Feeding the Dragon and the Elephant: A Comparison of Trade Distortions on U.S. Agricultural Exports in China and India

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U.S. International Trade Commission
Disclaimer: The views expressed here are those of the presenters, and do not necessarily represent those of any individual Commissioner or of the Commission as a whole.
Roadmap

• Objective
• Background on agricultural markets in China and India
  – Domestic production and policy goals
  – Role of imports
  – Mechanisms used to regulate trade (tariffs and NTMs)
• Modeling Framework
• Results and details on specific traded products
• Conclusions and opportunities for further research
Objective

To compare and contrast the results of two similar recent USITC investigations on the effects of India’s and China’s tariffs and nontariff measures on U.S. agricultural exports to those markets
INDIA

**POLICY ENVIRONMENT**
- History of famines and food shortages
- Large population of poor farmers
- Politically powerful farm sector
- Environmental degradation

**POLICY OBJECTIVES**
- Food security
- Food self-sufficiency
- Income support for farmers

**POLICY INSTRUMENTS**
- Minimum support prices for agricultural commodities
- Input subsidies
- Regulated markets
- Food subsidies for consumers
- Strategic export and import controls

CHINA

**POLICY ENVIRONMENT**
- History of famines and food shortages
- History of political upheaval
- Large population of poor farmers
- Limited agricultural land per capita
- One-party authoritarian system
- Environmental degradation

**POLICY OBJECTIVES**
- Economic and social well-being of the rural population
- Grain self-sufficiency and stable prices
- A safe food supply for all citizens
- Conserve valuable environmental resources

**POLICY INSTRUMENTS**
- Minimum support prices for agricultural commodities
- Input subsidies, direct payments, and preferential credit
- Food reserves
- Investments in rural infrastructure and agricultural research and development
- Strategic export and import controls
India’s agricultural imports - products

Source: GTIS, GTA Database, Nov 2012.
India’s agricultural imports as a share of consumption

India’s agricultural goods trade balance
China’s agricultural imports - products

Value (in billion $US)

Source: GTIS, GTA Database, Nov 2012.
China’s agricultural imports as a share of consumption

China’s agricultural goods trade balance

![Bar chart showing China’s agricultural goods trade balance from 1995 to 2011. The chart displays the trade value (in billion $US) with exports in light blue, imports in dark blue, and net trade balance in white. The net trade balance shows a surplus in recent years.]
Comparative agricultural trade balances

Source: GTIS, GTA Database, Aug 2012.
In the context of each country’s agricultural policy paradigm, how are they using trade policy to regulate imports?
Mechanisms used to regulate trade - India

- Tariffs: Large differences between bound and applied tariff rates

Indian average applied and bound tariff rates, 2009

Source: Government of India, Ministry of Finance, Central Board of Excise and Customs, Customs Tariff 2008/09; Government of India, Ministry of Finance, Central Board of Excise and Customs, various Notifications of Customs.
Mechanisms used to regulate trade - India

- Unpredictable variability of tariff rates
Chinese agricultural tariffs were reduced significantly upon joining the WTO.
Mechanisms used to regulate trade - China

- Tariffs: TRQ fill rates vary significantly by product, year

Source: Estimated by USITC staff based on data from the Global Trade Atlas.
Mechanisms used to regulate trade - NTMs

- Sanitary/phytosanitary measures
  - Health standards that exceed internationally accepted levels
  - Contamination standards that are inconsistent with international practices
  - Burdensome GMO approval processes
  - Fumigation requirements

- Technical barriers to trade
  - Quality standards
  - Labeling and packaging rules
  - Bans, monitoring, and licensing requirements
  - Customs procedures
  - Transparency

- State trading enterprises
Main questions:

• Why were US ag exports to India so low?

• Why were US ag exports to China, although larger and growing, concentrated in such a small number of unprocessed products?

• To what extent were tariffs and NTMs to blame and for which specific product groups?
Measuring the effects of tariffs and NTMs

• Four simulations
  
  – Two simulations: **removed** India/China’s applied tariffs (and tariff equivalents of TRQs) on all food and agricultural imports from **all** sources
  
  – Two simulations: **removed** India/China’s NTMs on certain food and agricultural imports from **all** sources
A product-level model is linked to an economy-wide model

• A partial equilibrium (PE) trade model at the product level is linked to a more aggregate general equilibrium (GE) model

• Product coverage: India
  – PE model: 699 food and ag products specified at the HS6 level
  – GE model (GTAP): 57 sectors; about 25 food and agr. sectors

• Product coverage: China
  – PE model: 139 products; 131 are food & agr. products
  – GE model (GTAP): 57 sectors; about 25 food and agr. sectors
Linking a product-level model to an economy-wide model

- GTAP model
- HS6/139 product model
- Tariff shocks for food and ag products
- Tariff and trade shocks for GTAP sectors
- Final simulated effects
- Certain GE effects
NTM analysis

- NTMs raise domestic prices and reduce quantities of imports in a manner similar to a tariff

- Price gaps: Identify products for which consumers pay higher import prices than ROW

- Quantity gaps: Identify products for which imports are effectively low or zero (especially relative to the share of U.S. exports in other markets)
## Tariff Simulation Results:

### India, 2007

<table>
<thead>
<tr>
<th>Product</th>
<th>Actual 2007 U.S. exports to India (million $)</th>
<th>Average tariff rate removed in simulation (percent)</th>
<th>Simulated change in U.S. exports to India (million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almonds</td>
<td>174</td>
<td>20</td>
<td>27-33</td>
</tr>
<tr>
<td>Soybean oil</td>
<td>12</td>
<td>40</td>
<td>17-22</td>
</tr>
<tr>
<td>Apples</td>
<td>27</td>
<td>50</td>
<td>17-21</td>
</tr>
<tr>
<td>Cotton</td>
<td>79</td>
<td>10</td>
<td>3-26</td>
</tr>
<tr>
<td>Fresh grapes</td>
<td>8</td>
<td>30</td>
<td>4-5</td>
</tr>
<tr>
<td>All other ag products</td>
<td>135</td>
<td>na</td>
<td>132-184</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>435</strong></td>
<td><strong>na</strong></td>
<td><strong>200-291</strong></td>
</tr>
</tbody>
</table>
## Tariff Simulation Results

**China, 2009**

<table>
<thead>
<tr>
<th></th>
<th>Actual 2009 U.S. exports to China (million $)</th>
<th>Average tariff rate removed in simulation (percent)</th>
<th>Simulated change in U.S exports (million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>84</td>
<td>68</td>
<td>489-1,192</td>
</tr>
<tr>
<td>Poultry</td>
<td>796</td>
<td>13</td>
<td>358-363</td>
</tr>
<tr>
<td>Pork offal</td>
<td>52</td>
<td>13</td>
<td>51-84</td>
</tr>
<tr>
<td>Cotton</td>
<td>803</td>
<td>5</td>
<td>28-71</td>
</tr>
<tr>
<td>Alcoholic beverages</td>
<td>137</td>
<td>29</td>
<td>32-43</td>
</tr>
<tr>
<td>All other</td>
<td>9,070</td>
<td>na</td>
<td>293-337</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10,942</strong></td>
<td><strong>na</strong></td>
<td><strong>1,251-2,090</strong></td>
</tr>
</tbody>
</table>
## NTM Simulation Results

### India, 2007

<table>
<thead>
<tr>
<th>Main NTM(s)</th>
<th>Actual 2007 U.S. exports to India</th>
<th>Price gap/NTM tariff equivalent</th>
<th>Simulated change in U.S. ag exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>SPS, STE</td>
<td>0</td>
<td>na</td>
</tr>
<tr>
<td>Dairy products</td>
<td>SPS, monitoring</td>
<td>9</td>
<td>49</td>
</tr>
<tr>
<td>Beverages</td>
<td>SPS, labeling</td>
<td>4</td>
<td>199</td>
</tr>
<tr>
<td>Other cereal grains</td>
<td>SPS, licensing</td>
<td>1</td>
<td>261</td>
</tr>
<tr>
<td>Meat products</td>
<td>SPS, bans</td>
<td>0.1</td>
<td>22</td>
</tr>
<tr>
<td>Total for 5 simulated products</td>
<td>na</td>
<td>14</td>
<td>na</td>
</tr>
</tbody>
</table>

The table above summarizes the NTM simulation results for India in 2007, focusing on various agricultural products. The table includes the main NTM(s) affecting each product, the actual 2007 U.S. exports to India, the price gap/NTM tariff equivalent, and the simulated change in U.S. ag exports. The range for each category is indicated in the table.
## NTM Simulation Results
### China, 2009

<table>
<thead>
<tr>
<th>Main NTM(s)</th>
<th>Actual 2009 U.S. exports to China</th>
<th>Price gap/NTM tariff equivalent</th>
<th>Simulated change in U.S. ag exports</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(million $)</td>
<td>(percent)</td>
<td>(million $)</td>
</tr>
<tr>
<td>Wheat</td>
<td>SPS, TRQ admin</td>
<td>84</td>
<td>119</td>
</tr>
<tr>
<td>Cotton</td>
<td>TRQ admin</td>
<td>803</td>
<td>24</td>
</tr>
<tr>
<td>Pork offal</td>
<td>SPS, licensing</td>
<td>52</td>
<td>na</td>
</tr>
<tr>
<td>Frozen pork</td>
<td>SPS, licensing</td>
<td>23</td>
<td>na</td>
</tr>
<tr>
<td>Poultry</td>
<td>SPS, licensing</td>
<td>796</td>
<td>5</td>
</tr>
<tr>
<td>Apples</td>
<td>SPS</td>
<td>19</td>
<td>45</td>
</tr>
<tr>
<td>Stone fruits</td>
<td>SPS</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Additional 5 products with NTMs</td>
<td>various</td>
<td>1</td>
<td>na</td>
</tr>
<tr>
<td>Total for 12 simulated products</td>
<td>na</td>
<td>1,782</td>
<td>na</td>
</tr>
</tbody>
</table>
Conclusions

• Tariffs and NTMs restrict U.S. agricultural exports to China and India considerably

• The overall scale of effects is much greater for China

• Effects vary widely by product but appear greatest for wheat, soybean oil, and meats
Opportunities for further research

• Update simulations using the latest trade data or to reflect the implementation of new policies

• More closely analyze the “rest of world” category trade effects

• Analyze effects of the movements in factors of production among industry sectors from the GE model
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NTM analysis scope

- All agricultural products
- Products with a price gap > 0
- Products with identified trade barriers (NTMs)
- Products included in NTM simulations