_{TA}) > h(\tau_{SQ}), -\frac{\partial h(\tau_{TA})}{\partial \tau_{TA}} > 0 \)
    - Another liberalizing force...
  - Anti-trade head starts: \( h(\tau_{SQ}) > h(\tau_{TA}), -\frac{\partial h(\tau_{TA})}{\partial \tau_{TA}} < 0 \)
    - Protectionist force

- Key result
  - Protection emerges from inherently protectionist govt prefs
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Conclusion
Refresher: Bagwell & Staiger (1999 AER)

- 2 country, 2 sector GE model
- Govt preferences:

\[ G(\tau, \tau^*) = G(p(\tau, p^w), p^w(\tau, \tau^*)) \]

- Key observation
  - Foreign tariff impacts home only via \( p^w \)
- Key result
  - Nothing to negotiate once TA internalizes TOT externalities
Refresher: Bagwell & Staiger (1999 AER)

Figure: Politically efficient tariffs are also efficient
Our framework

- BS: 2 country, 2 sector GE model
- Govt preferences

\[ G(\tau, \tau^*) = G(p(\tau, p^w), p^w(\tau, \tau^*), p^*(\tau^*, p^w)) \]

- Key observation
  - Foreign tariff impacts home even for fixed \( p^w \)
  - Holding \( p^w \) fixed, \( \downarrow \tau^* \)...
    1. \( \uparrow \rho_T^* \Rightarrow \uparrow L \Rightarrow \uparrow G \) (positive externality)
    2. \( \uparrow \rho_T^* \Rightarrow \downarrow \mathbb{E}[h(\tau)] \Rightarrow \downarrow G \) (negative externality)

- Key result
  - Negotiations continue after TA internalizes TOT externalities
Net positive international political externality

Figure: Politically efficient tariffs are inefficient
Net negative international political externality

Figure: Politically efficient tariffs are inefficient
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- Develop new political economy framework for TA formation
  - Conflicting lobbying interests
  - TA ratification uncertainty
- Implications
  1. Lobbying is a liberalizing force
  2. Protection requires inherently protectionist govt prefs
  3. New international political externalities
    - Operate outside traditional TOT channel
    - Emerge because ratification prob depends on trade policy
Comparative statics of $p_T \left( \frac{v_T}{v_A} \right)$ in Melitz model

1. $\gamma = \frac{\text{fixed export cost}}{\text{fixed domestic cost}} > 1$
   - $\uparrow \gamma \Rightarrow \text{tougher to be exporter} \Rightarrow \downarrow \text{share of EX firms}$
   - $\therefore \uparrow \gamma \Rightarrow \downarrow \frac{v_T}{v_A} \Rightarrow \downarrow \rho_T$

2. $k = \text{shape parameter in Pareto distn of firm productivity}$
   - $\uparrow k \Rightarrow \uparrow \text{mass low productivity firms} \Rightarrow \downarrow \text{share of EX firms}$
   - $\therefore \uparrow k \Rightarrow \downarrow \frac{v_T}{v_A} \Rightarrow \downarrow \rho_T$

3. $\varepsilon = \text{consumer elasticity of substitution across varieties}$
   - $\uparrow \varepsilon \Rightarrow \downarrow \text{markups} \Rightarrow \text{relative adv for high productivity firms}$
   - $\therefore \uparrow \varepsilon \Rightarrow \uparrow \frac{v_T}{v_A} \Rightarrow \uparrow \rho_T$
EX 1: symmetric TA tariffs

Figure: Set of possible TAs
EX 2: reciprocity TA tariffs

Figure: Set of possible TA tariffs
Tariff liberalization & polarization

\[ v_T, v_A \]

Figure: Tariff liberalization and valuations
Tariff liberalization & pro-trade biased polarization

Figure: Tariff liberalization and relative valuations
Equilibrium TA the most liberal TA?

- **Pro-trade head starts:** \( h(\tau_{TA}) > h(\tau_{SQ}) \)
  - helpful: \( \uparrow \rho_T \rho^*_T \Rightarrow \uparrow \) weight to \( h(\tau_{TA}) > h(\tau_{SQ}) \)
  - \( \gg \) not helpful: \( \uparrow h(\tau_{TA}) \Rightarrow \uparrow \) “lobbying leakage”

- **Anti-trade head starts:** \( h(\tau_{SQ}) > h(\tau_{TA}) \)
  - helpful: \( \downarrow h(\tau_{TA}) \Rightarrow \downarrow \) “lobbying leakage”
  - \( \gg \) not helpful: \( \uparrow \rho_T \rho^*_T \Rightarrow \uparrow \) weight to \( h(\tau_{TA}) < h(\tau_{SQ}) \)