

TRADE AND DEVELOPMENT

EE 462 Development Macroeconomics

Semester 1/2014

Topics

- Trade Trend and Patterns
- Comparative Advantages
- Trading Primary Products
- Empirical Evidence on Primary Export-Led Growth

Trade and Development

- Trade creates gainers and losers.
 - Trade provides low- and middle-income countries with significant opportunities to improve welfare and accelerate growth.
 - But trade also creates losers. Think about firms or farmers in local markets!
- The evidence is that on balance free trade has benefited developing countries.
- Many developing countries have *comparative advantage* in *primary products*.
 - Resource curse & Dutch disease

Trends and Patterns of Trade

- Exports (and imports) from high-income nations continue to dominate global exchange. (Why?)
- In 2009, China accounted for only 10% of world exports.
- Questions:
 - Who's the major trading partner of the United States?
 - Canada
 - Which region has the largest increase in the ratio of trade to GDP over the past 30 years?
 - East Asia (Trade GDP = ~20% in 1970 and ~75% in 2000s)
- For developing countries as a whole, imports plus exports on goods and services are more than 64% of total output.

Merchandise Exports in Selected Countries, 2008

Country Name	Merchandise Exports (current millions of U.S. \$)	GDP (current millions of U.S. \$)	Merchandise Exports as a Share of GDP (%)	Manufactures Exports (% of merchandise exports)
Developing countries				
Malaysia	199,516	221,773	90	54
Nigeria	81,900	207,118	40	5
China	1,428,488	4,326,996	33	93
Venezuela	93,542	314,150	30	4
Philippines	49,025	166,909	29	83
Indonesia	139,281	510,730	27	39
Mexico	291,807	1,088,128	27	74
Sri Lanka	8,370	40,565	21	67
Kenya	4,972	30,355	16	37
Jamaica	2,400	14,614	16	61
Niger	820	5,354	15	7
India	179,073	1,159,171	15	63
Brazil	197,942	1,575,151	13	45
Developed countries				
United Kingdom	457,983	2,674,057	17	70
Japan	782,337	4,910,840	16	89
United States	1,300,532	14,591,381	9	74

Sources: Derived from World Bank, *World Development Indicators*, 2010, tabs. 4.2 and 4.4.

Comparative Advantages

- Theory of comparative advantage
 - Suggested by David Ricardo (1817) to describe trade patterns
 - Assume *static conditions* that factors of production are in fixed supply and unable to cross borders
- Some results:
 - A country can increase its welfare by trading.
 - The smaller the country, the greater is this potential gain from trade.
 - A country often gains most by exporting commodities that it produces using its abundant factors most intensively, while importing goods that requires intensive use of its scarce resources.

Comparative Advantage (Cont'd)

- Example: Production costs and comparative advantage

Labor hours	Mexico	U.S.
Tomatoes (1 ton)	50	40
Tractor (1 tractor)	300	200
Relative price (tons of tomatoes per tractor)	6	5

- US has an *absolute advantage* in both goods.
- US has a *comparative advantage* in producing tractors, while Mexico has a comparative advantage in producing tomatoes.
- Suppose both countries agree to trade 1 tractor for 5.5 tons of tomatoes.
 - How many labor hours Mexico need to import 1 tractor? → 275 hours
 - How many labor hours U.S. need to import 1 ton of tomatoes? → 36.4 hours

The Benefits of Trade

- **International terms of trade (TOT)** is the ratio of the export prices relative to the import prices.
 - Ex. For Mexico, $TOT = P_{\text{tomatoes}}/P_{\text{tractors}}$
- **Heckscher-Ohlin model:**
 - A country tends to export products that use its abundant factors of production more intensively and imports products that require relatively more of its scarce factors.
- **Example:**
 - Assume the home country (Mexico) is better endowed with labor than capital relative to the endowment of the world.
 - Thus, in the world market, the price of tomatoes in terms of tractors is higher than that in the home country.

Gains from Trade (1)

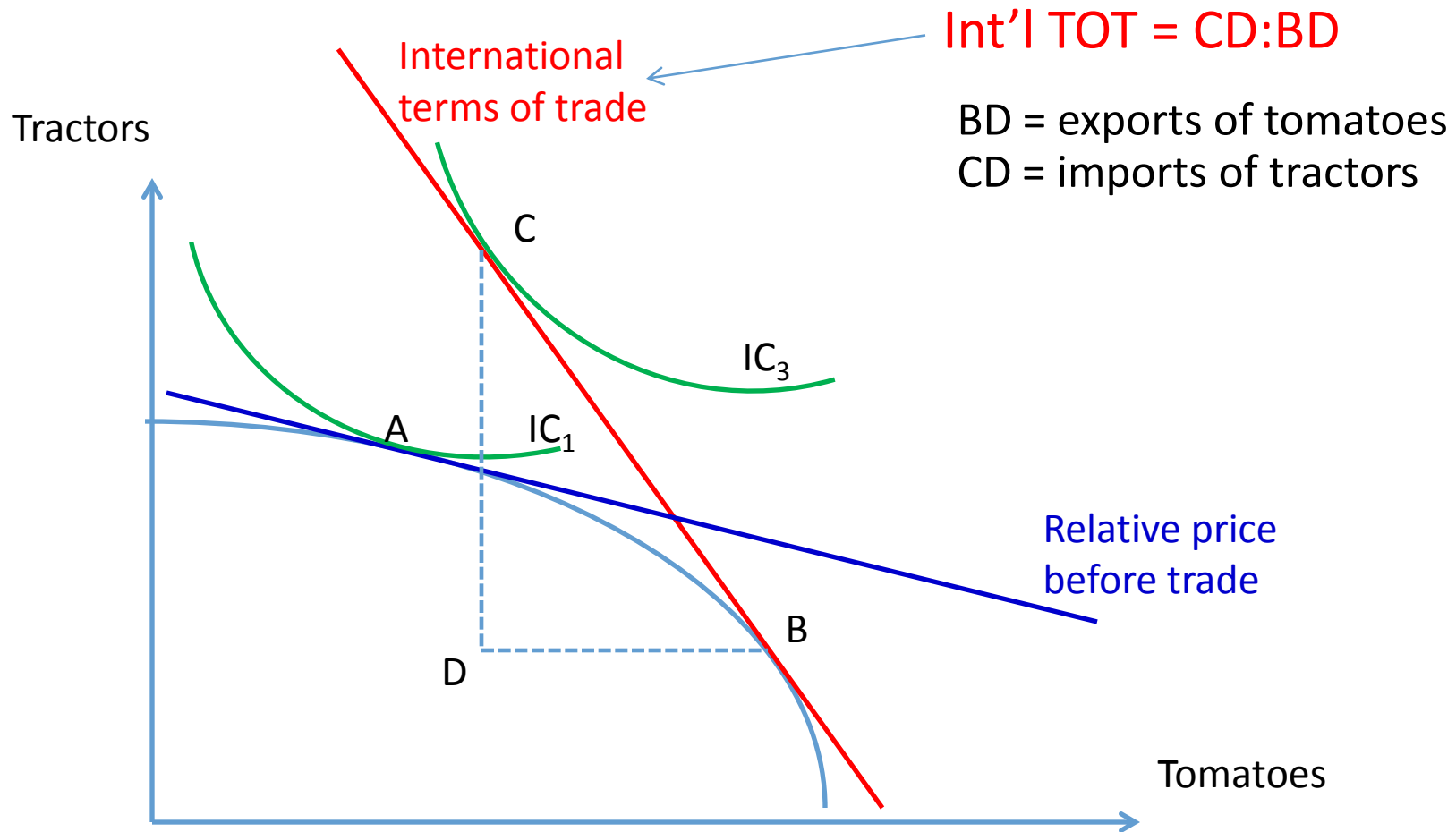


Figure (a)

Gains from Trade (2)

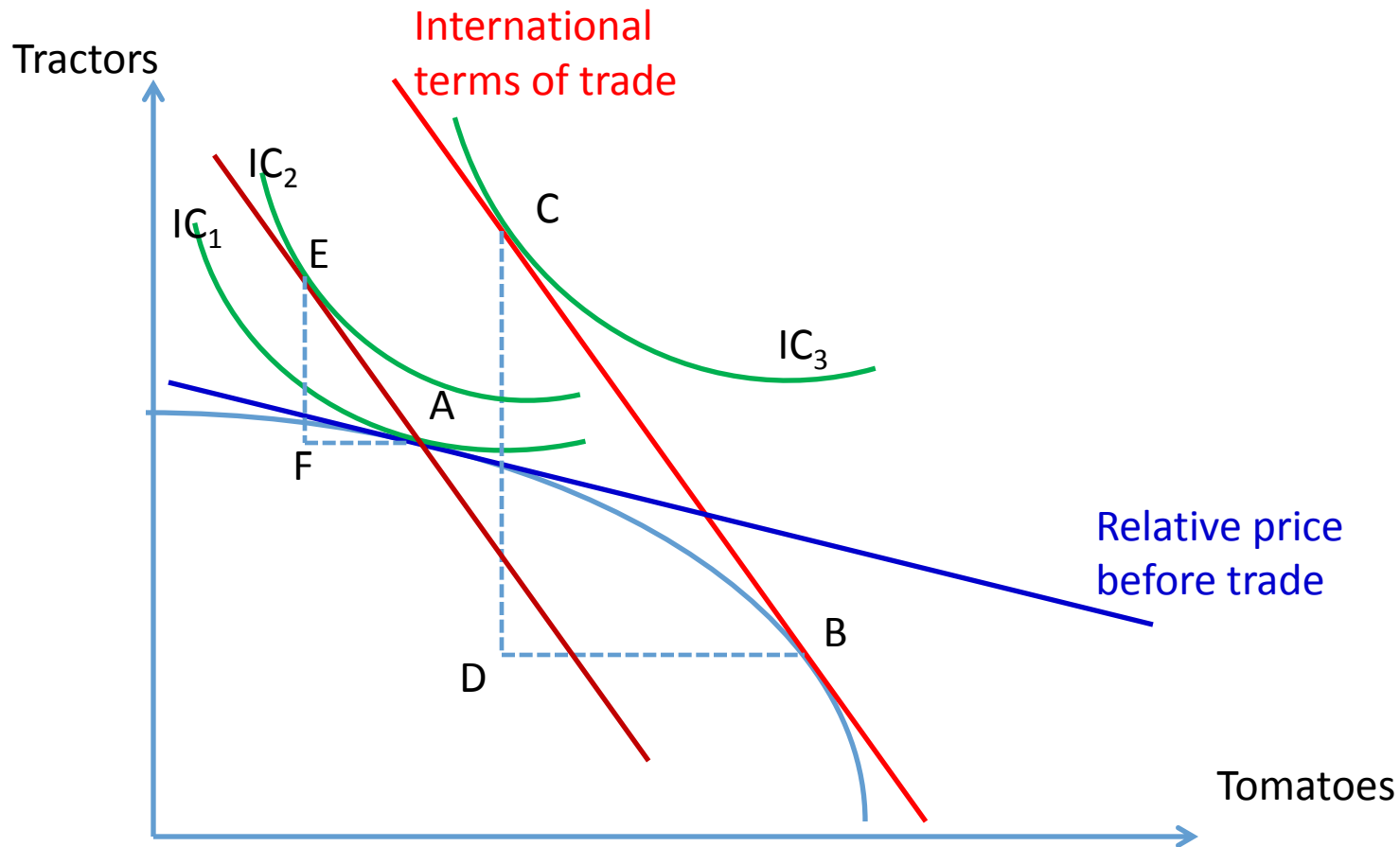


Figure (b)

Gain from Trade (3)

- Two sources of gains from trade:

1. Gains from exchange

- An increase in welfare due to the difference between autarky and world prices.
 - Change from IC1 to IC3 in figure (a)

2. Gain from specialization

- An increase in welfare due to the reallocation of resources as the country pursues its comparative advantage.
 - Change from IC2 to IC3 in figure (b)

Other Benefits from Trade

- Trade exposes domestic firms to competition.
- Trade, especially in intermediate goods, often embodies new technologies that *raise productivity*.
- Trade increase not only the amount of goods, but also the *quality and variety of goods* available.
- However, there are both winners and losers.
 - Trade maybe good for the country as a whole, but not all individuals or groups within each country necessary gain from trade.
 - Need to distinguish between *aggregate gains* and individual gains.
 - Theoretically, the winners should compensate the losers, but this may not happen.

Trading Primary Products

- What are **primary products**?
 - Agricultural raw materials, food, fuels, minerals, or ores
- Why focusing on primary products?
 - They account for *one third* of the value of all traded goods.
 - Important role on economic growth and development.
 - For most developing countries, international trade often began with primary products.
 - The growth performance of resource-rich economies often has been disappointing – this is referred to as “**the resource curse**”.

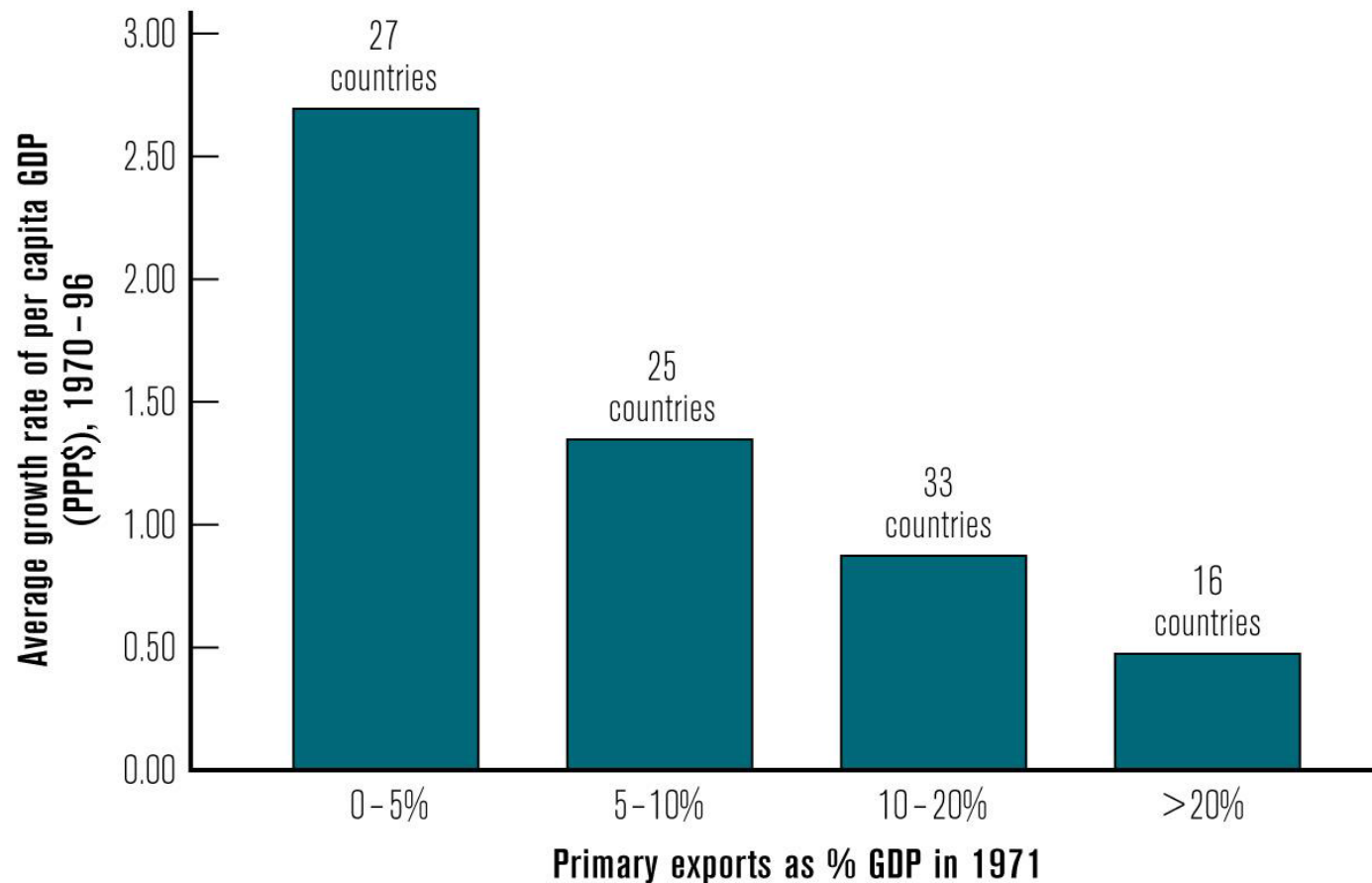
Benefits from Primary Product Exports

- Gain from comparative advantage
- “Vent for surplus”
 - Trade enables a country to produce more than it can sell domestically, and to sell the goods produced with its surplus land and labor to the rest of the world.
- The expansion of primary product exports can lead to the accumulation of additional factors of production (e.g. capital and labor) and attraction of FDI.
 - Shift of PPF
- Possibility of stimulating other, related sectors
 - Forward linkages (e.g. food processing industry), infrastructure linkages, human capital linkages

Empirical Evidence on Primary Export-Led Growth

- Question: What has been the relationship between primary exports and economic growth in recent decades?
 - Slow or no growth – Angola, Myanmar (?), Ecuador, Jamaica, Nigeria
 - High growth – Botswana, Indonesia, Malaysia, Mauritius
- Sachs and Warner found that resource-rich countries have grown much more *slowly* than resource-poor countries (evidence from 95 countries during 1970-1989).
(See figure next slide)
- Possible explanations:
 - Export pessimism
 - Declining terms of trade

Natural Resource Abundance and Economic Growth



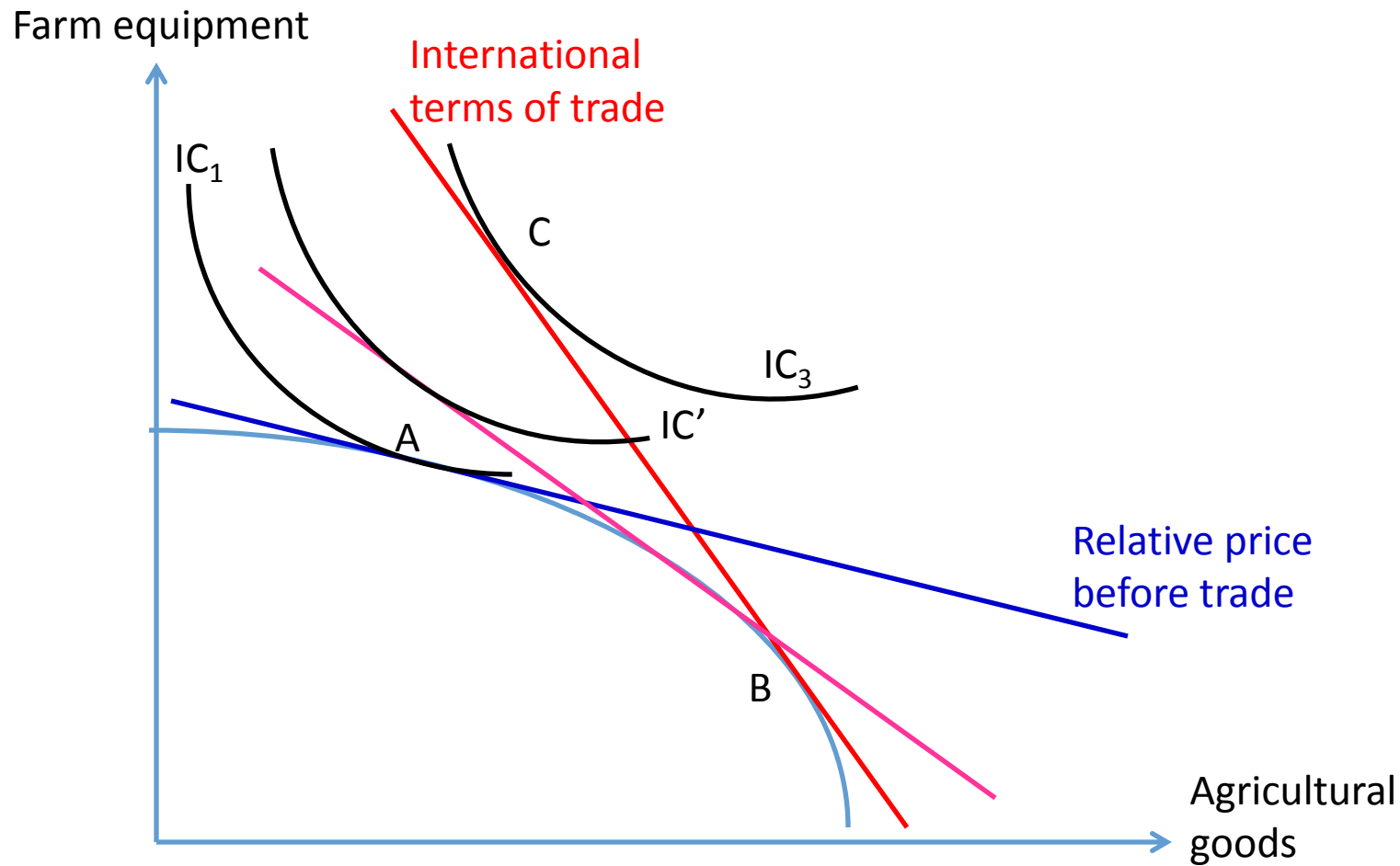
Export Pessimism (1)

- Based on the work published in 1950 by Raul *Prebisch*, Hans *Singer*, and other.
- Context: at the time, developing countries mostly exported primary products and imported manufactured goods
- Main argument: over the long run, prices for primary commodity exports on world markets tend to fall relative to prices of manufactured goods.
 - Over time, developing countries would have to *export more primary products* to import the same amount of manufactured products.
 - LDCs continue to *lag behind* in development process.

Export Pessimism (2)

- Causes of falling relative prices (P_{primary} relative to $P_{\text{manufacture}}$):
 - The **income elasticity of demand for food is low**, whereas the income elasticity of demand for manufactured goods is income elastic.
 - **Technological changes** in manufacturing works against the demand for raw materials and the nations that produce them.
 - **Manufacturing firms in developed countries** tended to have **market power**, whereas primary producers in developing countries face much greater competition.
- Some caveats:
 - Did not focus on products such as diamonds, natural gas, oil.
 - Did not expect primary producers to be able to transition to manufactured goods.

Declining Terms of Trade (1)



Declining Terms of Trade (2)

- As the **terms of trade** (for countries exporting primary products) **declines**, the **gain from trade diminishes**, but it's still better than if returned to autarky prices.
- A commonly used measure of relative prices of traded goods (including all products) is the **net barter terms of trade (T_n)**:

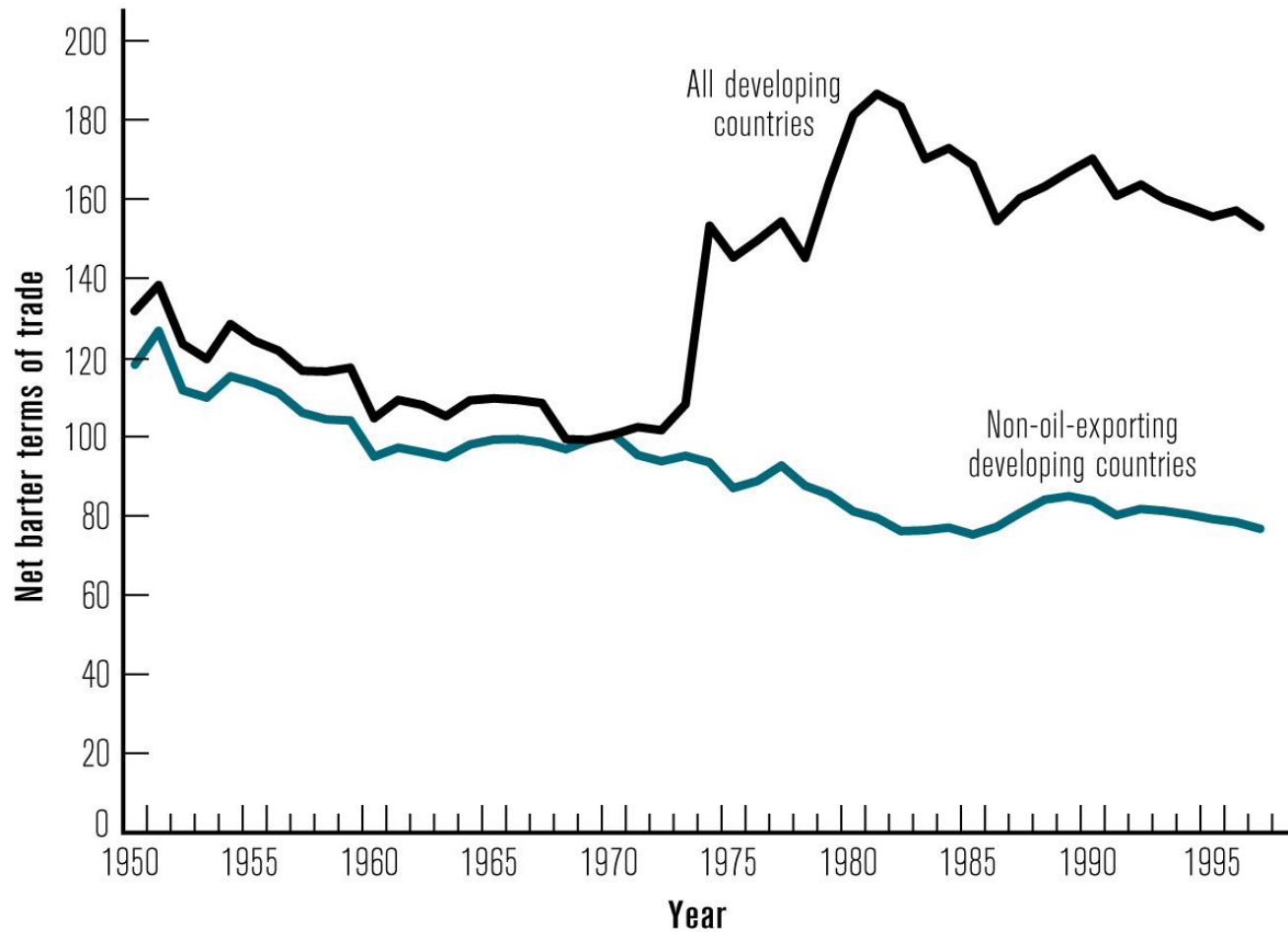
$$T_n = P_e / P_m$$

where P_e = the average prices of a country's exports,

P_m = the average prices of its imports

- During the 1980s and early 1990s, the terms of trade declined for *non-oil exporting developing countries*.
- There are factors other than movements in the terms of trade that affect long-run growth of primary product exporters.

Net Barter Terms of Trade, 1950-1995



Dutch Disease (1)

- Improvements in a nation's terms of trade brought on by booming primary export prices (e.g. oil boom of the 1970s and early 1980s in Mexico and Nigeria).
 - “Dutch disease” - rising inflation, lower manufacture exports, lower growth rate, and high unemployment
- Recall the definition of the real exchange rate (RER):

$$RER = (E_0 \times P_T) / P_N$$

where E_0 = the nominal exchange rate, P_T = prices of tradable goods , and P_N = prices of nontradable goods.

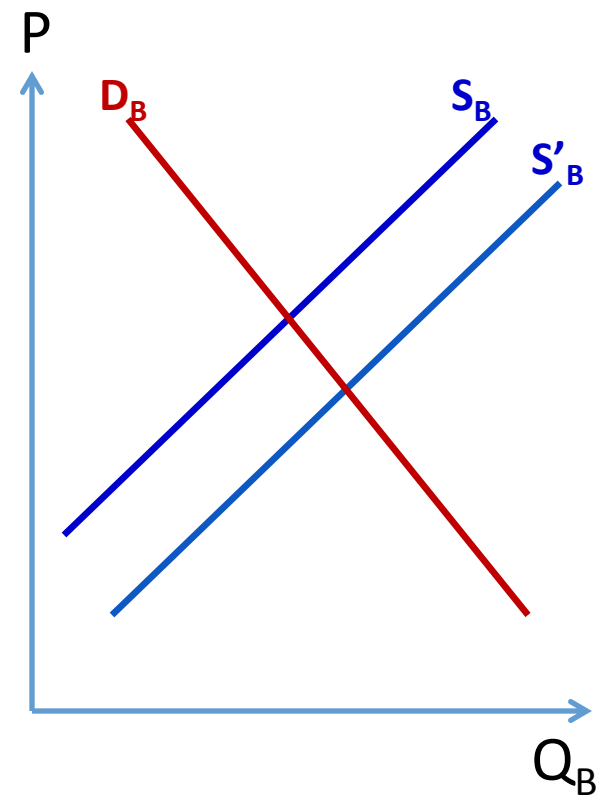
- RER can increase if E_0 or P_T increases, or P_N decreases.
 - Relative prices of tradables in domestic market rises → produce more and consume less of tradables.

Dutch Disease (2)

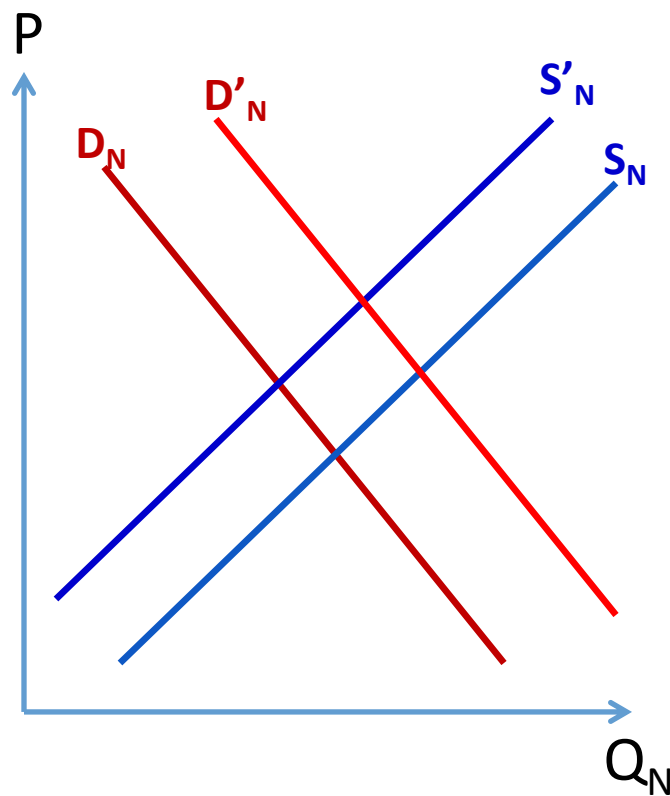
- A boom in raw material exports can cause a sharp appreciation of RER. Why?
 - Large influx of exports causes a surplus of foreign currency.
 -
 - High income from booming primary exports spurs faster domestic price inflation.
 -
- An appreciation of RER can harm export industries *other than the booming primary export sector*. How?
- A primary export boom can also shift labor from nontradables to the booming sector, but after the boom ends, labor adjustment may not necessarily happen.

Dutch Disease: A Geometric Presentation

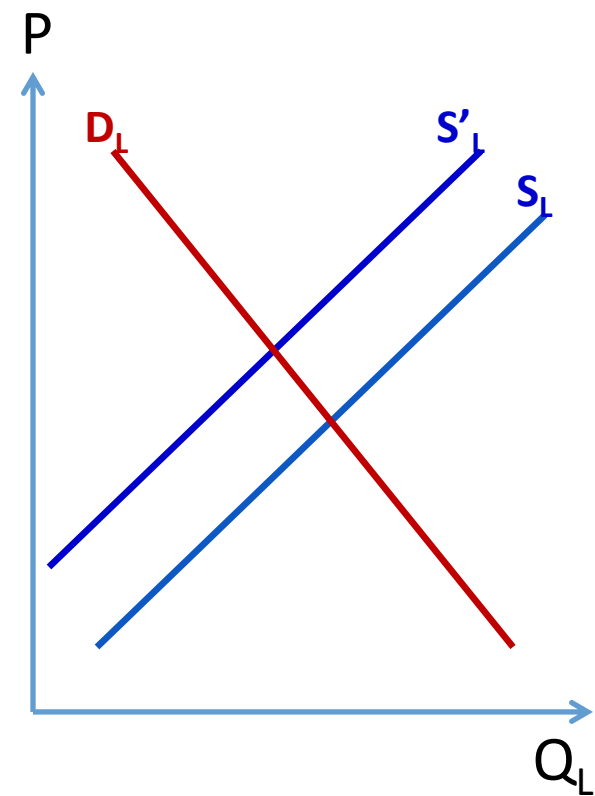
Booming Tradables



Nontradables



Lagging Tradables



The Resource Trap

- Argument by **Paul Collier** that many Sub-Saharan African countries fail to grow over the past 3-4 decades because they have fallen into one of several **traps**.
- One main trap is the **dependence on natural resource exports**.
- In addition to Dutch disease and the appreciation of the RER, a **natural resource trap** is associated with **poor governance**.
 - **Resource revenues** → Widespread **corruption** and rent seeking behavior
 - With resource rents, political patronage often becomes the means of political competition.
 - **Conflict trap** – competition over the control over valuable natural resources for export could lead to civil wars.

Breaking the Resource Curse

- Several approaches to overcome the resource curse:
 - **Sovereign wealth funds** – the accumulation of foreign assets, usually financed by primary product export earnings.
 - **International charters** such as the **Extractive Industries Transparency Initiative (EITI)**
 - Require firms in extractive industries to disclose payments for oil and mineral rights, govt to disclose receipt of payments, and independent international audits of these transfers
 - Improve governance of oil and other resource exporters
 - More prudent macroeconomic policies