

A photograph of the University of Florida's iconic tower, a tall brick structure with arched windows, set against a clear blue sky. The tower is partially obscured by green foliage in the foreground.

Are Catfish Inspections an Administrative Barrier to Imported Fish?

Kelly A. Davidson
Dr. Jaclyn D. Kropp

An aerial photograph of a large-scale catfish farming operation. A long, straight dirt road runs through the center of the image, flanked by green grass. On either side of the road are large, rectangular water tanks. Several aeration systems are visible in the water, creating white foam and splashing. In the background, there are more tanks and a line of trees under a clear sky.

Overview

“Catfish Wars”

USDA Catfish Inspection Program

Methodology

Preliminary Results

Discussion/Suggestions

Catfish Trade Disputes

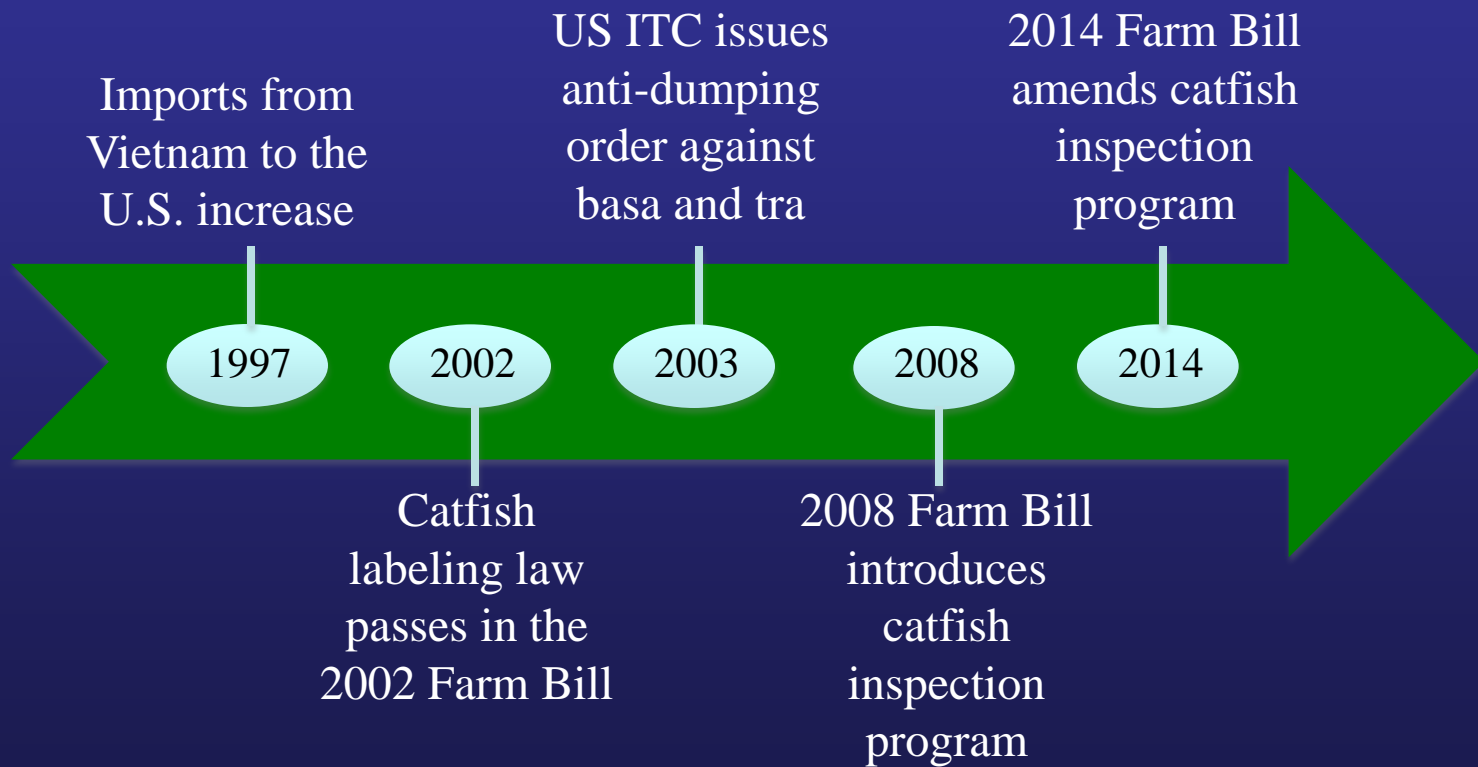




Photo Source: New York Times, 2013

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?



Photo Source: Fishbase.org Joe Margiotta

- 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

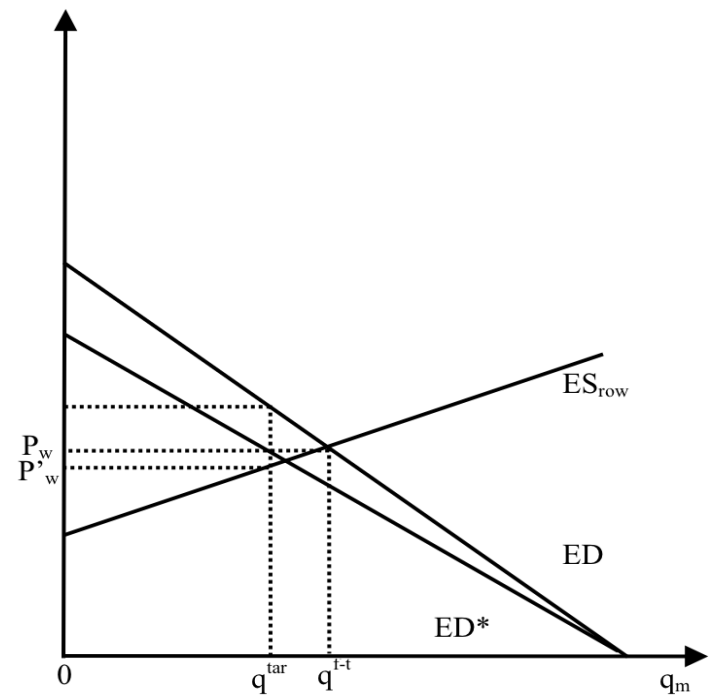
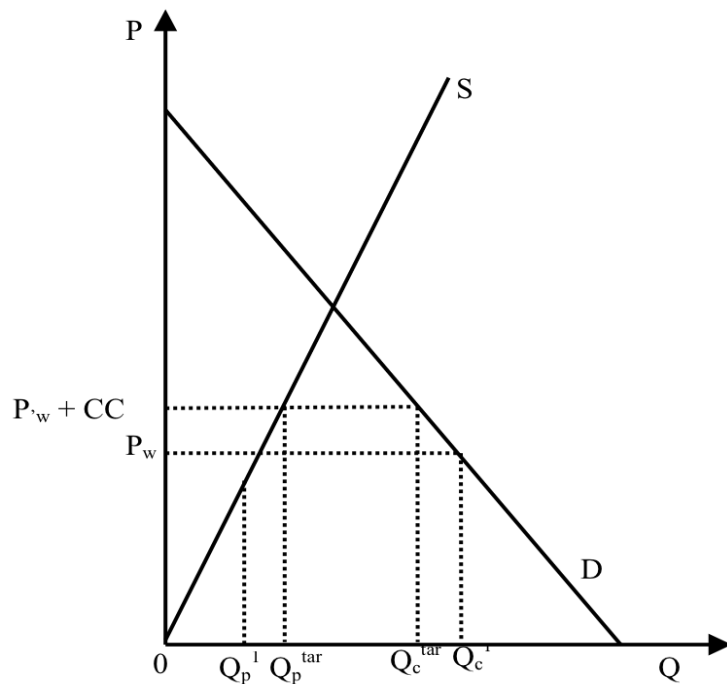
Model Assumptions

- 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



Photo Source: <http://www.campbellskitchen.com/>

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

$$D^* = -\eta_{US} P_{US}^*$$

$$S^* = \varepsilon_{US} P_{US}^* + \varepsilon_{US,A} A_{US}^*$$

$$M_V^* = \varepsilon'_V P_V^*$$

$$M_R^* = \varepsilon'_R P_{US}^* + \varepsilon'_{R,A} A_R^*$$

$$P_{US}^* = (1 - \alpha_V) P_V^* + \alpha_V A_V^*$$

$$D^* = k_{US} S^* + k_V M_V^* + k_R M_R^*$$

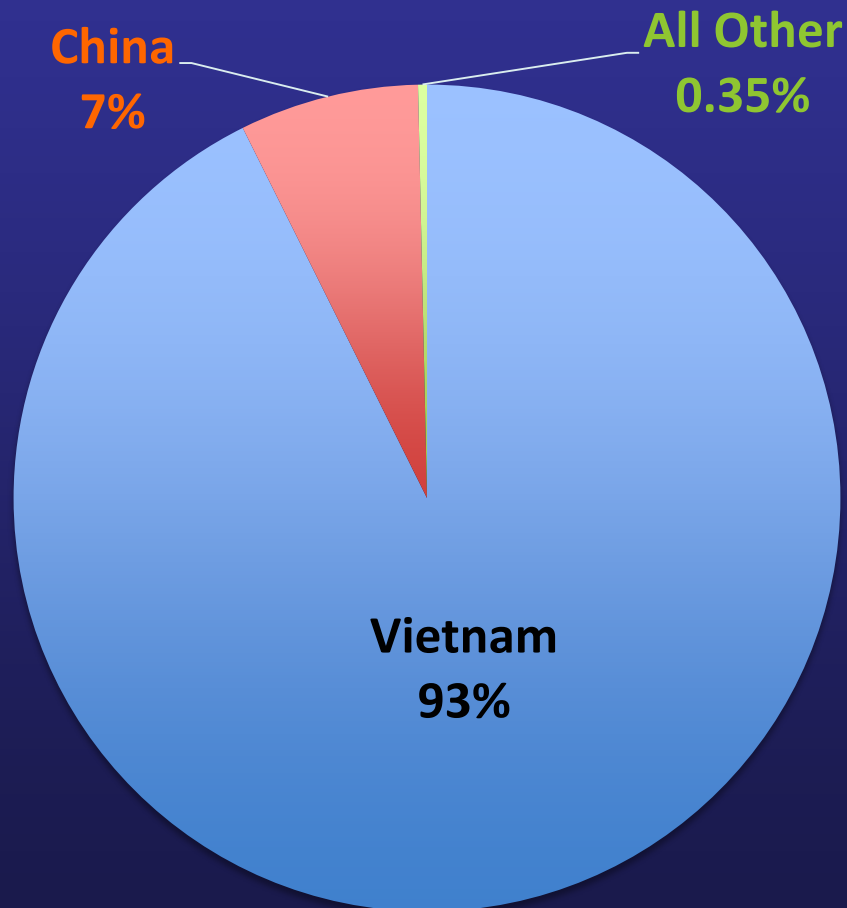
*Represents change (dX/X)

η , ε are respective elasticities

$$\alpha = A_V / (1 + A_V)$$

$$k_i = M_i / D$$

U.S. Catfish Imports by Country, 2014



ERS, NMFS 2012 Data

$$k_v=0.96$$

$$k_R=0.04$$

$$k_{US}=0.001$$



Assume US and
ROW will not be
affected by the
change in
compliance cost
 $A^*_R, A^*_{US} = 0$

Simulation bounds for the
change in compliance cost
for Vietnam

Low: 10%

Medium: 50%

High: 100%



		LOW	MEDIUM	HIGH
Elasticity of Demand	η_{us}	0.71	1.42	2.13
Elasticity of Supply	ϵ_{us}	0.73		
Export Elasticity Vn	ϵ_V	1.0	2.0	3.0
Export Elasticity ROW	ϵ_R	2	6	10
% Change in Compliance Cost	A^*	0.10	0.50	1.0
% Change in US Price	P^*_{US}	0.005	0.11	0.34
% Change in Vn Price	P^*_V	-0.004	-0.09	-0.31
% Change in US Demand	D^*	-0.004	-0.15	-0.74
% Change in US Supply	S^*	0.004	0.08	0.25
% Change in Imports from Vietnam	M^*_V	-0.004	-0.18	-0.92
% Change in Imports from ROW	M^*_R	0.01	0.63	3.47



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

