

AREC 345: Global Poverty & Economic Development

Lecture 10:

Trade Liberalization and Poverty

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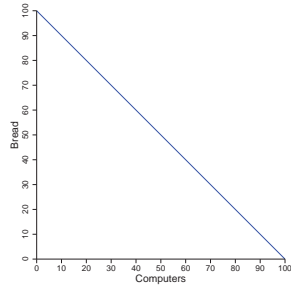
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The Gains from Trade

Comparative Advantage

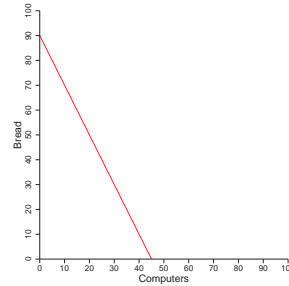
Two countries (the US, Canada) produce two goods (bread, computers)

Canada



$$\text{PPF: } b = 100 - c$$

United States

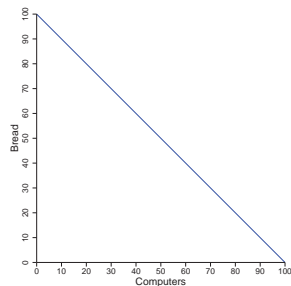


$$\text{PPF: } b = 90 - 2c$$

Comparative Advantage

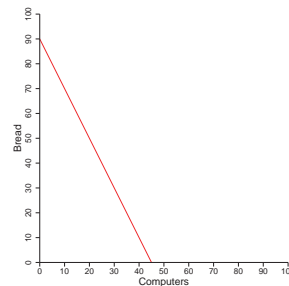
Two countries (the US, Canada) produce two goods (bread, computers)

Canada



Produces 50 of each

United States



Produces 30 of each

Comparative Advantage

In the absence of trade:

- Total production: 80 loaves of bread, 80 computers
- Each worker in Canada consumes 5 loaves of bread, 5 computers
- Each worker in the US consumes 3 loaves of bread, 3 computers
- The implicit price of computers is higher in Canada than the US
 - ▶ Canada: 1 computer = 1 loaf of bread
 - ▶ US: 1 computer = 2 loaves of bread

Comparative Advantage

If we allow trade, each country specializes:

- Canada produces only bread, the US produces only computers
- Total production: 90 loaves of bread, 100 computers
 - ▶ Aggregate output is higher when countries specialize
 - ▶ This is true even though Canada is (absolutely) more productive
- The equilibrium price of a computer (in terms of loaves of bread) will be somewhere between the pre-trade Canadian US prices

Intuition: Trade increases total surplus, **can** make everyone better off

Cross-Country Evidence

Does Openness to Trade Reduce Poverty?

We could estimate an OLS regression of poverty on trade:

$$e[\text{HeadCountRatio}_i] = a + b \cdot \text{Trade}_i$$

where

- HeadCountRatio_i is the headcount ration in country i
- Trade_i is a measure of trade openness in country i
 - ▶ Share of trade (imports + exports) to total GDP
 - ▶ Average import tariff (tariff revenues / total imports)

Would this regression tell us the impact of trade on GDP?

Does Openness to Trade Reduce Poverty?

An OLS regression of poverty on trade:

$$e[\text{HeadCountRatio}_i] = a + b \cdot \text{Trade}_i$$

Dep. Var.: Head Count Ratio

	(1)	(2)
Trade share of GDP	-1.921*** (0.385)	0.418 (0.931)
Includes country fixed effects?	No	Yes

Standard errors in parentheses.

Does Openness to Trade Reduce Poverty?

An OLS regression of poverty on trade:

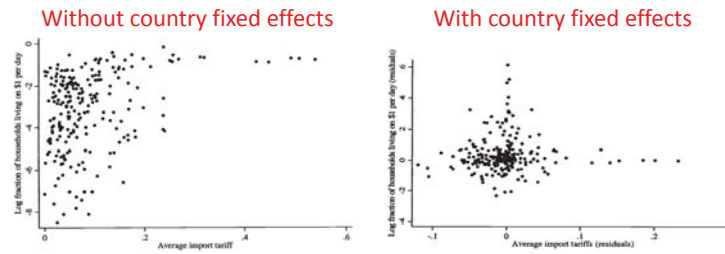
$$e[\text{HeadCountRatio}_i] = a + b \cdot \text{Trade}_i$$

Dep. Var.: Head Count Ratio

	(1)	(2)
Average import tariff	7.543*** (1.229)	0.811 (2.167)
Includes country fixed effects?	No	Yes

Standard errors in parentheses.

Does Openness to Trade Reduce Poverty?



⇒ Looking within countries over time (by using country fixed effects), we see no empirical relationship between trade openness and poverty

Country Case Study: India

India's Post-Independence Industrial Policies

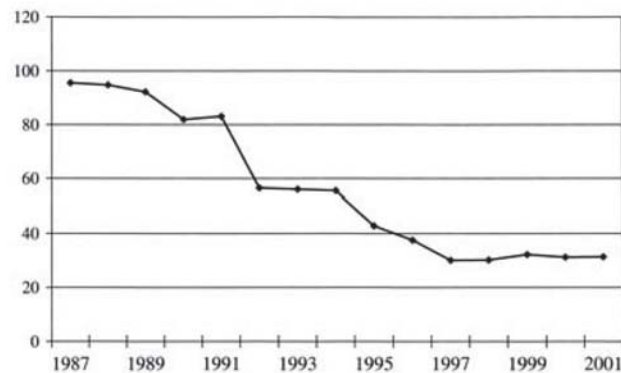
After independence, Indian industrial policy focused on self-sufficiency

- Trade protection: tariff and non-tariff barriers
 - ▶ Import licensing requirements, restrictions on who could import what
 - ▶ Total imports limited to 12 percent of manufactured goods
 - ▶ Average import tariffs above 90 percent
- Industrial licensing requirements, public ownership of heavy industry
- Government intervention in the financial sector

Start of the Gulf War (1990) raised the price of oil and reduced remittances from the middle east, triggering balance-of-payments crises

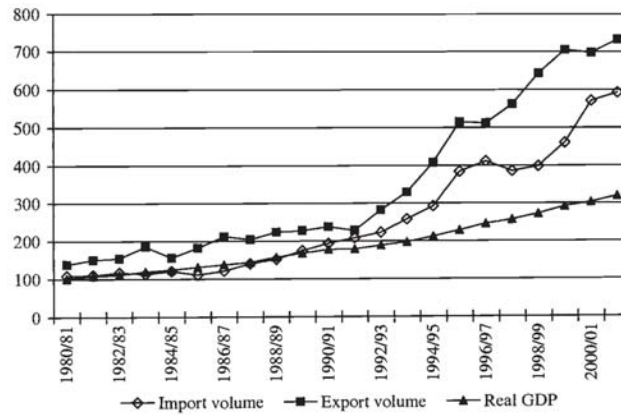
- IMF standby agreement conditional on trade liberalization

Trade Liberalization in India



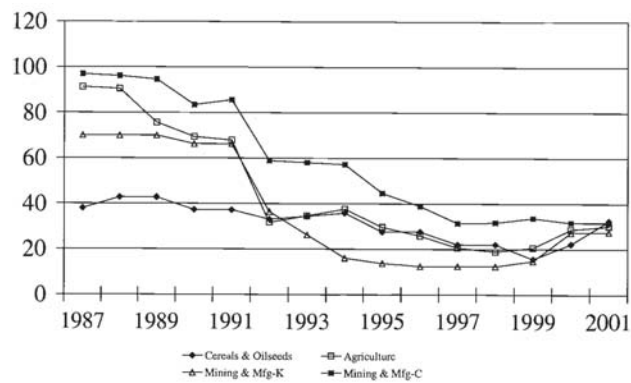
Tariffs declined rapidly during the 1990s (because of liberalization)

Trade Liberalization in India



Liberalization coincided with dramatic increases in trade volumes

Trade Liberalization in India



Industries that were more protected (i.e. had higher tariffs) prior to liberalization saw the largest declines in tariffs during liberalization

The Impact of Trade Liberalization on Poverty

Trade liberalization impacted some regions more than others

- Largest declines in protection occurred in areas where the economy was most reliant on sectors that were protected by high tariffs
- Question: do changes in tariffs predict changes in poverty?

Empirical strategy: regressions of the form

$$E[\text{Change in poverty level}_i] = a + b \cdot \text{Change in tariffs}_i$$

where

- **Change in poverty level_i** is the change in some measure of poverty
- **Change in tariffs_i** is a district change in tariffs during the liberalization, which depended on mix of industries pre-liberalization

The Impact of Trade Liberalization on Poverty

Empirical strategy: regressions of the form

$$E[\text{Change in poverty level}_i] = a + b \cdot \text{Change in tariffs}_i$$

Dep. Var.: Change in Poverty Rate

	Rural	Urban
	(1)	(2)
Change in average import tariff	-0.287**	-0.215
	(0.118)	(0.190)

Standard errors in parentheses.

The Impact of Trade Liberalization on Poverty

Empirical strategy: regressions of the form

$$E[\text{Change in poverty level}_i] = a + b \cdot \text{Change in tariffs}_i$$

Dep. Var.: Change in Poverty Gap

	Rural (1)	Urban (2)
Change in average import tariff	-0.129*** (0.038)	-0.084 (0.052)

Standard errors in parentheses.

Trade Liberalization on Poverty: Discussion

Summarizing the main empirical results:

- Rural areas that were more impacted by trade reforms saw slower declines in poverty (relative to less-impacted rural areas) in the 1990s
- No significant impacts on urban areas
- Caveat: These are relative impacts; aggregate impacts unknown

What explains these findings?

- Surprisingly, we see very little rural-urban migration or migration across districts in response to these negative impacts of liberalization
 - ▶ Suggests that sectoral immobility is a problem

Case Study: Corn Farmers in Mexico

Do Rich-Country Subsidies Hurt Poor Farmers?

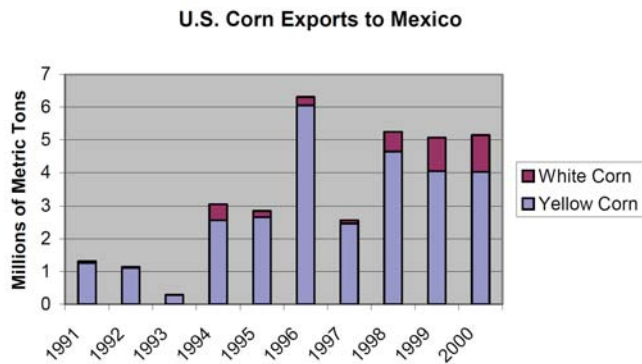
Many OECD countries subsidize agriculture, particularly food production

- Do these subsidies hurt poor-country farmers?
- Liberalization allows poor countries to import subsidized agricultural products from wealthy countries (who often refuse to cut subsidies)
 - ▶ Consumers in poor countries may benefit
 - ▶ Producers in poor countries may be hurt

Mexican corn producers as a case study

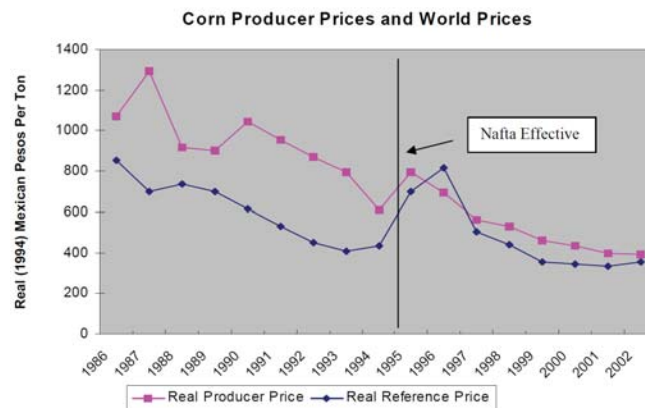
- Corn is a staple in the Mexican diet, and a key agricultural product
- NAFTA liberalized the trade in corn between Mexico and the US
- The Mexican government also removed price supports after NAFTA

The Impact of NAFTA on Corn Imports



⇒ Corn imports from the US were equivalent to 8 percent of total domestic production pre-NAFTA, rose to 33 percent post-NAFTA

The Impact of NAFTA on Corn Prices



⇒ Mexican corn producers received a lower price after NAFTA

Who Were Mexico's Corn Producers?

As of 1991 (prior to NAFTA):

- 20 percent of rural households were corn farmers
- 63 percent of farm households were (primarily) corn farmers
 - ▶ 85 percent of corn farmers were primarily subsistence producers
 - ▶ 15 percent of corn farmers sold most of their corn crop

More than half of the poorest corn farmers (those with <5 hectares of land) report that they **never sell** any corn, sometimes buy corn

- Almost all medium-sized (5–15 hectares) and larger (>5 hectares) corn farmers always sell most or all of their corn crop
- How should NAFTA impact each type of farmer?

The Impacts of NAFTA on Corn Farmers

Change in Real Income: 1992-02000

	Difference	p-value
Smallest landholdings	-284.72*** (11.94)	0.00
Medium landholdings	-271.79*** (30.92)	0.00
Largest landholdings	104.25 (101.21)	0.30

However, almost all of poor farmers' estimated real "income" is the imputed value of the corn that they grow and then consume themselves

The Impacts of NAFTA on Corn Farmers

Corn farmers with the smallest landholdings:

- Imputed real incomes decline; corn consumption (in kilograms) goes up significantly, but the money value of corn consumption declines
- Transfers from the government also increase significantly
- Income from off-farm work also increases
- Conclusion 1: NAFTA **probably** had little impact on welfare
- Conclusion 2: the government ramped up transfers to offset losses

The Impacts of NAFTA on Corn Farmers

Corn farmers with medium-sized landholdings:

- Most income is from selling corn, and real income declines
- Conclusion: NAFTA likely reduced welfare

Corn farmers with the largest landholdings:

- Real income, farm profits go up
 - ▶ Decline in corn price offset by decline in agricultural wages?
- Conclusion: NAFTA likely increased welfare

The Impacts of Trade on Poverty: Summary

Trade helps some poor households and hurts others

- Poorer net producers (including workers) in previously protected sectors are likely to be made worse off by removal of trade barriers
 - ▶ Changing sectors is costly (India)
 - ▶ Government policy can offset negative impacts (Mexico)
 - ▶ Richer households better place to exploit new opportunities
- Net consumers gain from (are not hurt by) lower prices
- Recent work (not discussed) highlights large positive impacts on many people who find work in the export sector after liberalization
 - ▶ Example: women old enough to get factory jobs after leaving school

Study Guide: Key Terms

- comparative advantage
- gains from trade
- net consumers
- net producers
- non-tariff barriers
- tariffs