Trade Agreements, Political Economy and Endogenously Incomplete Contracts

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INTRODUCTION
- Background
- Purpose of the paper

A Political Economy Model of Production Subsidies and Tariff Policies
- The Noncooperative Equilibrium
- Costless Trade Agreement

The Optimal Trade Agreement

The Optimal Trade Agreement Based on National Treatment (NT) Principle

Conclusion
Background

- Trade agreements have never been easy to negotiate nor have they always been effectively enforced.
- Two different avenues of attempt:
  1. Trade agreements as incomplete contracts (Copeland 1990 CJE, Battigalli and Maggi 2003 NBER, Horn 2006 AER, Horn et al 2010 AER)
Horn et al (2010), Trade Agreements as Endogenously Incomplete Contracts, AER

- **Endogenously Incomplete Contracts?**
  - What kind of policies would be constrained
  - How the constraints would change
  - are determined by the net global benefit they bring,

- Production and Consumption **externalities**
  - Rationale for policy intervention.
Political economy rationale for trade agreements

- Focuses on the interaction between **lobby groups** and the **incumbent government**
- Does not involve essential elements tracing **contracting incompleteness**
  e.g. Uncertainty and Contracting Cost
Purpose of the paper

- To examine trade agreements that stem from rent-seeking pressures while utilizing incomplete contract theory.
- To explain several core provisions of WTO and regional free trade agreements. e.g. differential treatment on subsidies, countervailing duties (CVDs), and the national treatment principle.
A Political Economy Model of Production Subsidies and Tariff Policies

- 2 Countries, Home and Foreign, a numeraire good 0 and $n$ other nonnumeraire goods.
- Price relationships

$$q_i = \tau_i \omega_i, \quad (1)$$

$\tau_i > 1$ represents a tariff or an export subsidy

$\tau_i < 1$ represents an import subsidy or an export tax.

$$p_i = q_i + s_i. \quad (2)$$

- Clearing of the world market requires that

$$M_i(\tau_i \omega_i, s) + M_i^*(\tau_i^* \omega_i, s^*) = 0, \quad i = 1, 2, \ldots, n. \quad (3)$$
A Political Economy Model of Production Subsidies and Tariff Policies

- \( q_i = \tau_i \omega_i \), and \( p_i = q_i + s_i \), \( q_i^* = \tau_i^* \omega_i \), and \( p_i^* = q_i^* + s_i^* \).
- \( M_i(\tau_i \omega_i, s) + M_i^*(\tau_i^* \omega_i, s^*) = 0 \), \( i = 1, 2, \ldots, n \).
The objective of lobby group $i$

$$V_i = W_i(\tau, s, \omega) - C_i(\tau, s, \cdot),$$

where $W_i(\tau, s, \omega)$ is its gross joint welfare, $C_i(\tau, s, \cdot)$ is its contribution schedules.

The objective of Home government

$$G = \sum_{i \in L} C_i(\tau, s, \cdot) + aW(\tau, s, \omega), \quad a \geq 0$$

where $W(\tau, s, \omega)$ is the aggregate social welfare.
The Noncooperative Equilibrium

- Home’s noncooperative policies are given by

\[ \tau^0_i - 1 = \frac{1}{e^*_i}, \]  

\[ s^0_i = \frac{l_{iL} - \alpha_L 1}{p_i} = \frac{1}{\alpha L} \eta_i. \]

where \(e^*_i\) is the elasticity of Foreign export supply or import demand, \(\eta_i\) is the supply elasticity in Home.

- at Johnson’s optimal tariff rate
- to tax industries not represented by lobbies,
- while subsidizing industries represented by lobbies.
Costless Trade Agreement

- Global efficiency requires maximizing the global benefits
  \[ a^*G + aG^* = a^* \sum_{j \in L} C_i(P; P^*) + a \sum_{j \in L} C_i^*(P; P^*) + a^*a[W(P, P^*) + W^*(P^*, P)]. \]

- The weight of each country’s aggregate social welfare are equalized (to \( a^*a \)),

- The relative weights (\( a \) and \( a^* \)) of aggregate social welfare and political contributions within each country are identical to that of the noncooperative case.
Costless Trade Agreement

- The globally efficient policies are defined by
  \[ \tau_i^e - \tau_i^*e = 0 \]  
  \[ s_i^e = \frac{l_iL - \alpha_L p_i}{a + \alpha_L \eta_i}, \] 
  \[ s_i^{*e} = \frac{l_i^*L - a_L^* p_i^*}{a^* + \alpha_L^* \eta_i^*}, \]

where \( \eta_i^* \) is the supply elasticity in Foreign.

- Tariff in one country equals export subsidy in another, some rationale for WTO’s countervailing duty law.

- An agreement that only constrains production subsidies cannot increase global welfare relative to the noncooperative equilibrium.
Assumptions the Optimal Agreement Based on

- Four sources of uncertainty that may lead to incomplete contracts (state variables):
  1. the relative weight of aggregate social welfare ($a$ and $a^*$),
  2. the fraction of population that are represented by lobbies ($\alpha_L$ and $\alpha_L^*$)
  3. whether an industry may organize or dissolve its political lobby ($I_{iL}$ and $I_{iL}^*$)
  4. the level of import demand ($M_i$ and $M_i^*$).

- Two categories of contracting costs:
  1. The costs of contracting over state variables,
  2. The costs of contracting over policy variables, e.g. $\tau$ and $s$ and their Foreign counterparts.
An agreement of the form

\[ A^0 = \{ \tau_i = \tau_i^*, \ s_i = \frac{l_{iL} - \alpha_L p_i}{a + \alpha_L \eta}, \ s_i^* = \frac{l_{iL}^* - a_L^* p_i^*}{a^* + \alpha_L^* \eta^*} \} \]

imposing first best policies has \( n_p = 4 \) and \( n_s = 6 \) and therefore costs \( c(4, 6) \).

What if contracting costs matters but do not prohibit a trade agreement?
Recall an optimal trade agreement should at least impose constraints on trade policies.

Should the agreement also constrain production subsidies?
Whether the trade agreement which binds trade policies should also constrains production subsidies?

- Depends on the additional gain in gross global benefits ($\Delta \Omega(s, s^*)$) brought by binding production policies.

\[
\Delta \Omega(s, s^*) = \Omega(s^E, s^*E) - \Omega(s^N, s^*N)
\]

- If $\Delta \Omega(s, s^*) < \text{The contracting costs over } s \text{ and } s^*$,

- then it is optimal to exclude them
Determinants of $\Delta \Omega(s, s^*)$

- $\Delta \Omega(s, s^*)$ depends on

\[
B_i = \frac{aa^* X_i'}{|d_i^*| \tau_i + |M_i'| \tau_i} [M_i - (\tau_i^* - 1) \omega_i \tau_i^* |d_i^*|],
\]

\[
B_i^* = \frac{aa^* X_i^{*'}}{|d_i'| \tau_i + |M_i^*| \tau_i^*} [|M_i^*| + (\tau_i - 1) \omega_i \tau_i |d_i'|].
\]

- 3 circumstances under which $B_i (B_i^*)$ is small:
  1. $M_i (|M_i^*|)$— little trade volume.
  2. $X_i' (X_i^{*'})$ — low price sensitivity of supply.
  3. $|M_i'| (|M_i^{*'}|)$ — high price sensitivity of import demand in Home (export supply in Foreign).

- differential treatment with respect to production subsidies.
NT based Trade Agreements

- When NT provision is included in trade agreements, we have
  \[ q_i = \tau_i \omega_i + t_i, \]  
  \[ p_i = \tau_i \omega_i + s_i. \]  

- Under what circumstances is it desirable to include the NT provision while leaving consumption taxes to discretions?
Whether to Exclude $t$ and $t^*$ from the NT-based Trade Agreement

- Depends on the additional gain in gross global benefit ($\Delta \Omega(t, t^*)$) implied by constraining consumption taxes

$$\Delta \Omega(t, t^*) = \Omega(t^E, t^*E) - \Omega(t^N, t^*N)$$

- If $\Delta \Omega(t, t^*) < \text{The contracting costs over consumption taxes}$,
- then it is optimal to exclude them.
The Optimal Trade Agreement Based on National Treatment (NT) Principle

Determinants of $\Delta \Omega(t, t^*)$

- $\Delta \Omega(t, t^*)$ depends on

$$N_i = \frac{a|d_i'|}{|M_i'|\tau_i + X_i'^\tau_i^*} \left\{ l_i^* X_i^* \tau_i^* - a^* s_i^* X_i'^\tau_i^* \left[ (\tau_i^* - 1) \omega_i + s_i^* \right] + a^* M_i \right\},$$

$$N_i^* = \frac{a^*|d_i'|}{|M_i^*'|\tau_i^* + X_i'^\tau_i} \left\{ -l_i^* X_i \tau_i - a^* s_i X_i'^\tau_i \left[ (\tau_i - 1) \omega_i + s_i \right] + a|M_i^*| \right\}.$$

- 3 circumstances under which $N_i (N_i^*)$ is small:

1. $M_i (M_i^*)$ – little trade volume.
2. $|d_i'| (|d_i^*|)$ – low price sensitivity of demand.
3. $|M_i'| (|M_i^*|)$ – high price sensitivity of import demand in Home (export supply in Foreign).
Conclusions Based on Political Economy of Production Subsidies and Tariff Policies

1. Noncooperatively,
   - Production subsidies will emerge in industries that are politically organized at the expense of those not.
   - Tariff rates depend on international monopoly power ($1/e^*$).

2. A costless trade agreement would lead to a circumstance equivalent to free trade.

3. A trade agreement which only constrains production subsidies but not tariffs is not optimal.
Conclusions Implied by Incomplete Contract Theory

1. It is optimal to leave production subsidies to discretion
   - If production subsidies can *not adequately substitute* for tariffs (small $X'$ or large $|M'|$),
   - Or if countries trade *little* (small $M$).

2. It is optimal to leave consumption taxes to discretion in an NT-based trade agreement.
   - If consumption taxes can *not adequately substitute* for tariffs (small $|d'|$ or large $|M'|$),
   - Or if countries trade *little* (small $M$).
Thank You for your attention!
Welcome to Comment and/or Ask Questions!