

# PubPol/Econ 541

Class 12

## **Export Policies**

by

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# Announcement

- Quiz Scores

	Q1	Q2	Q3	Q4	Q5
Mean	8.97	7.21	6.50	8.66	9.00
Median	9	7.5	6.5	9	9
Max	10	9.5	9.5	10	10
Min	6.5	4	4	5	7
S.D.	1.09	1.70	1.72	1.31	0.83

# Announcement

- Tuesday, 10/19: No class (Fall Break)
- Thursday, 10/21
  - I'm revising the assigned reading, my paper "Trade Policy with Interacting Markets"
    - Current version is fine for first few models, but I may make meaningful changes in later ones
  - I'll announce when the new version is posted.

# Announcement

- Quizzes
  - Quiz 6 on NTBs & Export taxes this Thursday Oct 14
  - No quiz Oct 21
  - Quiz 7 Oct 28

# Paper #1 Feedback

- Rent is not deadweight loss
- Why consumer cost per job saved
- Discussion different for policy already in place than for a prospective one
- Partial equilibrium and other markets:
  - Not that they don't exist or don't matter
  - Just that their prices are held fixed
- I now suggest using 3 significant digits, not less
- Report the elasticities that you use
- Foreign lost sales are not a welfare loss
  - Revenue falls, but so does cost.

# For this Thursday

- If you've time and interest,
  - Read optional Scott and view optional Trade Talk, both on trade & women
  - Read this week's *Economist* articles (now linked to Canvas in syllabus)
    - The urge to protect: How trade restrictions are being used as a tool to protect human rights
    - Making trade greener: When environmental protection turns into trade protection
- Think of ways that trade may hurt or help, such as
  - Gender inequality
  - Racial inequality
  - Income and wealth inequality
  - Environment
  - Exploitation
  - And more...?

# Outline

- Export policies
- How common are they
- Economic analysis
- Empirics of export restrictions
- Recent uses

# Export policies

- Types of export policies
  - Bans
  - Taxes
  - Subsidies



# Export policies

- Reasons for export policies
  - Bans
    - To keep products away from other countries
    - To lower prices to home consumers
  - Taxes
    - To raise revenue
    - To lower prices to home consumers
  - Subsidies (see later, Dec 7. Not GATT-legal)
    - To support domestic producers

# Outline

- Export policies
- **How common are they**
- Economic analysis
- Empirics of export restrictions
- Recent uses

# How common are export taxes

- See Laborde et al.
- Note first why they've been neglected:
  - Countries mostly want to export more, not less
- Export taxes are used by about 1/3 of WTO members
- Average was 0.48% per cent in 2007
  - This is less than half a percent. This must be an average of ones that are zero.

# How common are export taxes

- Export taxes are concentrated on
  - Raw agricultural products
  - Minerals
  - Processed oilseeds
  - Aluminum and iron
  - Timber.
  - Energy products (esp. Russia natural gas)

TABLE 3  
Average Export Taxes (Per Cent), by Sector

<i>Code Sector GTAP7</i>	<i>Sector</i>	<i>Trade-weighted Export Tax</i>
GAS	Gas	24.1
FRS	Forestry	8.9
VOL	Vegetable oils and fats	5.7
OIL	Oil	3.9
CMT	Bovine meat products	2.3
OSD	Oilseeds	2.0
P_C	Petroleum, coal products	1.8
OCR	Crops n.e.c.	1.7
GRO	Cereal grains n.e.c.	1.3
WHT	Wheat	1.3
OMN	Minerals n.e.c.	0.8
LUM	Wood products	0.5
NFM	Metals n.e.c.	0.3
CTL	Bovine cattle, sheep and goats, horses	0.3
PFB	Plant-based fibres	0.2
PDR	Paddy rice	0.2
LEA	Leather products	0.2
WOL	Wool, silk-worm cocoons	0.2
COA	Coal	0.2
V_F	Vegetables, fruit, nuts	0.1

**Note bias:**  
High taxes  
cause less  
trade and  
lower  
weight.

Note:

(i) n.e.c., not elsewhere classified.

Source: Authors' computation.

TABLE 4  
Average Export Taxes (Per Cent), Top 20 Countries

<i>Code</i>	<i>Country GTAP7</i>	<i>Country</i>	<i>Trade-weighted Export Tax</i>
RUS		Russian Federation	23.1
ARG		Argentina	9.1
XWF		Rest of Western Africa	4.3
XNF		Rest of North Africa	3.8
BLR		Belarus	2.0
XSU		Rest of former Soviet Union	1.9
XOC		Rest of Oceania	1.6
XCF		Rest of Central Africa	1.3
IDN		Indonesia	1.0
BOL		Bolivia	1.0
LAO		Lao People's Democratic Republic	0.8
XSC		Rest of South African Customs Union	0.7
AUS		Australia	0.6
IND		India	0.5
UGA		Uganda	0.5
ZAF		South Africa	0.4
MOZ		Mozambique	0.4
NOR		Norway	0.4
MAR		Morocco	0.4
MYS		Malaysia	0.3

Source: Authors' computation.

# Pause for Discussion

# Questions on Laborde et al.

- In 2006, what sector had the most export taxes?
- What are some of the motives for export taxes mentioned?



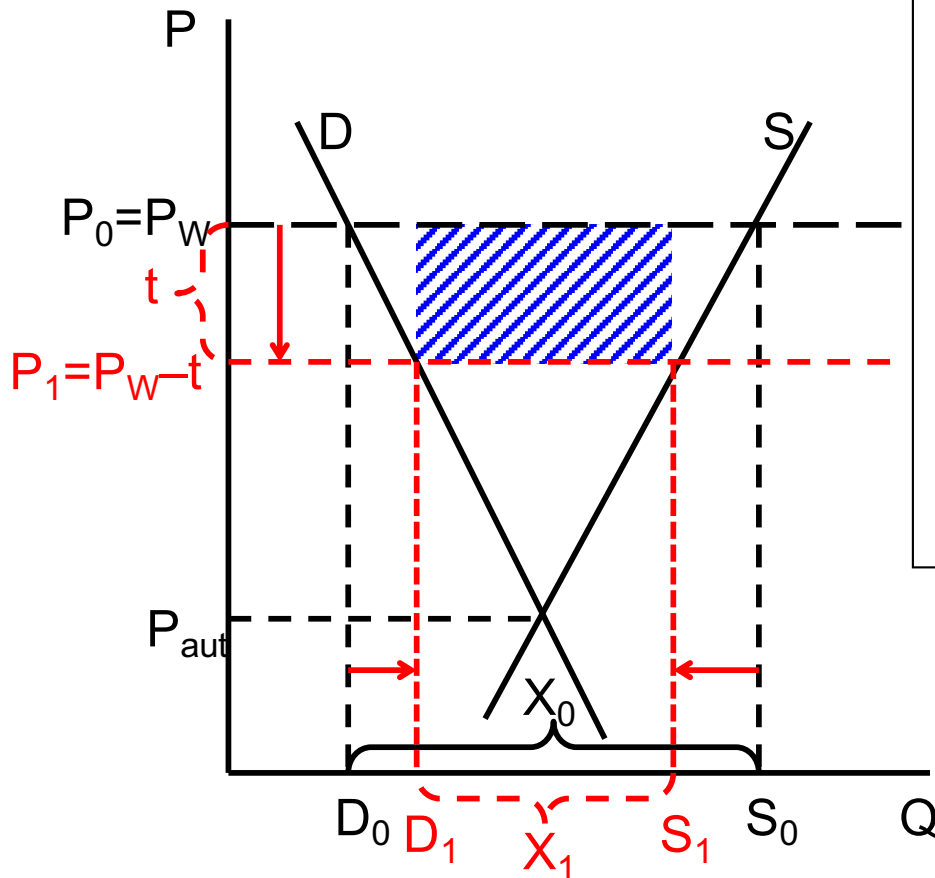
# Outline

- Export policies
- How common are they
- **Economic analysis**
- Empirics of export restrictions
- Recent uses

# Economic Analysis

- Use the same tools and assumptions as for tariffs
- Export tax causes domestic price to be below the world price by the amount of the tax (if country still exports)
- Why? If suppliers continue to sell both at home and for export,
  - They must get the same at home as for export
  - And that is the world price minus the tax

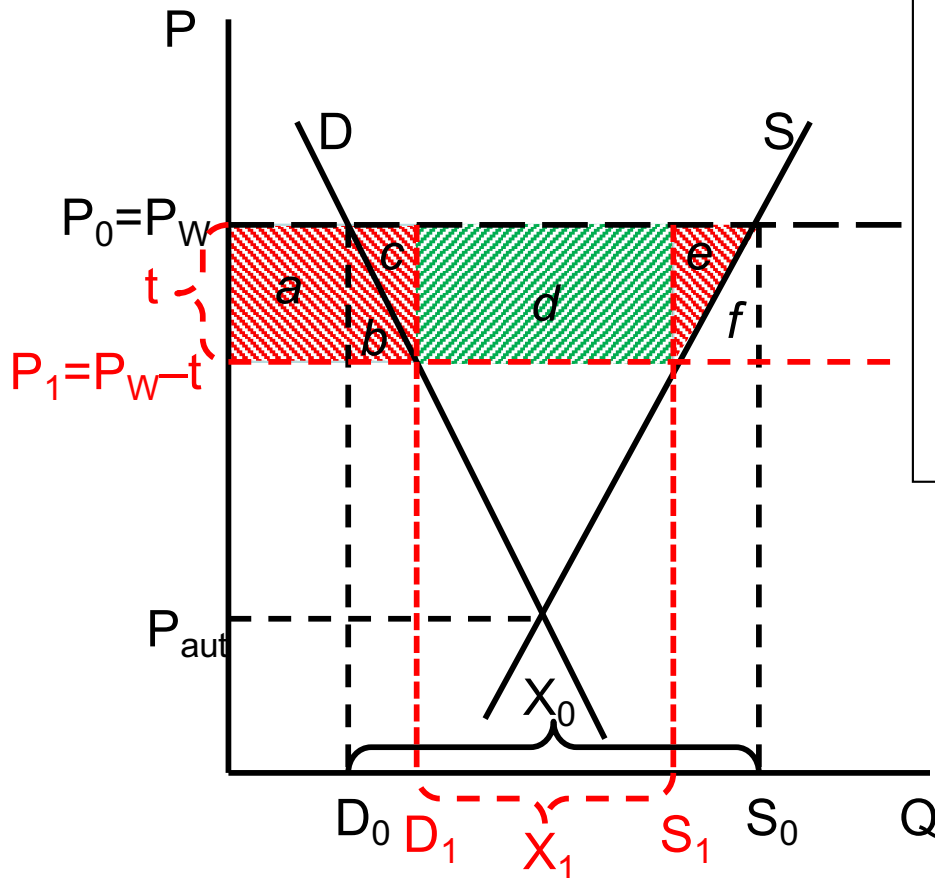
# Small country export tax



- Effects of an export tax, starting from free trade
  - Price falls
  - Quantity demanded rises
  - Quantity supplied falls
  - Quantity of exports falls
  - Tax revenue rises from zero

Specific Export Tax  $t$

# Small country export tax

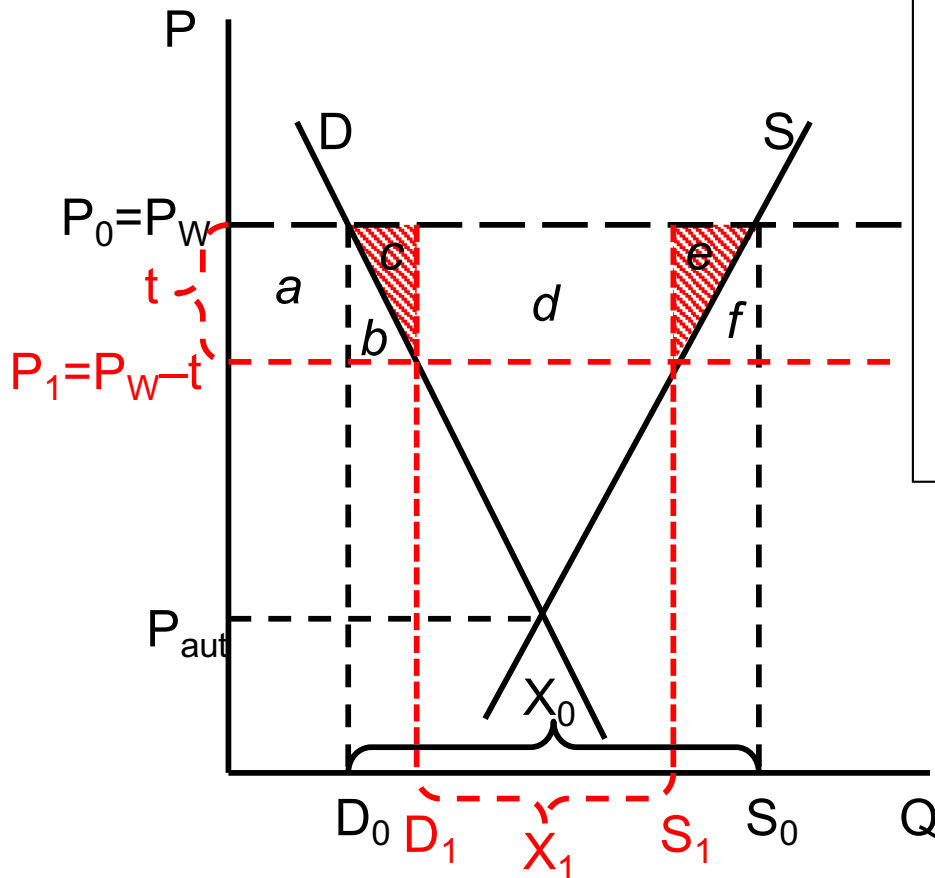


- Welfare effects of an export tax, starting from free trade
  - Suppliers lose  $-(a+b+c+d+e)$
  - Demanders gain  $+(a+b)$
  - Government gains  $+d$
  - Country loses  $-(c+e)$

*“Dead Weight Loss” =*

## Specific Export Tax $t$

# Small country export tax

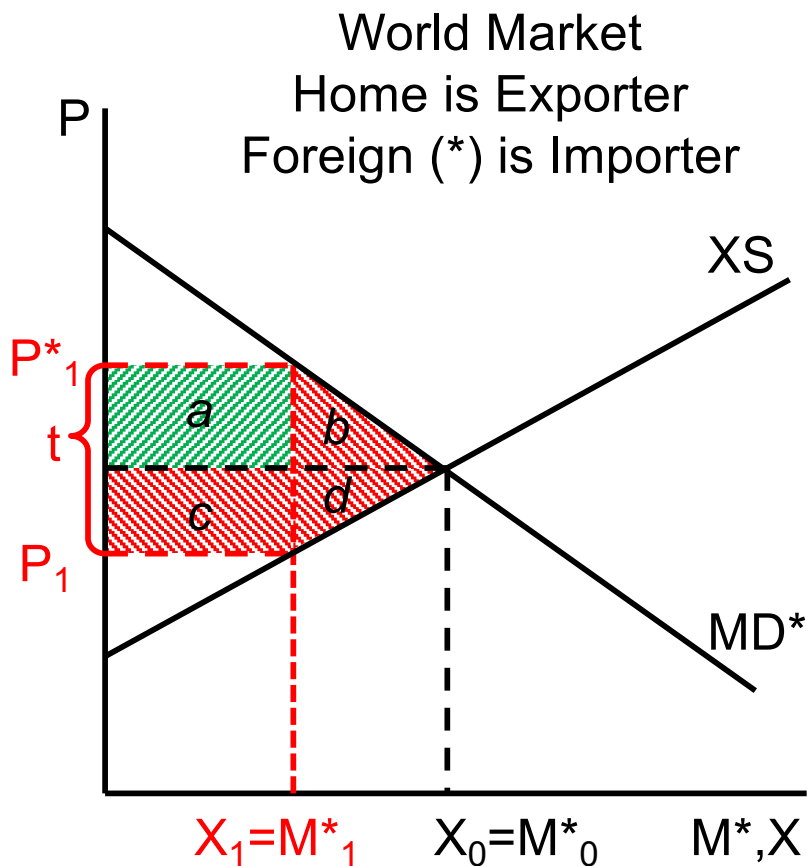


- Welfare effects of an export tax, starting from free trade
  - Suppliers lose  $-(a+b+c+d+e)$
  - Demanders gain  $-(a+b)$
  - Government gains  $+d$
  - Country loses  $-(c+e)$

*“Dead Weight Loss” =*

## Specific Export Tax $t$

# Large country, World Market



Welfare effects of a large-country tariff, starting from free trade

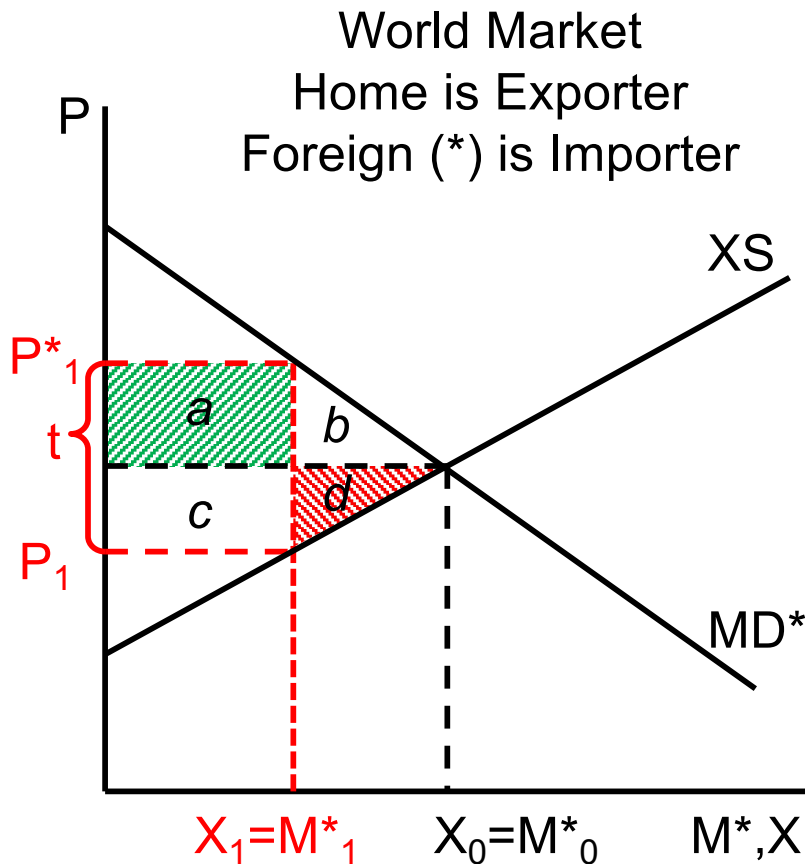
- Home:
 

Private sector (S&D) loses	$-(c+d)$
Government gains	$+(a+c)$
<hr/>	
Country may gain or lose:	$+a-d$
- Foreign
 

Private sector (S&D) loses	$-(a+b)$
<hr/>	
World loses	$-(b+d)$

*“Dead Weight Loss” =*

# Large country, World Market



Thus large country, again, will gain from export tax if  $a > d$

- What is area  $a$ ?
  - The portion of the tax paid by foreign importers, who pay a higher price
  - A transfer from foreign demanders to the home government
  - The result, again, of improving the home country's

“terms of trade”

“Terms of Trade”  $\equiv$  Relative price of exports  $= P^X/P^M$

# Pause for Discussion



# Questions

## (not asked about readings)

- Explain why an export tax pushes down the price at home.
- Explain why an export tax pushes up the price abroad.
- Who are hurt and who are helped by an export tax?
- Statement above said
  - “Export tax causes domestic price to be below the world price by the amount of the tax (if country still exports)”
  - What happens if exports stop?

# Outline

- Export policies
- How common are they
- Economic analysis
- **Empirics of export restrictions**
- Recent uses

# Empirics

- Laborde et al.
  - Use computer model of trade to quantify the effects of removing export taxes that existed in 2007
  - (CGE Model = Computable General Equilibrium Model)

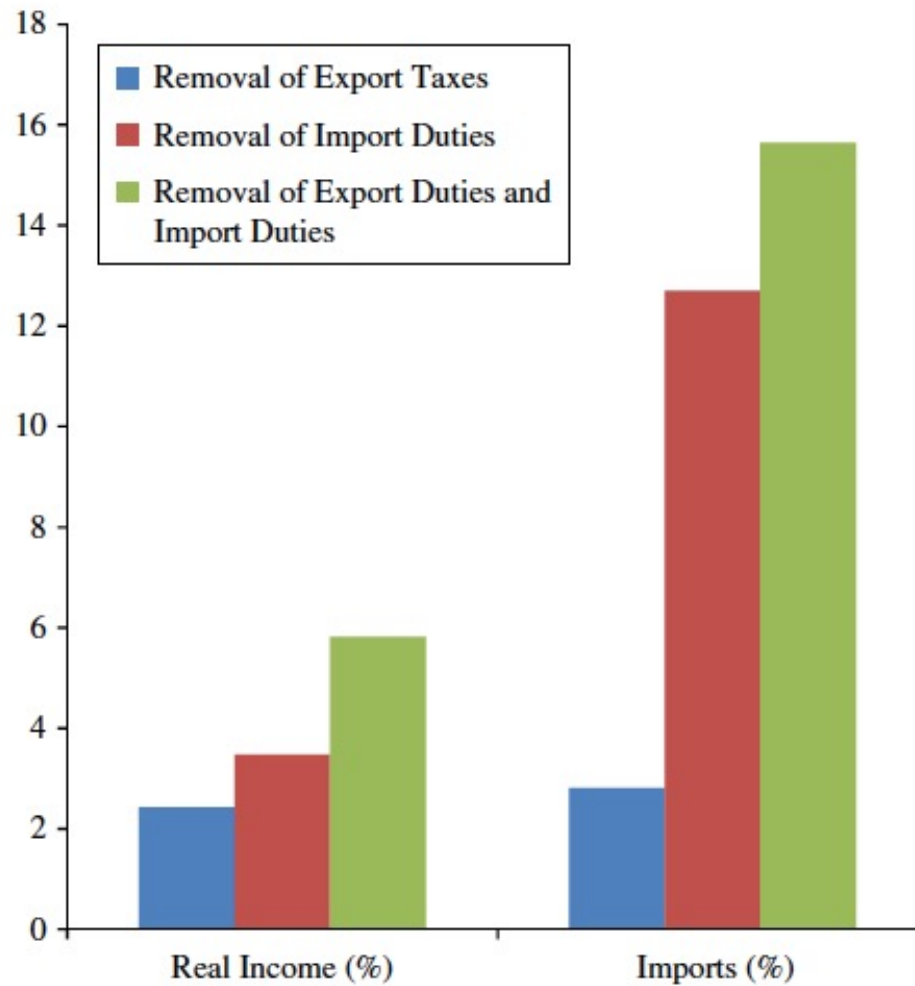
# Empirics

- Findings: Export tax removal causes
  - an overall gain of 0.24 per cent in world real income
    - +1.6 per cent in oil-exporting countries,
    - +0.2 per cent in developed countries and
    - +0.1 per cent in other developing countries.
  - boosts world trade volumes by 2.8 per cent
  - reduces the world price of these products.

# Empirics

- Findings
  - The largest winner is the CIS block (whose real income increases by 3.5 per cent)
  - Other oil exporters are negatively hit
  - Importing countries can benefit
  - May cause deindustrialization
  - Despite their much smaller size, export taxes effects on real incomes are more than half those of import taxes

FIGURE 6  
Comparing Elimination of Tariff Export Restrictions and Import Restrictions



Note:

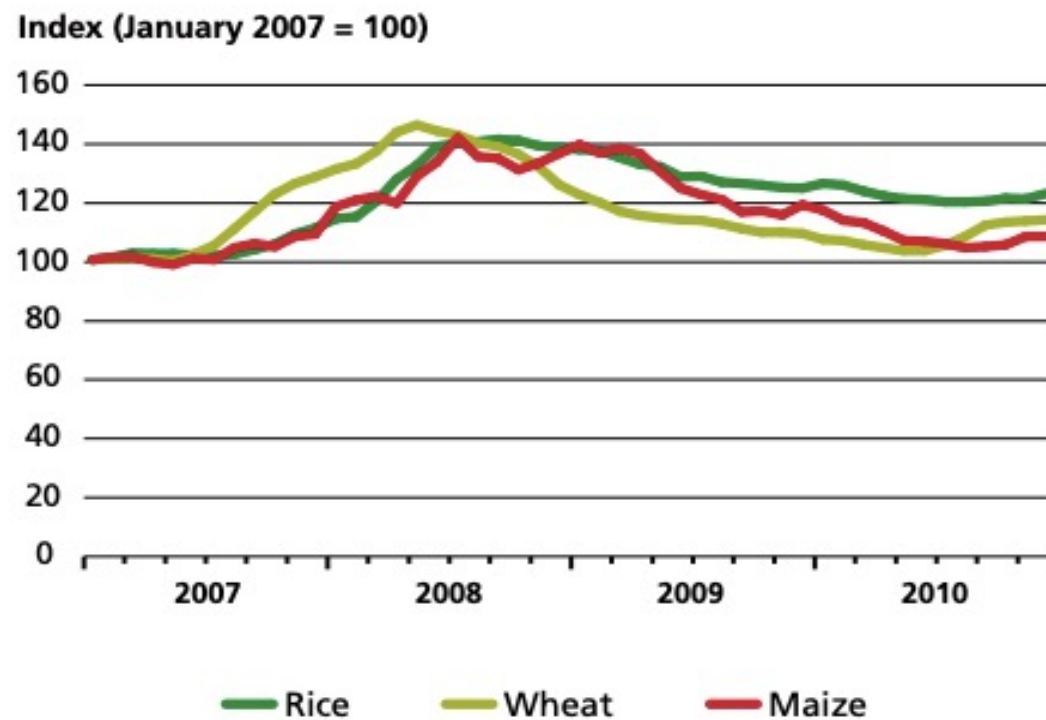
(i) Three scenarios are displayed in this graph: the complete elimination of export taxes by all countries in the world, the complete elimination of import duties by all countries in the world and the combination of both scenarios.

Source: MIRAGE simulations.

# Empirics

- Beckman et al.
  - Reports effect of export taxes in agriculture, 2006-2008
  - “In times of high or volatile prices, they are generally applied to guarantee domestic food supply and lower domestic prices.”
  - Results from both a partial equilibrium model and a CGE model

## Domestic prices for rice, wheat and maize increased substantially during the crisis



*Note:* The graph shows average inflation-adjusted trends in domestic prices for rice, wheat and maize across countries from January 2007 to December 2010. The domestic price is set equal to 100 in January 2007 for all countries, and the index value for subsequent months is equal to the average index value across all countries. The domestic price indices for rice, wheat and maize include 42, 27 and 34 countries, respectively, and include all countries for which data were available at the time of writing.

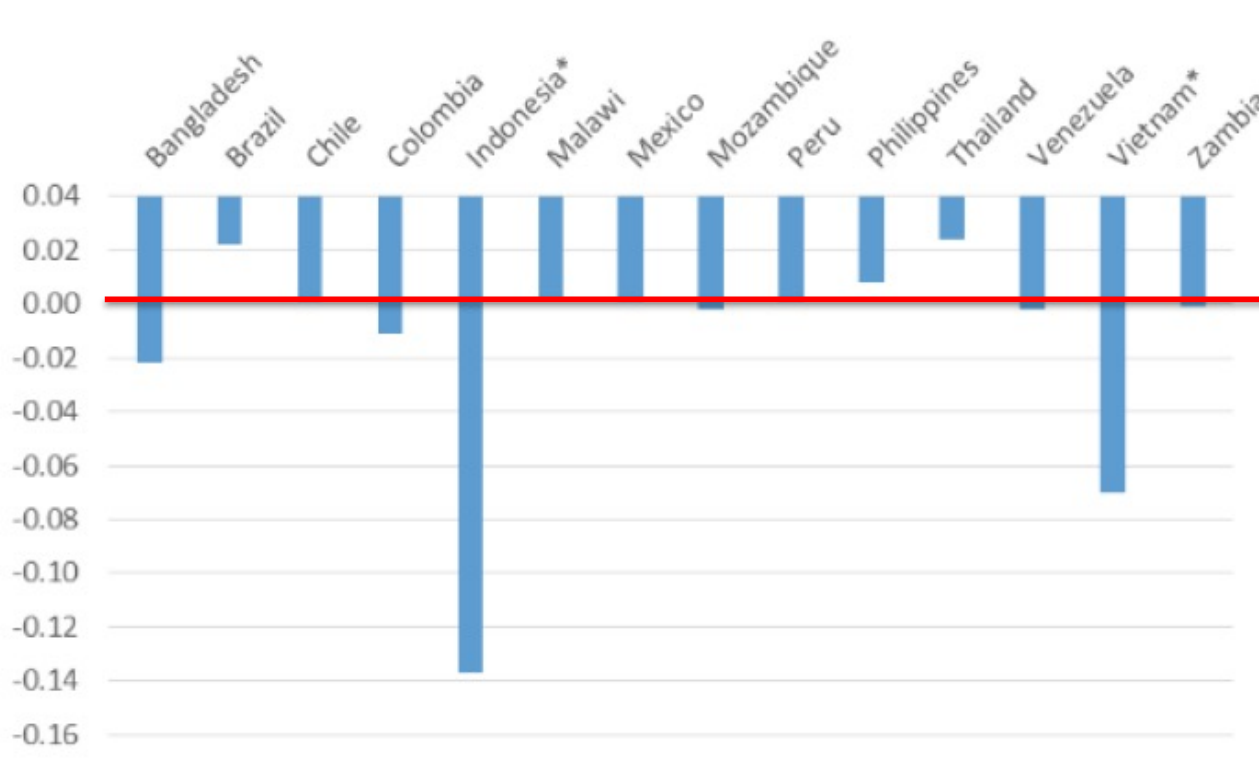
*Source of raw data:* FAO Global Information and Early Warning System.



# Empirics

- Effects of export taxes, Beckman et al.:
  - lower domestic prices.
  - increased international prices
    - if exporter is large or if many exporters tax
  - negative impacts on welfare
  - countries that implemented these policies tended to weather the food-price crisis the best.
  - countries that are dependent on food imports were not as insulated

**Figure 2** Percent change in poverty when export taxes are removed



Note the zero line. This is an odd way to present results.

*Source:* CGE results.

*Note:* The countries with an asterisk are those that had export taxes removed in the CGE scenario.

*Authors' note:* The findings and conclusions in this column have not been formally disseminated by the US Department of Agriculture and should not be construed to represent any agency determination or policy.

# Pause for Discussion

# Questions on Laborde et al., “Economic Effects of Export Taxes”

- What are some of the main effects of removing export taxes?
- What are some of the limitations of this analysis?

# Questions on Beckman et al., “Export taxes on agricultural ...”

- What was the main reason for export taxes examined here?
- Can you tell from this whether the policies have the desired effects?
- Does Figure 2 show poverty falling in all the countries?

# Outline

- Export policies
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- **Recent uses**

# Recent Uses

- India: Banned all export of onions in 2020
  - Due to drought, then rain, and resulting onion shortage
  - Neighboring country consumers hit hard

# Recent Uses

- Mozambique: Cashews
  - Export tax of 18-22% on raw cashews
  - Export tax of zero on processed cashews
  - Purpose: to support processing industry
  - Growers are hurt, but the processing industry has thrived
  - Quality of raw cashews became “one of the lowest in the world”



# Recent Uses

- Bans on export of sand
  - Several countries
    - Indonesia in 2003, Vietnam in 2010, Cambodia in 2017, Malaysia in 1997-2015, and again in 2020.
  - Why?
    - Mining threatens natural habitats
    - Huge amounts needed for construction and land reclamation.
    - Many countries but especially
      - China
      - Singapore

# Recent Uses

- Cocoa
  - “Governments of Ghana and Ivory Coast formed a cocoa cartel that will charge an extra \$400 per metric ton of the crop to give a better deal to farmers.”
  - Why might this succeed?
    - The two produce about 65% of the world’s cocoa.
    - Smaller countries can’t serve the needs of the largest brands

# Recent Uses

- Rare earths (see Yu & Savastopolu)
  - China may limit production and export of 17 rare earths
  - It controls ~80% of world supply
  - Crucial for many high-tech products
    - Including American F-35 fighter jets
  - Note:
    - Trump had done this for “sensitive US technology, such as high-end semiconductors”
    - Biden would too, together with allies

# Recent Uses

- Medical, PPE, Vaccines
  - As we saw earlier, countries' responses to pandemic often included export restrictions

# Pause for Discussion

# Questions on Yu & Savastopolu

- Would a limit on exports of rare earths matter only for weapons?
- Why would an export limit be a “double edged sword”?
- What has been suggested as a way for the US to protect itself from this?
- Is China a net exporter of rare earths?

# Questions on Casey & Cimino-Isaacs

- How does GATT/WTO treat export restrictions?
- What countries have restricted exports of medical and PPE and when?
- What are the economic effects of an export ban?
- Have major groups of countries tried to deal with this?
- Is the situation different for vaccines than it was for PPE and medical equipment?

