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# The Trade Diversion Effects of Food Import Refusals: Are We Exporting Our Food Safety Issues?

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# Increased Awareness on the Safety of Food Imports



The New York Times  
nytimes.com

November 14, 2008

## F.D.A. Detains Chinese Imports for Testing

By GARDINER HARRIS and ANDREW MARTIN

Candy, snacks, bakery products, pet food and other Chinese products that contain milk will be detained at the border until tests prove that they are not contaminated, the federal government announced Thursday.

The [Food and Drug Administration](#) said it issued the [alert](#) because of concern about such products being contaminated with the toxic chemical melamine. It was discovered in infant formula

The New York Times  
nytimes.com

July 11, 2007

## China Not Sole Source of Dubious Food

By ANDRES MARTIN and GRIFF PALMER

An FDA plan to revamp the way it inspects imports, called the Import Strategic Plan, was completed in 2003, but shelved because of budgetary constraints, several former [FDA](#) officials said. The plan would have [focused more on finding potential risks in the food supply using vast quantities of information](#) – from inspectors and manufacturers to foreign governments and consumers – to aim at problem imports.

The New York Times

**The Lede**

The New York Times News Blog

March 26, 2008, 11:20 am

## Honduras Fights U.S. Ban on Its Cantaloupes

By Mike Nizza

Adding his own twist to the Latin American strongman railing against American policies, President Manuel Zelaya of Honduras began talking to journalists on Tuesday. “Here I have the box of melons,” he said, according to CNN. “Permit me to make a demonstration.”

He “cut open the fruit, sliced off a chunk, put it in his mouth and chewed vigorously,” CNN continued, and then unleashed his fiery [anti-American punchline](#):

“I eat this fruit without any fear,” he said with his mouth full. “It’s a delicious fruit. Nothing happens to

# Trade Effects of Import Refusals

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*Are blocked products diverted to other markets?*

**After the melamine case in China:**

- Cheap Chinese-made chocolate available in India right before the festival of Diwali (traditional giving of sweets)

**After antibiotics found in honey from China:**

- Charges that the honey was being transshipped through various countries including Vietnam and Turkey
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# Issues?

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- Concern of health problems being transferred from wealthier countries with more vigorous inspection systems to unsuspecting third countries

**Are wealthier countries exporting their food safety issues?**

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# Objectives

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To analyze the trade diversion and deflection effects of seafood import refusals by the European Union, specifically:

- a) identify whether this non-tariff barrier has substantially altered patterns of trade
  - b) identify whether rejected food is being re-exported to third countries
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# Why Seafood?

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- 1) Seafood largely exported by developing countries
  - 2) Largest source of import refusals in both EU and US
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# Previous Literature

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## Import Refusals:

- Brooks, Buzby, and Regmi (2008)
- Buzby, Unnevehr, and Roberts (2008)
- Baylis, Martens, and Nogueira (2009)

## Seafood:

- Allshouse, Buzby, Harvey and Zorn (2003)
- Anders and Caswell (2007)

## Case Studies:

- Calvin (2003)
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# Data

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- Annual: 1996 to 2008
  - EU seafood import refusals
    - European Commission
    - converted to 6-digit HS codes
  - Global bilateral trade flows
    - United Nations COMTRADE database
    - 6-digit HS codes for seafood products
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# Data

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## Gravity-type variables

- Product of GDP
  - Exchange rate
  - Common language
  - Distance
  - Border
  - Growth of reporter and partner as % of GDP
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# Summary Statistics

## Top 10 World Seafood Products Traded 1996 – 2008 (million USD)

HS code	Description	Average Value	Std Dev	Max	Obs
30192	Eels, live	11.20	30.10	155.00	104
30622	Lobsters, other than frozen	6.92	34.20	298.00	650
30613	Shrimps & prawns, frozen	6.54	39.80	966.00	13,689
160419	Fish nes, prep/pres, not minced	6.12	60.90	924.00	1,768
30612	Lobsters, frozen	5.62	30.10	307.00	572
30331	Halibut, frozen	4.84	13.00	73.30	130
30791	Aq inver nes, fresh or chilled, live	4.16	9.51	45.20	351
160414	Tuna, prep/pres, not minced	4.09	17.70	408.00	5,369
30212	Salmon fresh or chilled, whole	3.71	12.70	104.00	260
160520	Shrimps & prawns, prep/pres	3.19	24.50	579.00	6,903

# Summary Statistics

## Top 10 Europe Seafood Imports 1996 – 2008 (million USD)

HS code	Description	Average			Obs
		Value	Std Dev	Max	
30331	Halibut, frozen	6.59	16.30	73.30	78
30613	Shrimps & prawns, frozen	4.59	15.10	284.00	4,914
160414	Tuna, prep/pres, not minced	3.83	11.40	136.00	2,145
160413	Sardine, prep/pres, not minced	3.57	8.04	51.10	325
30729	Scallops, not live/fresh/chilled	2.50	5.87	37.10	169
30622	Lobsters, other than frozen	2.45	4.92	32.90	377
160416	Anchovies, prep/pres, not minc	2.27	6.82	46.70	299
30563	Anchovies, salt/brine, not dr/sm	2.21	4.47	18.90	130
30749	Cuttle fish & squid	2.16	9.44	141.00	3,003
160520	Shrimps & prawns, prep/pres	2.03	9.13	156.00	2,522

# Summary Statistics

## Top 10 World Seafood Exporters 1996 – 2008 (million USD)

Country	Average Value	Std Dev	Max	Obs
Ecuador	5.05	28.40	607	2,652
Canada	4.65	22.00	307	3,094
Thailand	3.27	28.80	966	15,080
China	3.13	29.60	1,230	15,184
Indonesia	2.61	25.90	791	8,099
Morocco	2.22	12.30	287	4,927
Philippines	2.07	9.29	112	2,496
India	1.97	19.00	605	8,398
Argentina	1.91	12.20	284	3,094
Vietnam	1.66	16.10	477	12,077

# Summary Statistics

## Top 10 Seafood Exporters to Europe 1996 – 2008

(million USD)

Country	Average Value	Std Dev	Max	Obs
Ecuador	4.73	16.40	137.00	1,105
Morocco	3.43	12.30	166.00	2,184
Argentina	2.97	18.10	284.00	1,300
Canada	2.29	7.88	113.00	1,417
India	1.66	8.28	141.00	2,678
Thailand	1.52	5.96	101.00	4,485
Philippines	1.36	6.12	64.70	1,001
China	1.24	11.70	449.00	4,459
Chile	1.18	5.27	60.00	1,534
Indonesia	0.85	3.97	48.60	2,912

# Modified Gravity Model

$$\begin{aligned} \ln \text{Value}_{ijt} = & \alpha_0 + \alpha_1 \text{totEUref}_{jt} + \alpha_2 \ln \text{GDP}_{ijt} + \\ & \alpha_3 \text{ExRate}_{ijt} + \alpha_4 \text{ComLanguage}_{ij} + \\ & \alpha_5 \ln \text{Distance}_{ij} + \alpha_6 \text{Border}_{ij} + \\ & \alpha_7 \text{Growth}_{it} + \alpha_8 \text{Growth}_{jt} + \varepsilon_{ijt} \end{aligned}$$

i=importer, j=exporter, t=year

- Estimation: random effects GLS
  - panel variable is country pair x HS code

# (Very Preliminary) Results

Variable	Importer in EU and refusal in place		Importer not in EU	
	Coefficient	St. Error	Coefficient	St. Error
totEUref <sub>j</sub>	-0.1273***	0.0213	0.0796***	0.0040
lnGDP <sub>ij</sub>	-0.2809	0.4741	-0.0847**	0.0395
ExRate <sub>ij</sub>	0.4149*	0.2476	-0.0020	0.0037
ComLanguage <sub>ij</sub>	-2.3485*	1.3031	0.0770	0.1545
lnDistance <sub>ij</sub>	2.2222***	0.5914	0.1045	0.0675
Border <sub>ij</sub>	0.0497	4.3706	0.1965	0.2269
Growth <sub>i</sub>	0.5225***	0.1524	0.0558***	0.0108
Growth <sub>j</sub>	0.0573	0.0634	0.0310***	0.0115

Note: asterisks indicate levels of significance: \*\*\* = 1%, \*\* = 5%, \* = 10%

# Discussion

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- EU seafood refusals:
    - Decrease exports to the EU
    - + Increase exports to third countries
  - Common language, sharing a border and exchange rate are not very important for trade
  - Economic growth in both importer and exporter increases trade
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# Discussion

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## Unexpected results:

- Product of GDP negatively affects trade
- Distance positively affects trade
  - Capturing the fact that most seafood trade goes from developing to developed countries?

**Model is fairly robust to different specifications**

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# Next Steps

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- Add more country specific characteristics as control variables
  - Identify where exactly the refused products are going
  - Extend the products to cover more food products, not just seafood
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**Suggestions?**  
**Comments?**  
**Questions?**