Overview
○○○
○○○○○

Model
○○○
○○○

Objective Fcn
○○

Tariff Caps
○○○

Escape Clause
○○○○○○

Conclusion

# Endogenous Politics and
# the Design of Trade Institutions

Kristy Buzard

Syracuse University and The Wallis Institute

kbuzard@syr.edu

April 6, 2016

Overview     Model     Objective Fcn     Tariff Caps     Escape Clause     Conclusion
●○○     ○○○     ○○     ○○○     ○○○○○○
○○○○○     ○○○

Preview

# The Questions

1. When is endogenizing political pressure important for answering optimal design questions?
   - ▶ Exogenous vs. endogenous politics

2. Can trade agreements be used to manipulate domestic lobbying incentives?
   - ▶ Government objective function

# Political Economy of Trade Institutions

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

▶ endogenize politics into a standard model for studying TA design questions

▶ 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

**Overview**    Model    Objective Fcn    Tariff Caps    Escape Clause    Conclusion
ooo
ooooo

ooo
ooo

oo

ooo

oooooo

Preview

# Results

- ▶ Show that TAs may be used to manipulate domestic political actors (no long-run distortions)
- ▶ For both tariff caps and escape clauses, outcomes are very different with endogenous politics
- ▶ Demonstrate that (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

# 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 ⇒ positive tariffs
- ▶ Trade agreements
  - ▶ Now take into account impact on foreign welfare
  - ▶ Internalize TOT externality ⇒ free trade

**Overview**  Model  Objective Fcn  Tariff Caps  Escape Clause  Conclusion
ooo  ooo  oo  ooo  oooooo
o●ooo  ooo
Role and Design of TAs

# 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: New Trade Theory

"New Trade Theory" externalities

- ▶ Source: imperfect competition (firm level)
  - ▶ Delocation: Ossa 2011, Bagwell and Staiger 2012
  - ▶ Profit Shifting: Mrazova 2011, Ossa 2012
- ▶ Trade agreements
  - ▶ Now take into account impact on foreign welfare
  - ▶ Internalize these new externalities

**Overview**     Model     Objective Fcn     Tariff Caps     Escape Clause     Conclusion
ooo     ooo     oo     ooo     oooooo
ooo●o     ooo

Role and Design of TAs

# 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

**Overview**     Model     Objective Fcn     Tariff Caps     Escape Clause     Conclusion
ooo     ooo     oo     ooo     oooooo
ooooo●
Role and Design of TAs

# 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
- ▶ **Retaliation**: Bown 2002/2004, Beshkar 2010

Economic and Political Structure

# 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 $Y$

Economic and Political Structure

# 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

Overview
○○○
○○○○○

**Model**
○○○
●○○

Objective Fcn
○○

Tariff Caps
○○○

Escape Clause
○○○○○○

Conclusion

The Players

# 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

The Players

# 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 $\left[\underline{\gamma}, \overline{\gamma}\right]$; 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 $e^L$

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

The Players

# 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
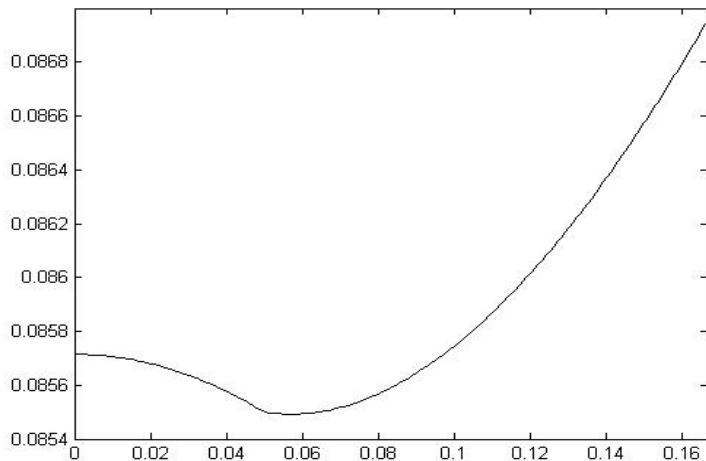
# Restraining Political Pressure through TAs

▶ 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 $\gamma$:

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

    ▶ Note 'Protection for Sale' objective function is isomorphic

▶ If we instead make weights sum to 1, welfare is no longer monotonic in $\gamma$

| Overview | Model | **Objective Fcn** | Tariff Caps | Escape Clause | Conclusion |
| 000 | 000 | ○● | 000 | 000000 | |
| 00000 | 000 | | | | |

Objective Function

Overview | Model | Objective Fcn | **Tariff Caps** | Escape Clause | Conclusion
○○○ | ○○○ | ○○ | ●○○ | ○○○○○○ |
○○○○○ | ○○○ | | | |

Tariff Caps

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

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

- ▶ $\gamma$ exogenous (Bagwell & Staiger 2005): 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.

- ▶ $\gamma$ 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.

# Tariff Caps with Self Enforcement

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

Tariff Caps

# 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 $(\overline{e}_b)$ that breaks this constraint

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

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

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

Escape Clause

# 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

Escape Clause

# 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 $\geqslant$ 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... (2)

- ▶ 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*

Escape Clause

# 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 to government applying $\tau(\gamma(s, e))$

- ▶ 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

## Future Work

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

## Conclusion

Taking into account endogenous political forces alongside exogenous ones...

- ▶ provides additional general explanation for tariff caps
- ▶ demonstrates that TAs can be used to discourage lobbing activity in general
- ▶ helps explain the structure and enforcement of the WTO Safeguards measure