State Control and the Effects of Foreign Relations on Bilateral Trade

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Motivation

- Growing consensus that systemic changes limit trade manipulation in response to political disputes
  - WTO
  - Global production networks
  - Intra-industry trade and specialized production

- But examples of this behavior abound
  - Argentina (Falkland Islands)
  - Russia and Ukraine (gas wars)
  - India and Pakistan
  - China (salmon, rare earths)
Chinese Boycott of Norwegian Salmon

Salmonidae (fresh/chilled)

Salmonidae (frozen)

Fish

Total

Exports in EUR


China World

2010 Nobel Peace Prize

Exports in EUR


China World

2010 Nobel Peace Prize
9月20日前後以降に遅延等が多く発生。

遅延発生日の分布（9月）

※グラフに含まれないもの
・7月:3件
・8月:1件
・特定できず:91件

28日:遅延解消2件
Why State Control Matters

- Systemic changes reduce the capacity but not the motive to manipulate trade.

- Trade manipulation can occur at the firm level:
  - Capacity to influence firm decisions → manipulation.
  - Capacity highest for state-owned enterprises (SOEs):
    - Less opposition from SOEs to trade diversion.
    - Advancing political goals is a primary objective of SOEs.
    - Close links between state leadership and SOEs.

- Capacity varies:
  - Across governments.
  - Across sectors (SOE vs. non-SOE sectors).
Overview

- **Argument:**
  - The impact of bilateral political events on trade is conditional on state control of the sector

- **Empirical Analysis:**
  - Measure variation in political relations
  - China and India
  - Imports vs. exports

- **Findings:**
  - Negative political events $\rightarrow$ lower imports
    - bigger effect in SOE sectors (China and India)
  - Political events $\rightarrow$ changes in exports sometimes
    - bigger effect in SOE sectors (India only)
Trade with the state-controlled sector of the economy

- Construct proxy measure, real SOE trade data coming soon!
- Match disaggregated bilateral trade data with industry-level data on the share of assets held by SOEs

We multiply sectoral trade values with the respective SOE share in total assets and sum the resulting values.
# Sectoral Variation in State Ownership

## China

<table>
<thead>
<tr>
<th>ISIC sector</th>
<th>SOE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraction of crude petroleum and natural gas, related services</td>
<td>98.0%</td>
</tr>
<tr>
<td>Manufacture of basic metals</td>
<td>71.4%</td>
</tr>
<tr>
<td>Manufacture of chemicals and chemical products</td>
<td>57.6%</td>
</tr>
<tr>
<td>Manufacture of machinery and equipment n.e.s.</td>
<td>55.9%</td>
</tr>
<tr>
<td>Manufacture of radio, television and communication ...</td>
<td>43.0%</td>
</tr>
<tr>
<td>Manufacture of medical, precision and optical instruments, ...</td>
<td>42.9%</td>
</tr>
</tbody>
</table>

Source: *China Statistical Yearbook*

## India

<table>
<thead>
<tr>
<th>ISIC sector</th>
<th>SOE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraction of crude petroleum and natural gas, related services</td>
<td>89.9%</td>
</tr>
<tr>
<td>Manufacture of machinery and equipment n.e.s.</td>
<td>44.9%</td>
</tr>
<tr>
<td>Manufacture of coke, refined petroleum products and nuclear fuel</td>
<td>43.6%</td>
</tr>
<tr>
<td>Manufacture of basic metals</td>
<td>40.3%</td>
</tr>
<tr>
<td>Manufacture of chemicals and chemical products</td>
<td>13.1%</td>
</tr>
<tr>
<td>Other mining and quarrying</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

Source: *PROWESS database*
Measuring political relations

1. Number of negative events (King and Lowe 2003)
2. Voting alignment in the UNGA (Voeten and Merdzanovic 2009)

China-specific measures:
3. Count of People’s Daily references to actions that “hurt feelings” of the Chinese people (Fang 2010)
4. Conflict-cooperation index (Yan et al. 2010)

We focus on the number of negative events
- China’s worst relations: USA, Taiwan, UK, Japan, Philippines,…
- India’s worst relations: Pakistan, USA, Bangladesh, Saudi Arabia, UK,…
China

Negative events

UN voting alignment

Hurt feelings

Yan index
Empirical strategy

- Gravity model of international trade

\[
\text{trade}_{SOE,ij} = \beta_0 + \beta_1 \text{relations}_{ijt} + \beta_2 \text{distance}_{ijt} + \beta_3 \text{gdp}_{ijt} + \beta_4 X_{ijt} + \tau_t + \varepsilon_{ijt}
\]  

\[
\text{trade}_{nonSOE,ij} = \tilde{\beta}_0 + \beta_1 \text{relations}_{ijt} + \tilde{\beta}_2 \text{distance}_{ijt} + \tilde{\beta}_3 \text{gdp}_{ijt} + \tilde{\beta}_4 X_{ijt} + \tau_t + \tilde{\varepsilon}_{ijt}
\]

- \textit{trade}: exports or imports (Source: WITS)
- \textit{relations}: 1 of 4 measures of political relations
- Controls: Distance, GDP, Population, Neighbor, Common language, Landlocked, Both in WTO, PTA, Democracy, US ally, and time dummies (all IVs lagged)
- Time period: 1995-2009 (China); 1991-2009 (India)
- Seemingly unrelated estimations to combine estimation results
- Hypothesis:

\[
\beta_1 > \tilde{\beta}_1
\]
Main results

<table>
<thead>
<tr>
<th></th>
<th>China Imports</th>
<th>China Exports</th>
<th>India Imports</th>
<th>India Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOE Negative events</td>
<td>-0.004*** (0.001)</td>
<td>0.001 (0.001)</td>
<td>-0.007** (0.003)</td>
<td>-0.006*** (0.001)</td>
</tr>
<tr>
<td>Non-SOE Negative events</td>
<td>-0.003*** (0.001)</td>
<td>0.001 (0.001)</td>
<td>-0.005* (0.002)</td>
<td>-0.005*** (0.001)</td>
</tr>
<tr>
<td>Observations</td>
<td>1,654</td>
<td>1,863</td>
<td>2,006</td>
<td>2,412</td>
</tr>
<tr>
<td>Wald test (p-value)</td>
<td>0.007</td>
<td>0.527</td>
<td>0.005</td>
<td>0.004</td>
</tr>
</tbody>
</table>

- Controlled for distance, GDP, Population, Neighbor, Common language, Landlocked, Both in WTO, PTA, Democracy, US ally, and time dummies
- Results confirmed with “hurt feelings” variable
- Mixed results for UNGA voting and Yan index
Further results

- Consumer vs non-consumer goods
  - WTO membership restricts trade policy levers
  - State control of the media offers an alternative
  - Statistically significant difference in the coefficients on negative events for imports to China (but not for India)

- Partner country fixed effects
  - Similar results for India
  - No significant effect for China
Conclusions

- Trade is more likely to follow the flag when government controls firms

- Both democratic and authoritarian governments engage in this practice - *Government-business ties rather than regime type shape politicization of trade*

- Political relations may become more important drivers of trade patterns as more countries with partially state-controlled economies emerge as important players in international trade

- Challenge for WTO to regulate informal discrimination
## China SOE Import Share --Selected Sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>Import Share of Total Inputs*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SOE</td>
</tr>
<tr>
<td>1 Coke, petroleum, and nuclear fuel</td>
<td>61.7</td>
</tr>
<tr>
<td>2 Other transport equipment</td>
<td>50.0</td>
</tr>
<tr>
<td>3 Basic metals</td>
<td>49.5</td>
</tr>
<tr>
<td>4 Chemical and chemical products</td>
<td>35.1</td>
</tr>
<tr>
<td>5 Food products and beverages</td>
<td>50.0</td>
</tr>
<tr>
<td>6 Textiles</td>
<td>29.1</td>
</tr>
<tr>
<td>7 Leather, luggage, and footwear</td>
<td>18.3</td>
</tr>
</tbody>
</table>

Sources: China Statistical Yearbook, 2004; China Customs Info Database
* Data from 2003
## India Productivity and Imports in Ten Largest Sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>Productivity (Rs./Worker)*</th>
<th>Import Share of Total Inputs*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SOE</td>
<td>Private</td>
</tr>
<tr>
<td>1  Motor Vehicles</td>
<td>141,799</td>
<td>259,413</td>
</tr>
<tr>
<td>2  Petroleum</td>
<td>6,147,727</td>
<td>371,652</td>
</tr>
<tr>
<td>3  Basic Metals</td>
<td>199,783</td>
<td>257,080</td>
</tr>
<tr>
<td>4  Electricity, Gas, Hot Water</td>
<td></td>
<td>140,022</td>
</tr>
<tr>
<td>5  Chemicals</td>
<td>526,763</td>
<td>702,076</td>
</tr>
<tr>
<td>6  Other Transport Equipment</td>
<td>147,979</td>
<td>223,124</td>
</tr>
<tr>
<td>7  Paper</td>
<td>179,157</td>
<td>134,541</td>
</tr>
<tr>
<td>8  Electrical Machinery</td>
<td>442,866</td>
<td>276,529</td>
</tr>
<tr>
<td>9  Media Equipment</td>
<td>677,099</td>
<td>493,588</td>
</tr>
<tr>
<td>10 Fabricated Metal Products</td>
<td>361,056</td>
<td>189,953</td>
</tr>
</tbody>
</table>

Source: Annual Survey of Industries India, various years
* Productivity from 1999-2000; Import/Export Shares from 2009-2010