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

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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

| | Number of cluster members | Trade coverage | NTM notifications | SPS concerns | Typical product |
|---|---|---|---|---|---|
| Cluster 1 | 25 | High | High | High/ Very high | Cheese |
| Cluster 2 | 131 | High | High | Medium/ High | Poultry |
| Cluster 3 | 195 | High | High | Low | Vegetables |
| Cluster 4 | 216 | High | Low | Low | Cut flowers |
| Cluster 5 | 116 | Low | Low | Low | Vegetable oil |
| Cluster 6 | 94 | Very low | Very low | Low | Oil cakes & other vegetable material |

Six stable clusters of 777 products based on :

3 criteria: i) occurrence of NTMs (TRAINS), 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)

| | Import Ban | BMP better management practices | BMP+ resistant varieties |
|---|---|---|---|
| Vietnam | -483.8 | +55.757 | -170.1 |
| Indonesia | -416.9 | +47.6 | -144.4 |
| India | -211.1 | +26.6 | -85.3 |

# Case Study: Cut Flowers-change in gross profits(mln euros)

| | Tigher inspect | Tighter inspect+ qlty.deprec | Production changes + reduced inspect |
|---|---|---|---|
| Kenya | -.822 | -24.68 | -3.83 |
| Ecuador | -.244 | -7.33 | -1.14 |
| Eu | +1.15 | +1.15 | .633 |

# 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