Measuring Costs and Benefits of Non-Tariff Measures in Agri-Food

OECD, Trade and Agriculture
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Motivation

- NTMs important in international trade correction of information asymmetries, other market failures, but also possible protectionist purposes

- Existing economic studies:
  - focus mainly on (forgone) trade effects
  - presume removal of NTMs improves welfare (as for tariffs)
  - Lack conceptual foundation to analyze welfare effects of NTMs in an imperfect world
Incidence of NTMs: Main points

- SPS issues can generate trade frictions
  - Heterogenous standards across countries
  - Importance of International based standards
- South-North and South-South trade issue
The policy challenge

- NTMs are at interface between domestic policies and trade
- The challenge: recognize regulatory autonomy while avoiding obstacles to trade
- Objective: identify best practice/least cost solutions
  - Comparative analysis of different ways to address the same issue
Summary of CB analysis

Key points:
- Distinguish actors that are concerned by given market imperfection from those that are not
- Obtain assessment of welfare effects with and without NTM in place for those groups

Some results
- Trade restriction may sometimes be welfare optimal (both domestic and global) if proportion of concerned is ‘big enough’ and value of externality is ‘big enough’
Analytical approach: costs and benefits

A non-tariff measure has different costs and benefits for different actors:

- **Domestic**:
  - Consumers, producers, government
  - (upstream, downstream, supply chain)

- **Foreign**:
  - Producers
  - (consumers, government)
Analytical framework

• All consumers (unconcerned & concerned) derive utility from consuming a market good. Concerned consumers decrease their demand if they know of a negative attribute (2 demands $D_1$ and $D_2$ unconcerned/concerned)
• Producers maximize profit in a competitive industry ($S_O$ and $S_F$)
• To simplify, the negative attribute comes only through foreign supply
• Domestic firms assumed to have incurred costs to meet regulation to eliminate the attribute (in the baseline)
## Clusters of products

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Number of cluster members</th>
<th>Trade coverage</th>
<th>NTM notifications</th>
<th>SPS concerns</th>
<th>Typical product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster 1</td>
<td>25</td>
<td>High</td>
<td>High</td>
<td>High/ Very high</td>
<td>Cheese</td>
</tr>
<tr>
<td>Cluster 2</td>
<td>131</td>
<td>High</td>
<td>High</td>
<td>Medium/ High</td>
<td>Poultry</td>
</tr>
<tr>
<td>Cluster 3</td>
<td>195</td>
<td>High</td>
<td>High</td>
<td>Low</td>
<td>Vegetables</td>
</tr>
<tr>
<td>Cluster 4</td>
<td>216</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Cut flowers</td>
</tr>
<tr>
<td>Cluster 5</td>
<td>116</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Vegetable oil</td>
</tr>
<tr>
<td>Cluster 6</td>
<td>94</td>
<td>Very low</td>
<td>Very low</td>
<td>Low</td>
<td>Oil cakes &amp; other vegetable material</td>
</tr>
</tbody>
</table>

Six stable clusters of 777 products based on:

3 criteria: i) **occurrence** of NTMs (TRAIRS), ii) their **trade coverage** (COMTRADE),
iii) the NTM-related **trade frictions** amongst countries (WTO SPS-STC)
Case studies selected from cluster analysis

- **Cheese:**
  - unpasteurized milk, human health issue (consumption externalities)

- **Shrimps:**
  - antibiotics, human health, developing country issues (consumption and production externalities)

- **Cut flowers:**
  - invasive species, developing country issues (production externalities)
Case Study: Impacts on gross profits of shrimp producers of OECD Food Safety regulation-(in mln euros)

<table>
<thead>
<tr>
<th>Country</th>
<th>Import Ban</th>
<th>BMP better management practices</th>
<th>BMP+ resistant varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vietnam</td>
<td>-483.8</td>
<td>+55.757</td>
<td>-170.1</td>
</tr>
<tr>
<td>Indonesia</td>
<td>-416.9</td>
<td>+47.6</td>
<td>-144.4</td>
</tr>
<tr>
<td>India</td>
<td>-211.1</td>
<td>+26.6</td>
<td>-85.3</td>
</tr>
</tbody>
</table>
**Case Study: Cut Flowers-change in gross profits (mln euros)**

<table>
<thead>
<tr>
<th></th>
<th>Tighter inspect</th>
<th>Tighter inspect + qlty.deprec</th>
<th>Production changes + reduced inspect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>-.822</td>
<td>-24.68</td>
<td>-3.83</td>
</tr>
<tr>
<td>Ecuador</td>
<td>-.244</td>
<td>-7.33</td>
<td>-1.14</td>
</tr>
<tr>
<td>Eu</td>
<td>+1.15</td>
<td>+1.15</td>
<td>.633</td>
</tr>
</tbody>
</table>
Preliminary conclusions from cases

- Framework is flexible and adds economic dimension into assessment of measure, BUT:
- Data limitations are serious (no data on product varieties)
- If human life at stake, CBA is of limited use: need broader approach, risk assessment