

# Endogenous Politics and the Design of Trade Institutions

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# The Questions

1. Can trade agreements be used to manipulate domestic lobbying incentives?
  - ▶ Government objective function
2. When is endogenizing political pressure important for answering optimal design questions?
  - ▶ Exogenous vs. endogenous politics

# Political Economy of Trade Institutions

With a few exceptions, TA design literature has taken political economy forces to be exogenous. I:

- ▶ endogenize politics into a standard model for studying TA design questions
  - ▶ use this to examine gov't objective
- ▶ carefully distinguish between dynamics induced by exogenous and endogenous politics for
  - ▶ base case with tariff caps
  - ▶ tariff caps with escape clause
- ▶ examine escape clause design when both exogenous and endogenous forces are present

# Results

- ▶ TAs may be used to manipulate domestic political actors (no long-run distortions)
- ▶ Simple modeling framework can capture results from models of both exogenous and endogenous politics
  - ▶ For both tariff caps and escape clauses, endogenous politics changes outcomes dramatically
- ▶ Standard, theoretical escape clause can't work in the presence of endogenous political pressure
  - ▶ Points to real-world design of WTO Agreement on Safeguards
  - ▶ May explain why escape clause has fallen out of use

# Economy

Two countries: home and foreign (\*)

- ▶ Separable in two goods:  $X$  and  $Y$ 
  - ▶  $P_i$ : home price of good  $i$
  - ▶  $P_i^*$ : foreign price of good  $i$
- ▶ Demand identical for both goods in both countries
  - ▶  $D(P_i) = 1 - P_i$
- ▶ Supply:  $Q_X^*(P_X) > Q_X(P_X) \forall P_X$ ; symmetric for  $Y$ 
  - ▶  $Q_X(P_X) = \frac{P_X}{2}$ ;  $Q_Y(P_Y) = P_Y$
  - ▶ Home net importer of  $X$ , net exporter of  $Y$

# Policy and Politics

Home levies  $\tau$  on  $X$ , Foreign levies  $\tau^*$  on  $Y$

- ▶  $P_X = P_X^W + \tau$  increasing in  $\tau$
- ▶  $\pi_X(P_X)$  increasing in  $P_X$ , therefore also  $\tau$

Non-tradable specific factors motivate political activity

# Timeline

Each period:

1. **Trade Agreement Formed**

- i. Governments set trade policy in international agreement

2. **Domestic Politics Played Out**

- i. Exogenous shocks are realized AND/OR
- ii. Import-competing industry lobbies government for protection

3. **Tariffs are Applied**

- i. Given political pressure, governments choose applied tariff levels

# Applied Tariff Decision

Baldwin-style government objective function:

$$W = CS_X(\tau) + \gamma(s, e)\pi_X(\tau) + CS_Y(\tau^*) + \pi_Y(\tau^*) + TR(\tau)$$

- ▶ Standard *except* weight on import-competing industry profits  $\gamma(s, e)$ :
  - ▶  $s$ : exogenous shock
  - ▶  $e$ : lobbying effort
- ▶ Optimal applied tariff is a function of  $\gamma(s, e)$ 
  - ▶ Ignores foreign welfare
  - ▶ Takes into account trade agreement enforcement
- ▶ Assume  $\gamma, \gamma^*$  is private info of each government



# Domestic Political Pressure

Two potential sources

## 1. Exogenous shocks

- ▶ Shock directly to  $\gamma$  as in Bagwell & Staiger (2005):  $\gamma, \gamma^*$  with CDF  $H(\gamma)$  on support  $[\underline{\gamma}, \bar{\gamma}]$ ; or
- ▶ Can take  $\gamma$  as a function of  $s$ :  $\gamma(s)$

## 2. Endogenous effort choice of lobby, $e$

- ▶ Lobby chooses effort to maximize profits,  $\pi(\cdot)$ , net of lobbying effort,  $e$
- ▶ Call lobby's optimal effort choice  $e^L$

$$e^L = \max_e \pi(\tau(\gamma(e))) - e$$

# Trade Agreement Negotiation

Model as Nash bargain between the two countries' governments

- ▶ Maximize joint political welfare
- ▶ Disagreement point: non-cooperative outcome

Once agreement is set, cooperation enforced by repeated-game punishments conditioned on history, history + DSB signal

## Design of Trade Agreements

- ▶ Tariff caps: Bagwell and Staiger 2005, Horn et al 2010, Amador and Bagwell 2012; Beshkar and Bond 2012
- ▶ Escape clause: Bagwell and Staiger 2005, Horn et al 2010,
- ▶ Shallow vs. deep integration: Bagwell and Staiger 2001, DeRemer 2014
- ▶ Dispute settlement: Maggi 1999, Ludema 2001, Maggi and Staiger 2011/2013, Klimenko et al 2008
- ▶ Property vs. liability rules: Pauwelyn 2008, Beshkar 2010, Maggi and Staiger 2014
- ▶ Retaliation: Bown 2002/2004, Beshkar 2010

# Role of Trade Agreements: TOT Externality

Bagwell and Staiger (2002)

- ▶ Joint social welfare maximized at free trade
- ▶ Trade war (i.e. no agreement)
  - ▶ Maximize with respect to home country welfare only
  - ▶ Terms of trade (TOT) externality  $\Rightarrow$  positive tariffs
- ▶ Trade agreements
  - ▶ Now take into account impact on foreign welfare
  - ▶ Internalize TOT externality  $\Rightarrow$  free trade

# Role of Trade Agreements: TOT Externality

Grossman and Helpman (1995)

- ▶ Add endogenous politics
- ▶ Now in “Trade War”: two reasons for positive tariff
  - ▶ TOT externality + pressure from import competing lobby
- ▶ Trade agreement: only internalizes TOT externality

# Role of Trade Agreements: Domestic Commitment

- ▶ Maggi and Rodriguez-Clare (1998, 2007)
  - ▶ Allow for (imperfect) capital mobility
  - ▶ Domestic investment decisions depend on level of protection
  - ▶ Inability to commit  $\Rightarrow$  investment too high b/c importers know protection will respond
  - ▶ Trade agreements provide commitment device
- ▶ Mitra (2002)
  - ▶ Here distortion is wasted resources in lobby formation

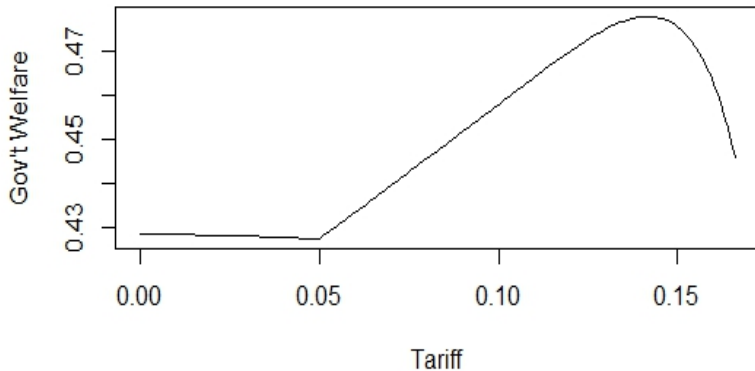
# Restraining Political Pressure through TAs

- ▶ Will TA be used to discourage lobbying? Depends on how gov't welfare varies in  $\gamma$
- ▶ With standard Baldwin-style objective function, welfare always increases with  $\gamma$

$$W = CS_X(\tau) + \gamma\pi_X(\tau) + CS_Y(\tau^*) + \pi_Y(\tau^*) + TR(\tau)$$

- ▶ Isomorphic to 'Protection for Sale' objective function
- ▶ If weights must sum to 1, welfare no longer monotonic in  $\gamma$

## Objective Function





## Comparison to the Literature

Others derive non-monotonicity in lobbying effort/tariff

- ▶ Maggi & Rodriguez-Clare (1998/2007): dynamic firm investment distortions
- ▶ Mitra (2002): lobbies pay investment cost to form

Here, I acknowledge the gov't objective function may be fundamentally non-monotonic

- ▶ Achieve same results with simpler model
- ▶ Endogenous politics in a wider range of questions
- ▶ Can have both endogenous / exogenous at the same time  
⇒ unify the exogenous and endogenous politics literatures

## Tariff Caps: Exogenous vs. Endogenous $\gamma$

Must set tariff at or below specified level (aka tariff cap)

- ▶  $\gamma(s)$ , i.e. exogenous: Negotiated weak bindings (a) are higher than those gov'ts would choose if they instead negotiated strong bindings and (b) imply that governments with low realizations of  $\gamma$  set their applied tariffs strictly below the bound level.
  - ▶ Bagwell & Staiger 2005 result
- ▶  $\gamma(e)$ , i.e. endogenous: Governments will not set applied tariffs strictly below the bound level. They may use the weak tariff binding either to encourage and/or restrain endogenous political pressure.
  - ▶ Maggi & Rodriguez-Clare (1998/2007) result

# Tariff Caps with Self Enforcement

- ▶  $\gamma$  exogenous (Bagwell & Staiger 2005): if governments patient enough (discount factor  $\delta$  high enough), optimal externally-enforced weak binding can be self-enforced
- ▶  $\gamma$  endogenous: optimal externally-enforced weak binding may not be self-enforcing
  - ▶ Problem: lobby is an additional repeated-game player
  - ▶ Lobby's incentive constraint is harder to satisfy as  $\delta$  increases

## Repeated Game Intuition

Legislature: break agreement if punishment not strong enough

- ▶ i.e. if one period of gain from cheater's payoff is greater than  $T$ -periods of loss from trade-war

Lobby: solve for lowest effort ( $\bar{e}_b$ ) that breaks this constraint

- ▶ pay  $\bar{e}_b$  if it's less than gain from  $T$  periods of trade-war profits

Executives: set lowest  $\tau^a$  that makes paying  $\bar{e}_b$  unprofitable *and* satisfies legislature's condition

$\Rightarrow e_b = 0$ , agreement remains in force

- ▶ High tariffs, no lobbying, no trade disruptions

## When the world is more complicated...

Now suppose political pressure is a result of both endogenous and exogenous forces (i.e.  $\gamma(s, e)$ ):

### Water in the Bindings with $\gamma(s, e)$

Assume  $\gamma(s, e) = \gamma(s) + \gamma(e)$ . In order for governments to set applied tariffs strictly below the weak binding, the low shock must be realized *and* the lobby must not have the incentive to 'top up' political pressure to the level associated with the binding.

- ▶ Can happen if gov't mis-judges lobby's incentives
- ▶ In general, gov't prefers cap because lobby will 'fill in' for low shock up to gov'ts optimal level of  $\gamma$

# Escape Clause with Exogenous Politics

When  $\gamma$  is *only* exogenous (Bagwell & Staiger 2005):

- ▶ Simple escape clause: add a second (higher) negotiated weak binding
  - ▶ Escape clause is designed to allow higher applied tariff when realization of  $\gamma$  is high
- ▶ Improves political efficiency
- ▶ Can improve self-enforcement
- ▶ Incentive compatibility becomes an issue

# Incentive compatibility

Escape clause is meant to allow higher applied tariff when realized  $\gamma$  is high

- ▶  $\gamma$  is private information
- ▶ We want truthful revelation, but truth-telling must be in the best interest of each gov't
- ▶ Gov't can exploit TOT externality by reporting high  $\gamma$  even when  $\gamma$  is low
  - ▶ Only way to prevent this is with some cost of using escape clause

# Escape Clause with Endogenous Politics

When  $\gamma$  is *only* endogenous:

- ▶ Benefit of escape clause from exogenous case is gone
- ▶ Assuming lower binding is set to maximize political welfare, escape clause encourages inefficiently high lobbying effort / protection
- ▶ Incentive compatibility still an issue, but often not the central one
  - ▶ If lobby's preferred tariff  $\geq$  escape clause binding, gov't experiences high  $\gamma$ , no need to lie

If  $\gamma$  is only endogenous, escape clause causes problems, provides no benefits



## When the world is more complicated...

Now suppose political pressure is a result of both endogenous and exogenous forces (i.e.  $\gamma(s, e)$ ):

- ▶ Want escape clause to deal with exogenous shock
- ▶ But endogenous part  $\Rightarrow$  lobbying incentives make it hard to implement escape clause

### Ineffectiveness of Political Criterion for Escape Clause

Assume  $\gamma(s, e) = \gamma(s) + \gamma(e)$ . If an escape clause conditions on  $\gamma(s, e)$  and  $\gamma(s^L) < \gamma(s^H) < \gamma(e^L)$ , the lower “normal” tariff binding will never be applied.

# When the world is more complicated... (con't)

- ▶ To make escape clause work, can't use  $\gamma$ 
  - ▶ Need signal of shock that is not influenced by endogenous pressure
- ▶ Can condition directly on  $s$ 
  - ▶ This seems to be what the WTO actually *does*

## An Escape Clause for Endogenous Politics

Assume a WTO-like set up: gov't can choose between  $\tau^a$ , 'escape' tariff  $\tau(s)$ , or politically-optimal  $\tau$  matched to  $\gamma(s, e)$

- ▶ Assume  $s$  verifiable, so no punishment for  $\tau(s)$
- ▶ Punishment for  $\tau(\gamma(s, e)) > \tau(s)$

Optimal  $\tau^a$  may lead government to apply  $\tau(\gamma(s, e))$

- ▶ When this happens, it leads to dispute, not valid escape
- ▶ Otherwise, no extra rent-seeking is encouraged

May explain why escape clause has fallen out of use

# Conclusion

Taking into account endogenous political forces alongside exogenous ones in this simplified modeling framework

- ▶ demonstrates that TAs can be used to discourage lobbying activity in general
- ▶ can nest established results and provide new insights
- ▶ can answer questions about optimal design of trading institutions more fully
  - ▶ provides additional general explanation for tariff caps
  - ▶ helps explain the structure and enforcement of the WTO Safeguards measure

## Future Work

- ▶ Application of framework to other design questions
- ▶ Interactions between  $\gamma(s)$  and  $\gamma(e)$
- ▶ Choice between protective measures over time