How WTO Commitments Tame Uncertainty

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Motivation

- Big Uncertainty: Trade Wars, Future of Multilateralism, WTO Reform, Appellate Body
- Day-to-day Uncertainty about Trade Policy which harms trade and investment
- Security and predictability are stated goals in WTO Agreement
- How do “design features” of the WTO deliver trade policy certainty in practice?
- WTO a mix of commitments and flexibilities.
Overview

• We study policy responses to import shocks: tariff increases or antidumping. Stylised facts show tariff water affects behaviour.

• Model of policy choice, given the unconstrained optimum tariff response. Assumptions on costs and benefits from WTO context.

• Empirics: We augment a standard specification with variables relevant for policy choice.

• Counterfactual: What if bindings lifted so that countries can increase tariff to prohibitive levels?
Relation to the Literature

- Uncertainty delays firm entry (Dixit, 1989)

- Protectionist Reaction to Shocks

- Value of WTO
  Rose (2004a, 2004b, 2005)

- Optimal bindings
  Beshkar, Bond, Rho (2015)
Data

- 129 WTO Members, 16 years (1996-2011), HS 6 digit level (5764 distinct product categories)
  - Bindings: WTO Bindings Database (Groppo and Pierrmartini, 2014)
  - Applied Tariffs: WTO IDB, UNCTAD TRAINS
  - Antidumping: WTO I-TIP
  - Imports: UN COMTRADE
  - Import demand elasticities: Kee, Nicita, Olarreaga (2008)
Policy Response #1: MFN Tariff Increase

- Commitments (Bound) and Flexibilities (Water)
Policy Response #1: MFN Tariff Increase

- Substantial flexibility, 27% of trade is in lines with > 5% water
- Average water 24%
- MFN Tariffs Increased on 2.2% or 126/5764 TL per year on average
- About 3.1% of world trade
Policy Response #2: Trade Remedies

- Offers a Flexibility, Committed to accept other member’s legal use of same measures
- Anti-Dumping (Most Common), Safeguards, Special Safeguards, ...
- Technical cost, investigation and proof of injury
- Transparency - AD can be challenged on merits, DSU
- TBT, SPS, Other
Policy Response #2: Trade Remedies

- AD on 0.07% or 4/5764 TL per year
- Less than 1% of world trade
Frequency of actions depends on Water

(a) Tariff Increases

(b) AD Actions
...and Shock Size

(a) Tariff Increases

Tariff Increases Under Low and High Effective Water by Shock Size (1-10)

(b) AD Actions

Antidumping Under Low and High Effective Water by Shock Size (1-10)
A model of policy choice

- Questions raised by the data:
- Why members use “free” Water only rarely?
- Why size of the Water matters – why not use it even if benefits capped?
Ingredients

- Actions \{none, raise \(\tau\), AD\}
- Optimal tariffs, ToT gains increasing in shock
- Assumptions informed by WTO practice
- Costs:
  - AD has a fixed technical cost
  - tariff increase below the bound is free, but, costly in terms of reputation if used for small shocks (cooperation)
- Benefits:
  - AD benefit independent of water
  - tariff increase below the bound has benefits capped if shocks large
Model

Figure 3: Costs and Benefits
Empirical Setup

- Augmented Bown and Crowley (AER, 2013)

\[ Y_{ckt} = \beta_0 + \beta_1 \Delta M_{ckt-1} + \beta_2 IMP_{ck} + \beta_3 (\Delta M_{ckt-1} \times IMP_{ck}) \\
+ \beta_4 s_{ck}(\Delta M) + \beta_5 W_{ckt} + \beta_6 (\Delta M_{ckt} \times W_{ckt}) \\
+ \beta_7 FoR_{ckt} + \delta_c + \delta_k + \delta_t + \epsilon_{ckt} \quad (1) \]
### Regression Results

<table>
<thead>
<tr>
<th></th>
<th>(tariff)</th>
<th>(AD)</th>
<th>(tariff)</th>
<th>(tariff-A25)</th>
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<tr>
<td>$\Delta M_{ckt-1}$</td>
<td>0.0249***</td>
<td>0.00485***</td>
<td>0.0280***</td>
<td>0.0632**</td>
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<td>(0.00682)</td>
<td>(0.00158)</td>
<td>(0.00725)</td>
<td>(0.0221)</td>
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<td>$IMP_{ck}$</td>
<td>0.0286***</td>
<td>0.00528***</td>
<td>0.0303***</td>
<td>0.0751***</td>
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<td>(0.00459)</td>
<td>(0.000992)</td>
<td>(0.00480)</td>
<td>(0.0117)</td>
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<tr>
<td>$s_{ck}(\Delta M)$</td>
<td>-0.0164**</td>
<td>-0.00598**</td>
<td>-0.0182**</td>
<td>-0.0879***</td>
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<tr>
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<td>(0.00674)</td>
<td>(0.00218)</td>
<td>(0.00728)</td>
<td>(0.0288)</td>
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<tr>
<td>$eW_{ckt}$</td>
<td>0.0164***</td>
<td>-0.000642*</td>
<td>0.0217***</td>
<td>0.0186***</td>
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<tr>
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<td>(0.000947)</td>
<td>(0.000326)</td>
<td>(0.00103)</td>
<td>(0.00323)</td>
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<tr>
<td>$FoR_{ckt}$</td>
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<td></td>
<td>-0.00193***</td>
<td>-0.0086***</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>(0.000466)</td>
<td>(0.000757)</td>
</tr>
</tbody>
</table>

| Observations          | 1,280,527         | 293,756         | 1,153,152         | 176,495            |
| Logit R-squared       | 0.220             | 0.208           | 0.220             | 0.422              |
| Year FE               | YES               | YES             | YES               | YES                |
| Country FE            | YES               | YES             | YES               | YES                |
| Sector 4-digit FE     | YES               | YES             | YES               | YES                |

Notes: Logit estimates come with Huber and White robust standard errors in parenthesis, clustered by country 4-digit sector. Marginal effects take into account interactions, are calculated at the means of the other variables and come with delta-method standard errors in parenthesis. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. 
Counterfactual

- Without WTO Bindings 4.5 x higher probability to react with tariff increase
Summary

• Evidence for B&S ToT theory from data on 130 WTO Members both for tariff increases and AD

• Some substitutability: Less Water $\Rightarrow$ less tariff increases, more AD (but few in absolute terms, and AD is transparent)

• Trade Agreements such as WTO reduce TPU in two ways:
1. upper bound on tariffs
2. lower frequency of increases
Thank You!