Are Catfish Inspections an Administrative Barrier to Imported Fish?

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Overview

“Catfish Wars”
USDA Catfish Inspection Program
Methodology
Preliminary Results
Discussion/Suggestions
Imports from Vietnam to the U.S. increase in 1997.

Catfish labeling law passes in the 2002 Farm Bill.


2008 Farm Bill introduces catfish inspection program.

2014 Farm Bill amends catfish inspection program.
USDA Catfish Inspection Program

FSIS will visit production and processing facilities
Exporting countries must prove equivalent standards

USDA Catfish Inspection Program

- Who is responsible?
USDA Catfish Inspection Program

• What is catfish?

• Agricultural Act of 2014
  “All fish of the order Siluriformes”

MOU between FDA and USDA
Literature

• Duc, 2010
  – Equilibrium displacement model and time series analysis of import demand and export supply
  – U.S. antidumping duty on Vietnamese catfish and effects of the Byrd Amendment

• Sumner and Lee, 1997
  – Technical trade barriers such as inspections that add a percentage cost to production can be treated as an ad valorem tariff in EDM
Literature

• Kinnucan, 2003
  – Ex-ante analysis of U.S. anti-dumping duty on Vietnamese catfish
  – Equilibrium displacement model of import demand and domestic market

• Kinnucan and Myrland, 2002
  – Norway-EU salmon export tax agreement
  – Equilibrium displacement model
Model Assumptions

- Homogeneous product: catfish and catfish-like frozen fillets
  - Undifferentiated by supply source
- Law of one price
- Strictly separable from all other goods
- US and Vietnam are large nations
Large Nation Trade Impact
EDM Equations

\[ D = D(P_{US}) \]
\[ S = S(P_{US}) \]
\[ M_V = M_V(P_{US}, A_V) \]
\[ M_R = M_R(P_{US}, A_R) \]
\[ P_{US} = P_{US}(P_V, A_V) = P_V + A_V \]
\[ D = S + M_V + M_R \]

D, US demand
S, US supply
M_V, Imports from Vietnam
M_R, Imports from ROW
P_{US}, US price
P_V, Vietnamese price
A_i, Percentage cost of compliance
Comparative Statics
Log Differential Form

\[ D^* = -\eta_{US} P^*_{US} \]
\[ S^* = \varepsilon_{US} P^*_{US} + \varepsilon_{US,A} A^*_{US} \]
\[ M^*_V = \varepsilon'_V P^*_V \]
\[ M^*_R = \varepsilon'_R P^*_{US} + \varepsilon'_{R,A} A^*_R \]
\[ P^*_{US} = (1 - \alpha_V) P^*_V + \alpha_V A^*_V \]
\[ D^* = k_{US} S^* + k_V M^*_V + k_R M^*_R \]

*Represents change (dX/X)

\[ \eta, \varepsilon \] are respective elasticities

\[ \alpha = A_v/(1+A_v) \]

\[ k_i = M_i/D \]
U.S. Catfish Imports by Country, 2014

Vietnam: 93%
China: 7%
All Other: 0.35%

ERS, NMFS 2012 Data
\[ k_v = 0.96 \]
\[ k_R = 0.04 \]
\[ k_{US} = 0.001 \]
Simulation bounds for the change in compliance cost for Vietnam
Low: 10%
Medium: 50%
High: 100%

Assume US and ROW will not be affected by the change in compliance cost
A^*_R, A^*_US = 0
<table>
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<tr>
<th></th>
<th>LOW</th>
<th>MEDIUM</th>
<th>HIGH</th>
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</thead>
<tbody>
<tr>
<td>Elasticity of Demand</td>
<td>$\eta_{us}$</td>
<td>0.71</td>
<td>1.42</td>
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<tr>
<td>Elasticity of Supply</td>
<td>$\varepsilon_{us}$</td>
<td>0.73</td>
<td></td>
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<tr>
<td>Export Elasticity Vn</td>
<td>$\varepsilon_{V}$</td>
<td>1.0</td>
<td>2.0</td>
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<tr>
<td>Export Elasticity ROW</td>
<td>$\varepsilon_{R}$</td>
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<td>6</td>
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<tr>
<td>% Change in Compliance Cost</td>
<td>$A^*$</td>
<td>0.10</td>
<td>0.50</td>
</tr>
<tr>
<td>% Change in US Price</td>
<td>$P^{*}_{US}$</td>
<td>0.005</td>
<td>0.11</td>
</tr>
<tr>
<td>% Change in Vn Price</td>
<td>$P^{*}_{V}$</td>
<td>-0.004</td>
<td>-0.09</td>
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<tr>
<td>% Change in US Demand</td>
<td>$D^*$</td>
<td>-0.004</td>
<td>-0.15</td>
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<tr>
<td>% Change in US Supply</td>
<td>$S^*$</td>
<td>0.004</td>
<td>0.08</td>
</tr>
<tr>
<td>% Change in Imports from Vietnam</td>
<td>$M^{*}_{V}$</td>
<td>-0.004</td>
<td>-0.18</td>
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<tr>
<td>% Change in Imports from ROW</td>
<td>$M^{*}_{R}$</td>
<td>0.01</td>
<td>0.63</td>
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</tbody>
</table>
Further Research

• Welfare analysis
  – Per-unit cost vs. percentage increase
  – Prohibitive case
  – Changes in cost to US and ROW
  – Demand changes (substitution to tilapia, safety preferences)

• Estimation of elasticities - data?
  – Production costs for Vietnam
  – Compliance costs

• Is shrimp next in the food safety regulation change?
Thank you!
Literature

• Asche, 2001
  – Analysis of U.S. Anti-dumping Duty on Norwegian Salmon by testing for structural breaks in price

• Brambilla, Porto, Tarozzi, 2010
  – Household-level analysis of U.S. antidumping duties on Vietnamese catfish
  – Year and household fixed-effects
Inspection Cost Trade Theory