

# The Instruments of Trade Policy

(Krugman, Obstfeld, Melitz: Chapter 9)

Lê Vũ Quân

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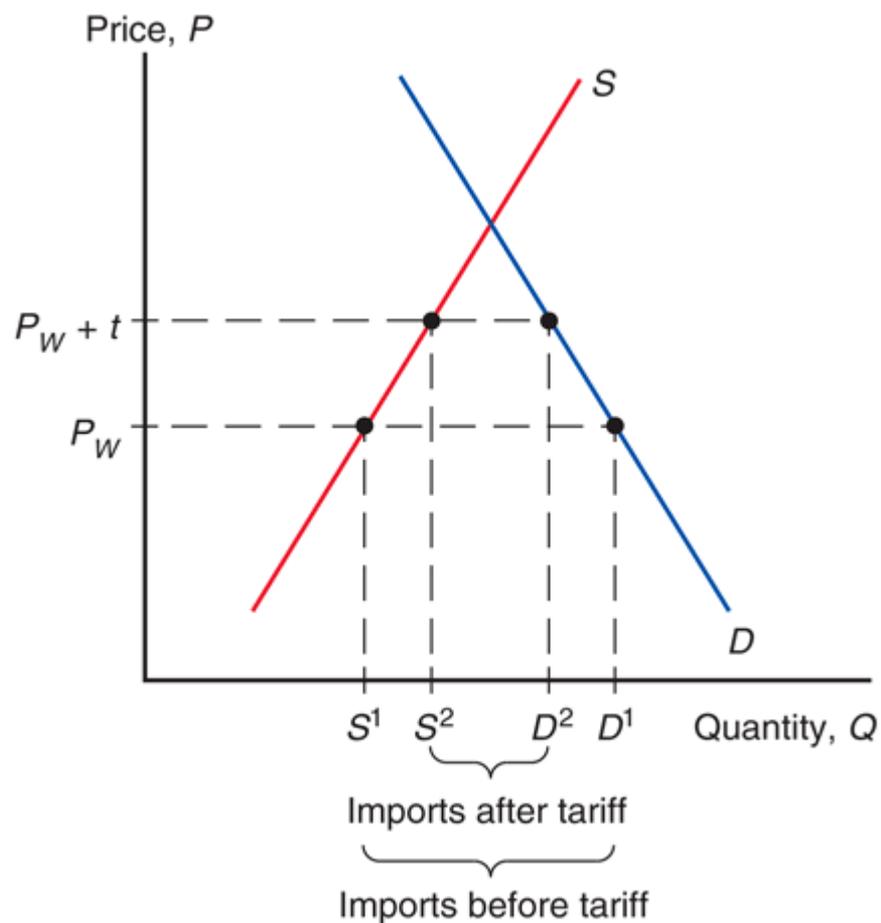
# Review of Microeconomics

- To understand this chapter students need to review some basic microeconomic concepts on their own.
  - Supply and demand
  - Consumer surplus and producer surplus
  - Elasticity

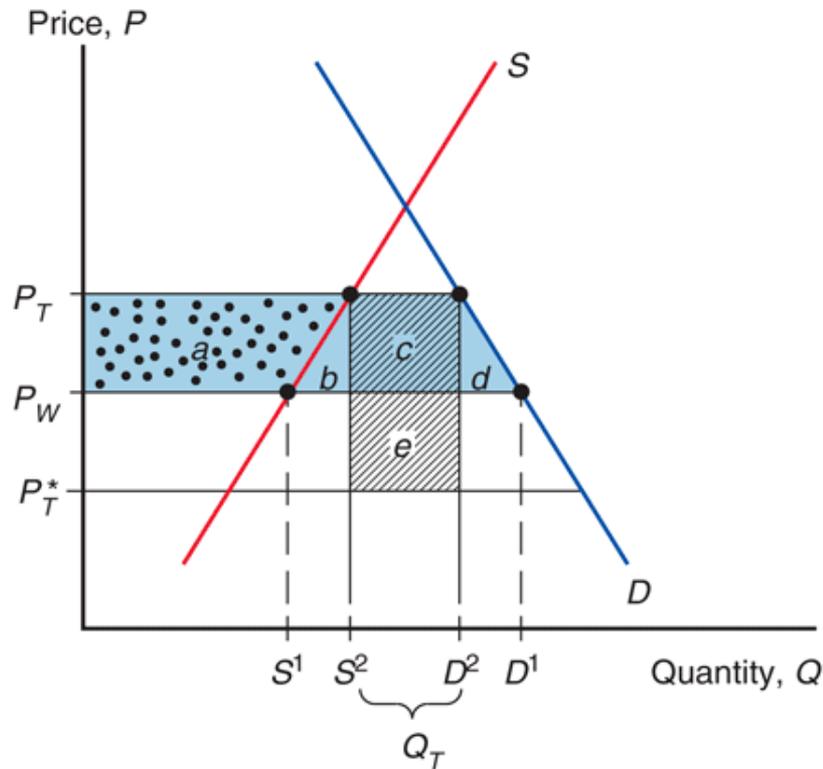
# Tariffs

- A tariff raises the price of a good in the importing country, so it hurts consumers and benefits producers there.
- In addition, the government gains tariff revenue.
- How to measure these costs and benefits?
- Use the concepts of consumer surplus and producer surplus.

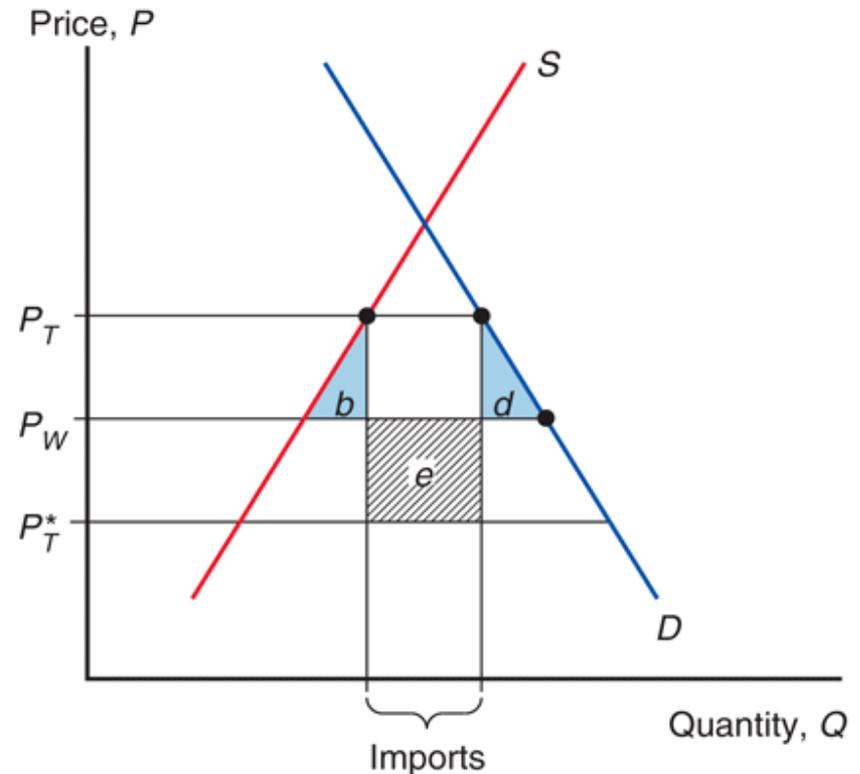
# A Tariff in a Small Country

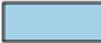


# Costs and Benefits of a Tariff for the Importing Country



-  = consumer loss ( $a + b + c + d$ )
-  = producer gain ( $a$ )
-  = government revenue gain ( $c + e$ )



-  = efficiency loss ( $b + d$ )
-  = terms of trade gain ( $e$ )

# Measuring the Costs and Benefits of Tariffs

- For a “large” country, whose imports and exports affect world prices, the welfare effect of a tariff is ambiguous.
- The triangles  $b$  and  $d$  represent the **efficiency loss**.
  - The tariff distorts production and consumption decisions: producers produce too much and consumers consume too little.
- The rectangle  $e$  represents the **terms of trade gain**.
  - The tariff lowers the Foreign price, allowing Home to buy its imports cheaper.

# Measuring the Costs and Benefits of Tariffs (Cont)

- Part of government revenue (rectangle  $e$ ) represents the terms of trade gain, and part (rectangle  $c$ ) represents some of the loss in consumer surplus.
  - The government gains at the expense of consumers and foreigners.
- If the terms of trade gain exceed the efficiency loss, then national welfare will increase under a tariff, at the expense of foreign countries.
  - However, foreign countries are apt to retaliate.

# Average Tariffs

- Calculate average tariffs using trade-weighted method.
- Anderson and van Wincoop report that in 1999, the trade-weighted average tariff rate ranged from 0 to 30 percent across different countries.
  - Developing countries: more than 10 percent
  - Developed countries: 0 to 5 percent

# Import Quota

- An import quota is a restriction on the quantity of a good that may be imported.
- This restriction is usually enforced by issuing licenses or quota rights.
- A binding import quota will push up the price of the import because the quantity demanded will exceed the quantity supplied by Home producers and from imports.
- When a quota instead of a tariff is used to restrict imports, the government receives no revenue.
  - Instead, the revenue from selling imports at high prices goes to quota license holders.
  - These extra revenues are called **quota rents**.

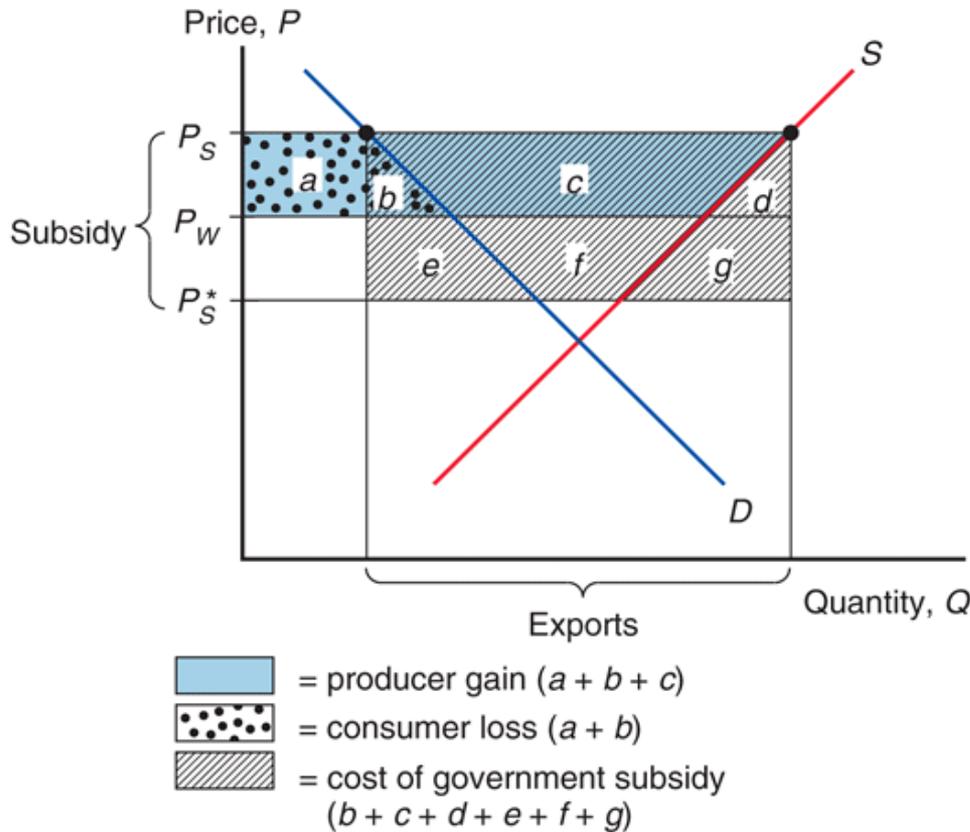
# Voluntary Export Restraint (VER)

- A **voluntary export restraint** works like an import quota, except that the quota is imposed by the exporting country rather than the importing country.
- These restraints are usually requested by the importing country.
- The profits or rents from this policy are earned by foreign governments or foreign producers.
  - Foreigners sell a restricted quantity at an increased price.

# Export Subsidy

- An export subsidy raises the price in the exporting country, decreasing its consumer surplus (consumers worse off) and increasing its producer surplus (producers better off).
- Also, government revenue falls due to paying  $s X_S^*$  for the export subsidy.
- An export subsidy lowers the price paid in importing countries  $P_S^* = P_S - s$ .
- In contrast to a tariff, an export subsidy worsens the terms of trade by lowering the price of exports in world markets.

# Effects of an Export Subsidy



An export subsidy damages national welfare.

The triangles  $b$  and  $d$  represent the **efficiency loss**.

The area  $b + c + d + f + g$  represents the **cost of the subsidy paid by the government**.

The terms of trade *decrease*, because the price of exports falls.

# Local Content Requirement

- A **local content requirement (LCR)** is a regulation that requires a specified fraction of a final good to be produced domestically.
- It may be specified in value terms, by requiring that some minimum share of the value of a good represent home value added, or in physical units.
- Local content requirement provides neither government revenue (as a tariff would) nor quota rents.
- Instead, the difference between the prices of home goods and imports is averaged into the price of the final good and is passed on to consumers.

# Other Trade Policies

- Export credit subsidies
  - A subsidized loan to exporters
  - U.S. Export-Import Bank subsidizes loans to U.S. exporters.
- Government procurement
  - Government agencies are obligated to purchase from home suppliers, even when they charge higher prices (or have inferior quality) compared to foreign suppliers.
- Bureaucratic regulations (red tape)
  - Safety, health, quality, or customs regulations can act as a form of protection and trade restriction.

# Effects of Alternative Trade Policies

<b>Policy</b>	<b>Tariff</b>	<b>Export Subsidy</b>	<b>Import Quota</b>	<b>Voluntary Export Restraint</b>
Producer surplus	Increases	Increases	Increases	Increases
Consumer surplus	Falls	Falls	Falls	Falls
Government revenue	Increases	Falls (government spending rises)	No change (rents to license holders)	No change (rents to foreigners)
Overall national welfare	Ambiguous (falls for small country)	Falls	Ambiguous (falls for small country)	Falls

# International Trade: Why We Don't Have More of it

Edith Ostapil and Kei-Mu Yi

- International trade enhance a society's economic well-being because it facilitates specialization in production.
- Why and how trade costs reduce trade?
- Barriers to international trade prevent the efficient outcome of specialization.

# Two Main Types of Trade Costs

- Border-related costs
  - Tariffs, quotas, and paperwork due to customs and regulations, different currencies, languages, contract enforcement.
- International transportation costs
  - Freight charges (trucking, shipping, and air charges), and transport time.

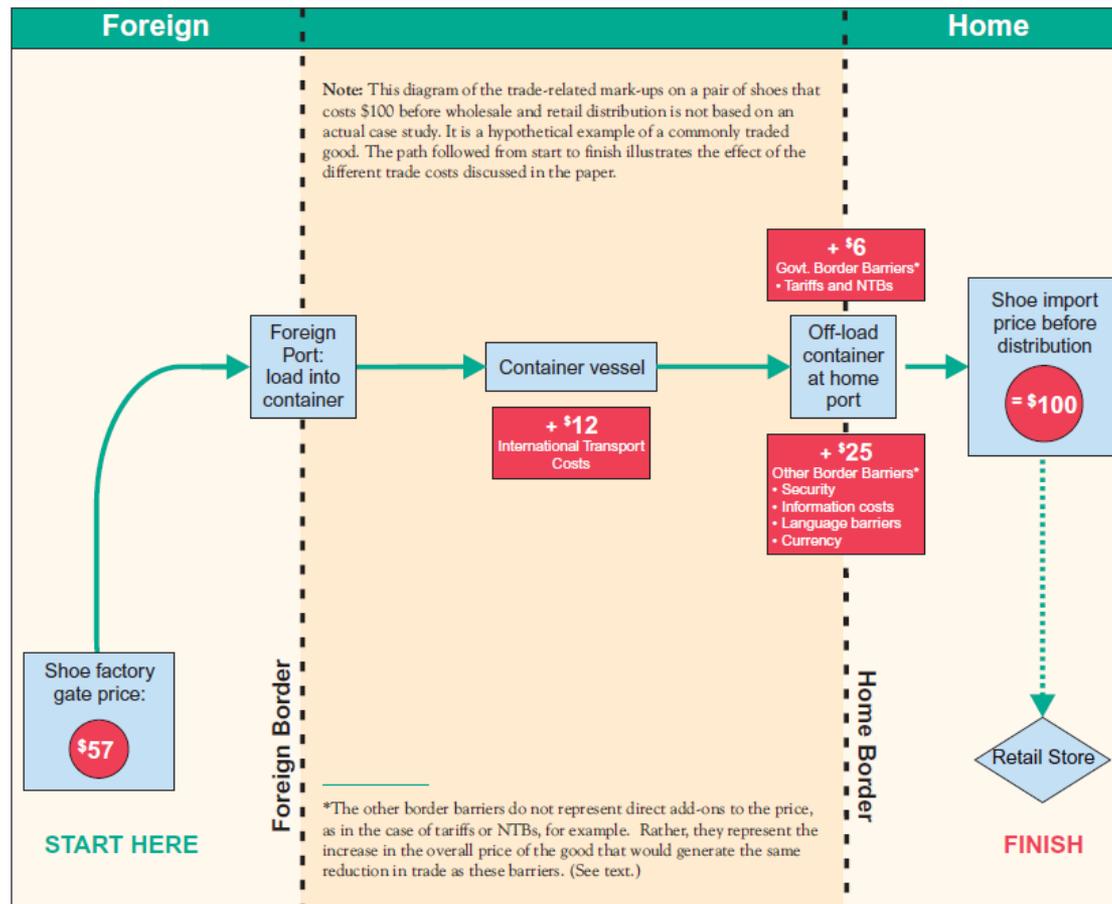
# A Breakdown of Trade Costs

## A Breakdown of Trade Costs\*

Description	Percent Markup over the Price of the Good
time costs	9
+ shipping costs	11
<b>Total Transport Costs</b>	<b>21</b>
tariffs and NTBs	8
language costs	7
currency costs	14
information costs	6
+ security costs	3
<b>Total Border-Related Barriers</b>	<b>44%</b>
<b>TOTAL</b>	<b>74%</b>

\* The table presents the various trade costs described in this paper, along with categorical sub-totals and the final total. In totaling these components of the overall trade cost, recall the multiplicative accounting procedure employed by Anderson and van Wincoop, described in detail on page 25.

# From Factory Gate Price to Retail Store



# Trade Costs

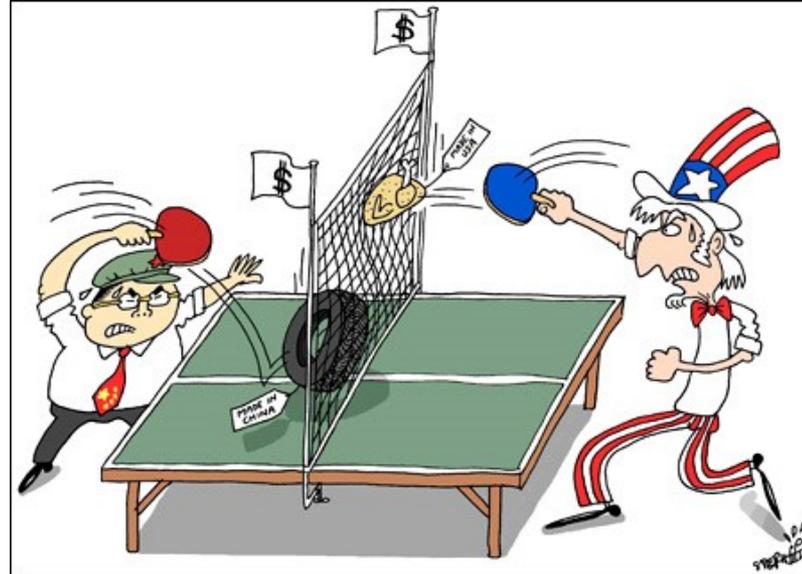
- James Anderson and Eric van Wincoop find that border barriers and international transport costs are equivalent to a 74 percent tax on the factory gate price.
- Conclusion: Costs to international trade are quite high.
  - Nonpolicy barriers account for the vast majority of total trade costs
  - Policy barriers (tariffs and quotas) play a smaller role

# Case Study: Retaliation Tariffs

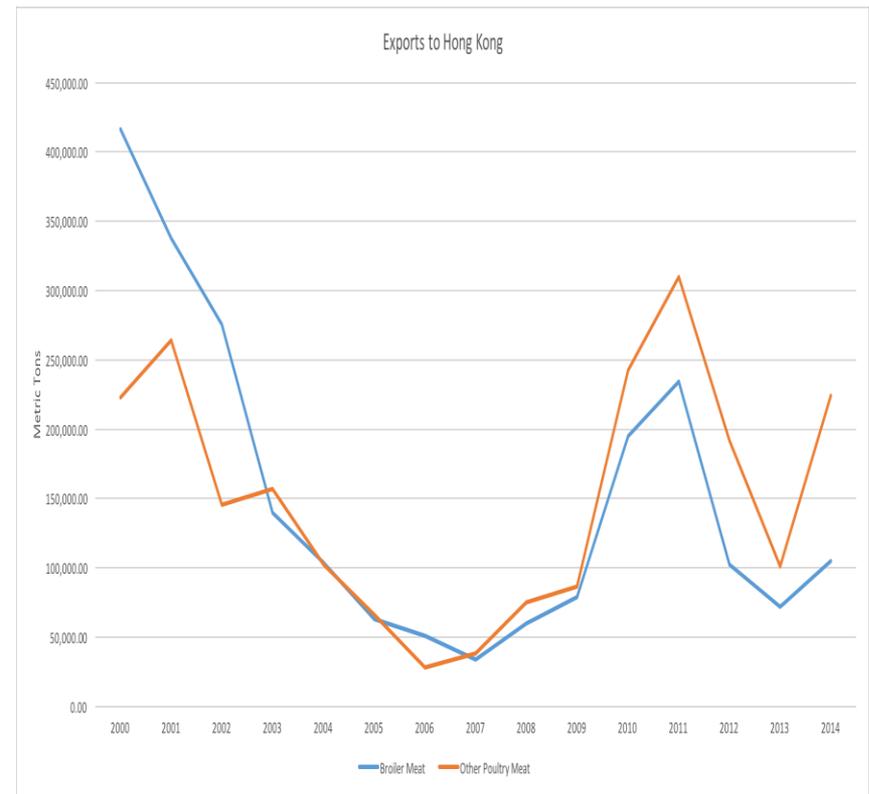
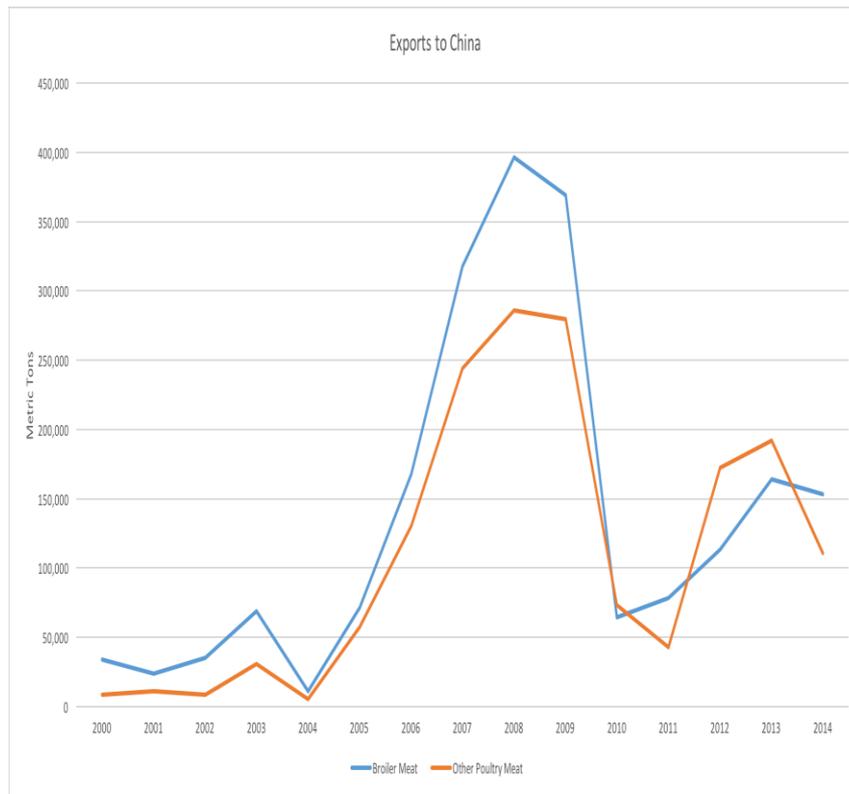
- 2001 - China joins WTO
- 2003 - China approves importation of US chicken
- US Poultry Producers benefit: sell leftover parts (feet) at higher prices
- Chinese Consumers benefit: better supplies of meaty feet
- 2009 - Obama Admn. imposes tariffs on Chinese tires
- 2010 - China retaliates with tariffs on US Chicken

# The Consequences

- “Black market” trade through Hong Kong
- Higher prices for Chinese consumers
- Chinese consumer backlash

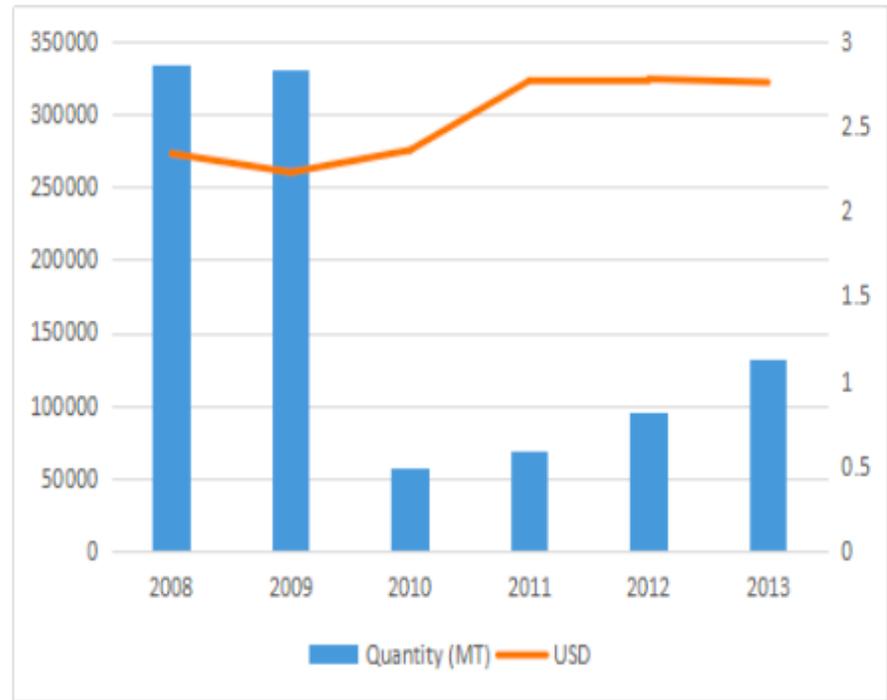
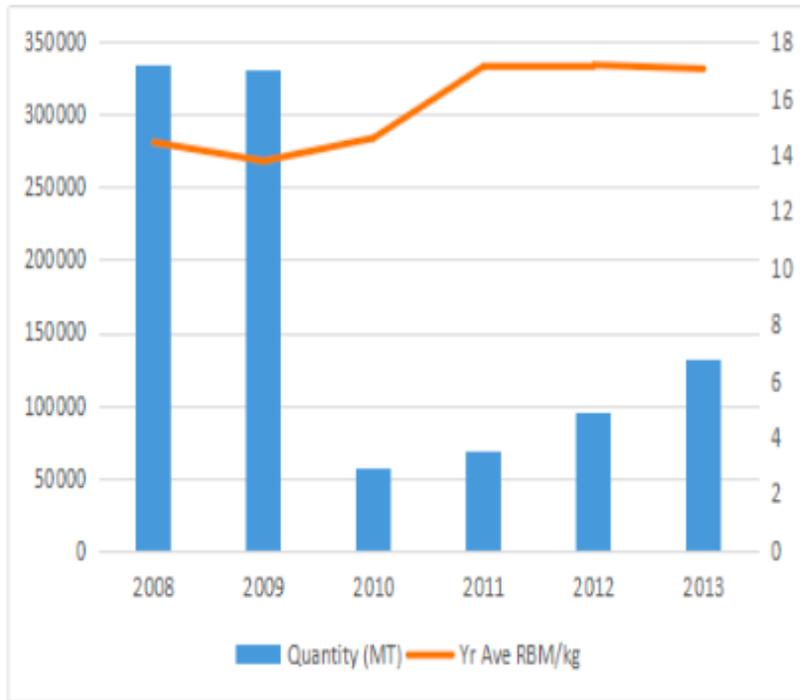


# “Black Market” Trade through Hong Kong



Data Sources: USDA Foreign Agricultural Service's Global Agricultural Trade System(GATS)

# Quantity Imported by U.S. Price in China



# Winners and Losers

## Winners

- **US tire producers:** in terms of higher prices not necessarily production. US tire makers kept focusing on higher price tires and other countries took on the substitution of China's low cost imports.
- **Chinese poultry producers:** not only were they able to charge higher prices but their production increased 3.72% from 2009 to 2010 and 5.18% from 2010 to 2011.
- **Black market providers:** once direct imports became expensive, a black market for poultry grew. This led to smuggling of chicken parts, and to shipment via a third country for relabeling before importing them to China without the tariff costs

## Losers

- **Chinese Tire producers:** their exports to the US went from 13 million to 5.6 million after the tire tariffs took effect a 67% decrease in what they were exporting. They had 32% of US tire imports that went down to 11% in 2011.
- **US tire consumers:** the unit cost of all tires, both US made and imported from China and other countries increased with Chinese car tires seeing a 26% increase and other tires seeing percentage increases in the teens.
- **US poultry producers:** they went from exporting about 330,000 MT in 2009 to 55,785 MT in 2010 to China. They also lost most of the benefit of a market buying what used to be non-consumer chicken parts.
- **Chinese poultry consumers:** the cost of broiler chicken in China rose from an average 13.78 RBM/kg in 2009 to an average 17.13RBM/kg in 2011.