

The Impact of Catfish Imports on the U.S. Wholesale and Farm Sectors

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Background

- Import competition is a relatively new phenomenon to the U.S. catfish industry.
- Prior to 1999, catfish imports accounted for less than 1% of total catfish sales in the U.S.
- Since 2004, imports as a percent of total U.S. sales increased from 3% to over 25% in 2006/07 .
- Since 2003, the primary exporters of catfish to the U.S. have been China and Vietnam.
- In 2006, the U.S. imported 19,843 tons of catfish from Vietnam. The second leading supplier, China, exported 8,545 tons to the United States that year.

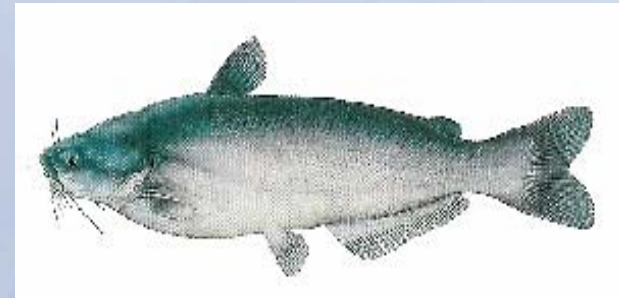


Types of Catfish Species in North America

Channel Catfish
(Ictalurus punctatus)



Blue Catfish
(Ictalurus furcatus)



Flathead Catfish
(Pylodictus olivaris)



Types of Catfish and Catfish-Like Species Imported

Basa (Yellowtail)
(Pangasius bocourti)



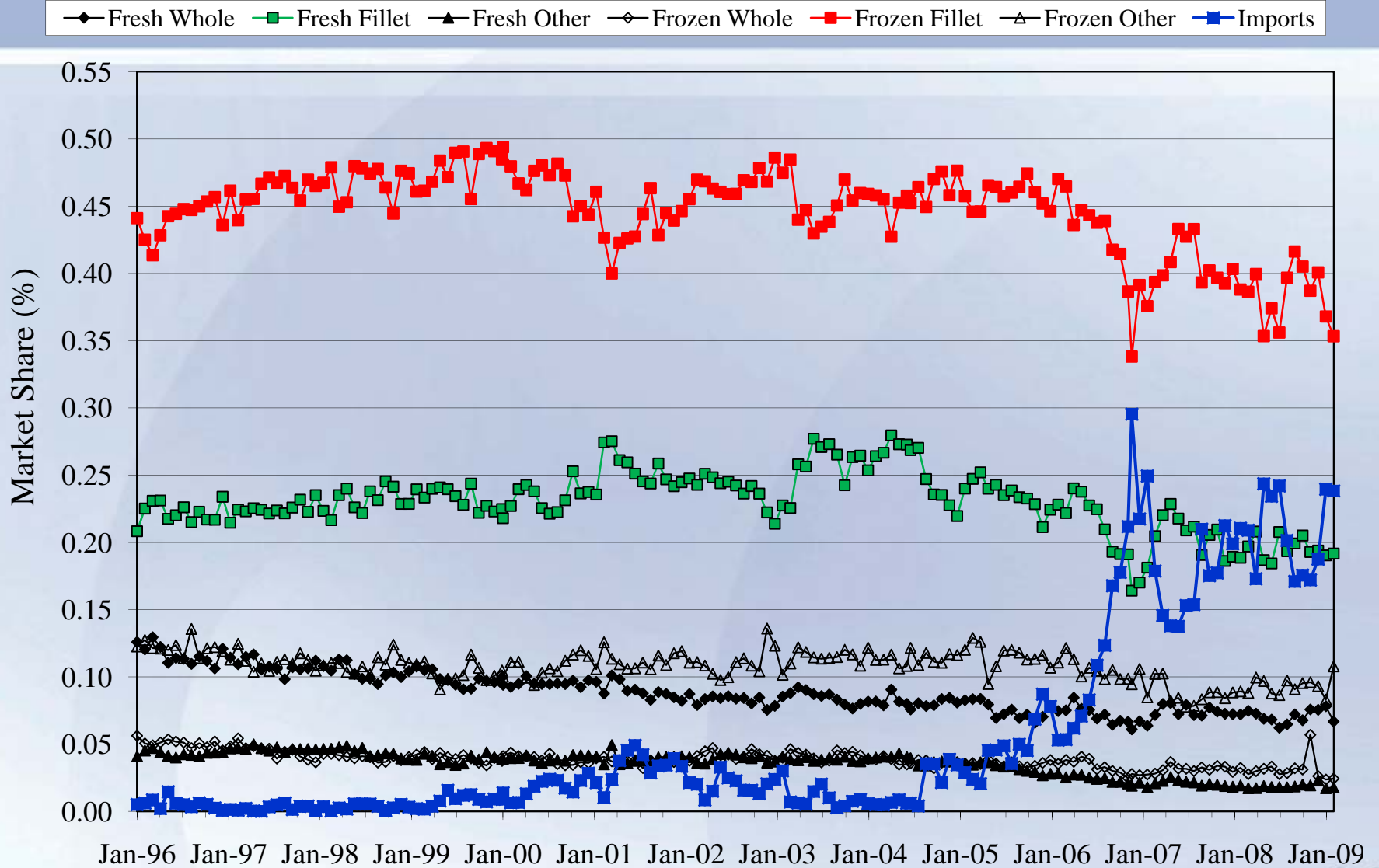
Tra (Sutchi)
(Pangasius hypophthalmus)



Channel Catfish
(Ictalurus punctatus)



U.S. Catfish Sales and Imports: Jan. 1993-Jan. 2009



Source: NASS



Background

- In 2002, Catfish Farmers of America filed a petition with the U.S. International Trade Commission alleging that Vietnamese companies were dumping catfish products into the United States.
- Vietnam was found guilty by the USITC and the Department of Commerce recommended imposing tariffs up to 64% on catfish and catfish-like species coming from specific Vietnamese companies.
- Given the USITC ruling on Vietnam the following questions arise, what is the impact of catfish import prices on the domestic industry, and to what degree do import tariffs benefit domestic processors and farmers?



Study Objectives

- The primary objective of this study is to assess the impact of catfish imports and import tariffs on the U.S. catfish industry, with particular focus on the USITC ruling on Vietnam.
- Specifically, we estimate a simultaneous system of supply and demand equations at the wholesale (processor) and farm level for the U.S. catfish industry accounting for such factors as resource and feed prices, import prices, and other relevant supply and demand determinants
- Supply and demand estimates are used to simulate the effects of the USITC ruling on domestic sales, prices, revenue, and welfare at the wholesale and farm level.



Issues with exports from Vietnam...

- In May 2002, the 2002 Farm Bill specified that the term “catfish” may only be applied to fish classified within the Ictaluridae family.
- This meant that catfish-like species from Vietnam that belong to the Pangasiidae family could not be identified as “catfish” but as *basa* and *tra*.
- In June 2002, Catfish Farmers of America filed a petition with the USITC alleging that Vietnamese companies were dumping catfish into the U.S.
- In June 2003, the USDOC issued its final determination concluding that Vietnamese producers sold frozen catfish fillets at less than fair market value and recommended tariffs ranging from 36.84% to 63.88% to be targeted to specific Vietnamese companies.
- In August 2003, the antidumping duty order was issued against frozen *tra* and *basa* fillets from Vietnam as well.
- In January 2009, the USDOC found that a revocation of the order would likely lead to prolonged or recurring incidents of dumping.
- Consequently, import duties on catfish products from Vietnam remain in effect.



Structural Model: US Catfish Industry

$$(1) \quad QW_D = \alpha_0 + \alpha_L QW_{D(-1)} + \alpha_1 PW + \alpha_2 PR + \alpha_3 PMC + \alpha_4 PMT + \alpha_5 PE \\ + \sum_{i=1}^3 \alpha_{Di} D_i + \varepsilon$$

$$(2) \quad QW_S = \beta_0 + \beta_L QW_{S(-1)} + \beta_1 PW + \beta_2 PF + \beta_3 PE + \beta_4 t + \sum_{i=1}^3 \beta_{Di} D_i + v$$

$$(3) \quad PF = \varphi_0 + \varphi_1 PW + \varphi_2 PFD_{(-24)} + \varphi_3 PE + \varphi_4 t + \omega$$

$$(4) \quad QW_D = QW_S = QW$$

(1) Wholesale demand

(2) Wholesale supply

(3) Farm price (reduced form)

(4) Wholesale market clearing condition



Description of Model Variables and Statistics

Monthly Data: January 1993 to December 2007

Symbol	Description	Unit of measure	Mean	Std Dev	Minimum	Maximum
<i>QW</i>	Processor quantity	1,000 lbs	23,583.16	2,977.40	16,018.00	30,485.00
<i>PW</i>	Processor price	\$/lb	2.30	0.14	2.02	2.59
<i>PF</i>	Farm price	\$/lb	0.72	0.08	0.53	0.96
<i>PR</i>	Seafood retail price index	Index	160.42	11.55	136.60	183.70
<i>PMC</i>	Catfish import price	\$/lb	1.37	0.25	0.89	2.20
<i>PMT</i>	Tilapia import price	\$/lb	1.14	0.20	0.75	1.59
<i>PE</i>	Energy price index	Index	1.39	0.47	0.85	2.71
<i>PFD</i>	Catfish feed price	\$/lb	0.11	0.01	0.09	0.16
<i>t</i>	Trend		1.02	0.45	0.25	1.79
	Seasonal dummy variables					
<i>D1</i>	First quarter		0.25	0.44	-	1.00
<i>D2</i>	Second quarter		0.25	0.44	-	1.00
<i>D3</i>	Third quarter		0.25	0.44	-	1.00

Source: NASS, NMFS and BLS



Estimation Results: 3-Stage Least Squares Estimates

Wholesale Demand (QW_D)	Estimate	Standard Error	t-statistic
<i>constant</i>	22,330.500	4323.220	5.17
$QW_D(-1)$	0.381	0.065	5.85
<i>PW</i>	-9,001.090	1680.070	-5.36
<i>PR</i>	50.742	15.414	3.29
<i>PMC</i>	1,956.700	719.273	2.72
<i>PMT</i>	1,457.860	631.240	2.31
<i>PE</i>	-732.792	488.880	-1.50
<i>D1</i>	3,559.150	342.975	10.38
<i>D2</i>	1,153.990	398.694	2.89
<i>D3</i>	1,613.950	341.919	4.72

Wholesale demand: $R^2 = 0.741$; Durbin-h = -1.492;



Estimation Results: 3-Stage Least Squares Estimates (continue)

Wholesale Supply (QW_S)	Estimate	Standard Error	t-statistic
<i>constant</i>	10,878.800	5767.720	1.89
$QW_S(-1)$	0.420	0.062	6.73
<i>PW</i>	6,228.020	4259.160	1.46
<i>PF</i>	-17,560.800	6375.240	-2.75
<i>PE</i>	-1,942.420	721.905	-2.69
<i>t</i>	2,364.750	692.925	3.41
<i>D1</i>	3,656.560	351.784	10.39
<i>D2</i>	766.721	388.691	1.97
<i>D3</i>	1,396.640	342.501	4.08

Wholesale supply: $R^2 = 0.685$; Durbin-h = -0.855.



Estimation Results: 3-Stage Least Squares Estimates (continue)

Farm Price (<i>PF</i>)	Estimate	Standard Error	t-statistic
<i>constant</i>	-0.448	0.079	-5.66
<i>PW</i>	0.474	0.042	11.31
<i>PE</i>	0.029	0.019	1.54
<i>PFD</i> (-24)	0.789	0.227	3.47
<i>t</i>	-0.054	0.019	-2.79

Farm price: $R^2 = 0.846$; Durbin-w = 1.233.



Short-run and Long-run Elasticities

Wholesale Demand	Short-run		Long-run	
	Estimate	t-statistic	Estimate	t-statistic
Own-price	-0.88	-5.36	-1.42	-7.22
Retail fish index price	0.35	3.29	0.56	3.56
Imported catfish price	0.11	2.72	0.18	2.92
Imported tilapia price	0.07	2.31	0.11	2.43
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Wholesale Supply				
Own-price	0.61	1.46	1.05	1.46
Farm price	-0.53	-2.75	-0.92	-2.85
Energy price index	-0.11	-2.69	-0.20	-2.73
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Import Price				
$\Delta PW^* / \Delta PMC^P$	0.28	4.35	0.29	4.26
$\Delta PF^* / \Delta PMC^P$	0.13	3.57	0.14	3.49
$\% \Delta PW^* / \% \Delta PMC^P$	0.17	4.35	0.17	4.26
$\% \Delta PF^* / \% \Delta PMC^P$	0.26	3.57	0.26	3.57



Policy Analysis

- For the analysis, we assume the highest possible tariff margin and that the tariff is fully passed through to import prices.
- Given that Vietnam accounts for over half of U.S. catfish imports, import prices would increase by about 35% if all imports from Vietnam were assessed a tariff of 63.88%.
- The effect of the actual tariffs on import prices is probably much smaller and the results represent the greatest possible benefit.

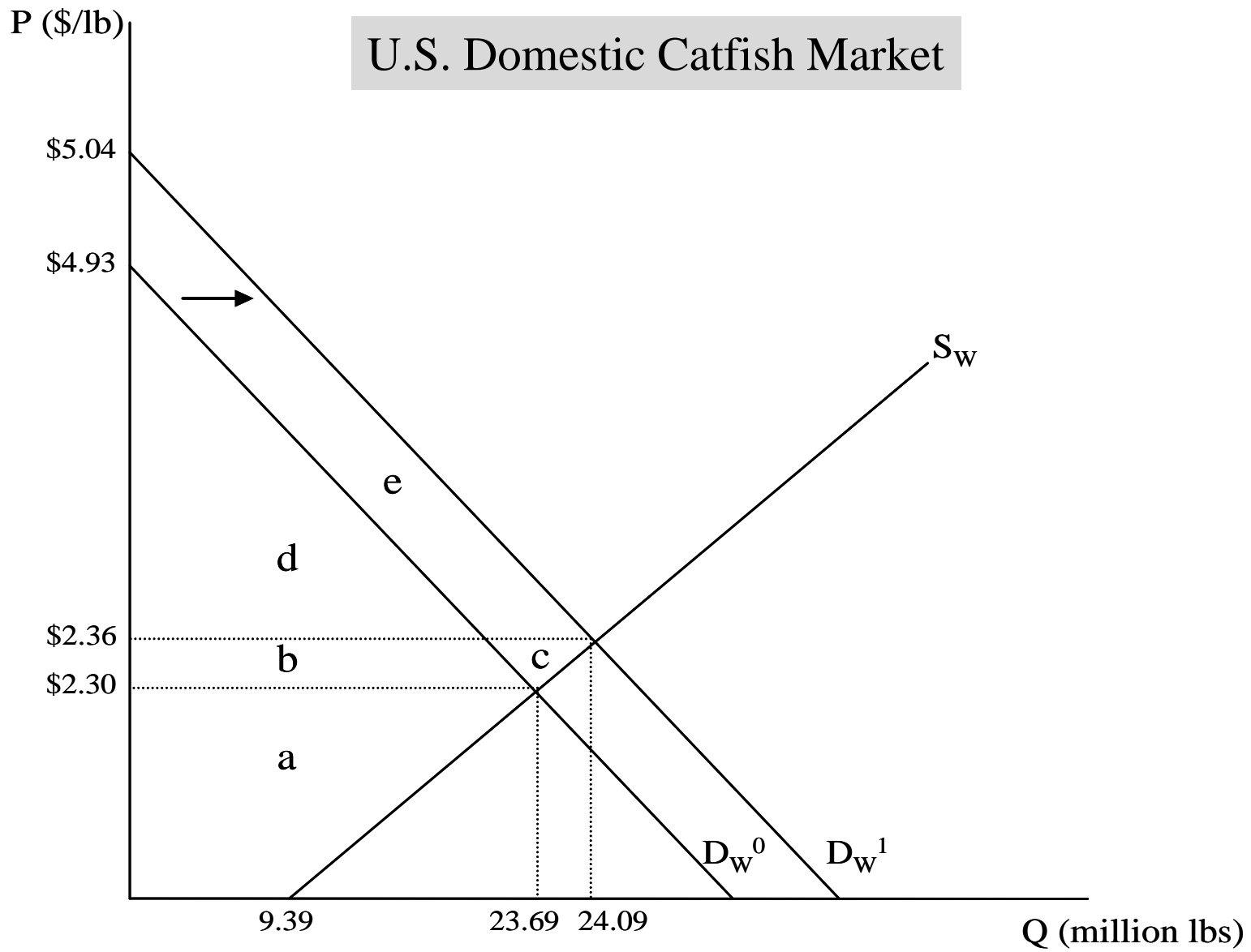


Impact of the Tariff on the U.S. Catfish Industry

	Baseline (equilibrium)	With Tariff	Difference	% change
Wholesale Quantity (1,000 lb)	23,693.52	24,086.46	392.94	1.66
Wholesale Price (\$/lb)	2.30	2.36	0.06	2.65
Farm price (\$/lb)	0.72	0.75	0.03	4.02
Welfare				
Consumer Surplus (\$1,000)	31,184.16	32,227.08	1,042.92	3.34
Processor Surplus (\$1,000)	38,033.90	39,503.68	1,469.78	3.86
Total (\$1,000)	69,218.06	71,730.76	2,512.70	3.63
Revenue				
Processor (\$1,000)	54,484.17	56,852.82	2,368.65	4.35
Farm (\$1,000)	33,953.96	35,905.67	1,951.71	5.75



U.S. Domestic Catfish Market



Summary and Conclusions

- We assumed the maximum possible tariff on catfish imports which resulted in the domestic price of wholesale catfish increasing by \$0.07/lb, and processor sales increasing by 1.33%. The benefit to U.S. farmers was a price increase of \$0.03 per lb.
- Total welfare in the wholesale market increased from \$69.2 million to \$71.7 million, an increase of about 3.63%. The benefit in terms of revenue (sales) for processors and farmers was an increase of 4.35% in processor revenue and 5.75% in farm revenue.



Summary and Conclusions

- These results represented the greatest possible benefit to the U.S. catfish industry using our model. The probable benefit to the U.S. catfish industry could be smaller if imports prices are not fully responsive to tariffs.
- Note that the average import price for the data period was \$1.37/lb. Domestic frozen fillet are about \$2.60 per lb. With a 35% price increase, imports are still significantly cheaper on average.



Thank You!

