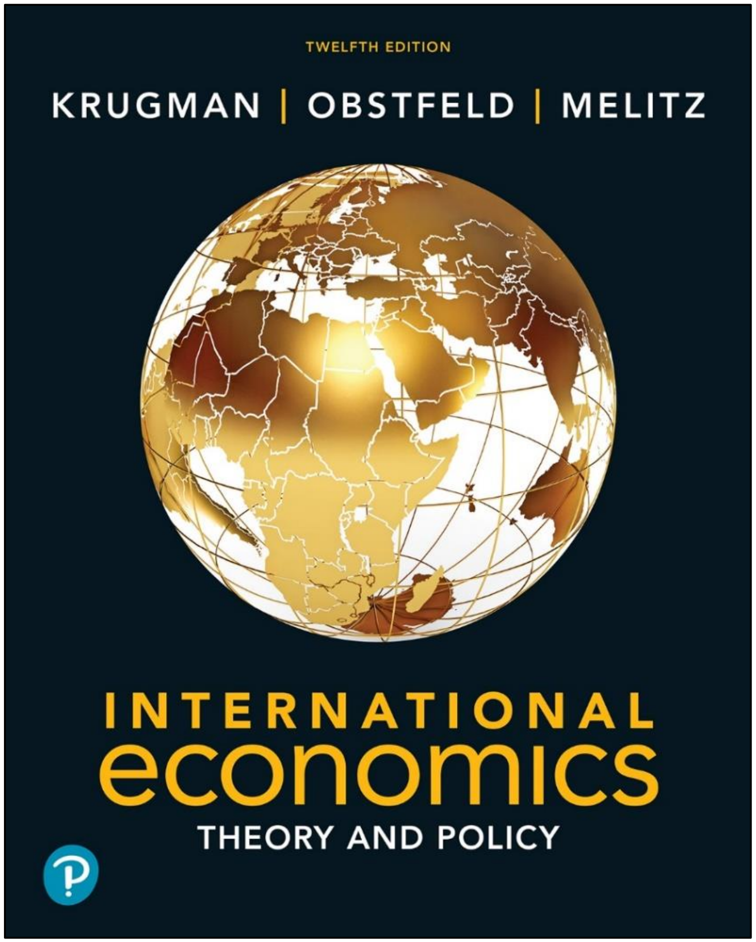
International Economics: Theory and Policy

Twelfth Edition



Chapter 6

The Standard Trade Model

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Introduction (1 of 2)

- Standard trade model is a general model that includes Ricardian, specific factors, and Heckscher-Ohlin models as special cases.

  - What are the basics of trade in
    - Ricardian model?
    - Specific Factors and Heckscher-Ohlin models?

Introduction (2 of 2)

- Differences in **labor services, labor skills, physical capital, land, and technology** between countries cause differences in production possibility frontiers.
- Each country's PPF is a smooth curve.
- A country's PPF determines its relative supply function.
- National relative supply functions determine a world relative supply function, which along with world relative demand determines the equilibrium under international trade.

Production Possibilities and Relative Supply (1 of 2)

- What a country produces depends on the relative prices
- An economy chooses its production level to maximize the value of its output $V = P_C Q_C + P_F Q_F$,
  - The slope of an isovalue line equals $-\left(\dfrac{P_C}{P_F}\right)$.
  - Produce at point where PPF is tangent to isovalue line.

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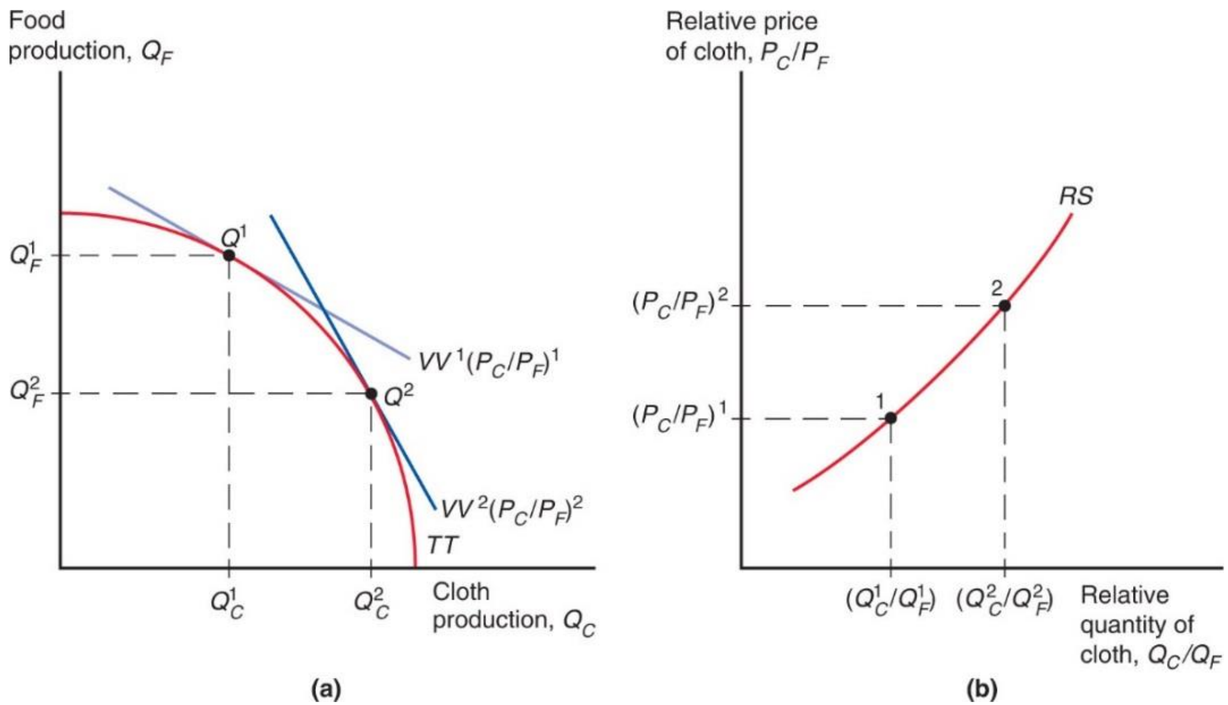
Production Possibilities and Relative Supply (2 of 2)

How an Increase in the Relative Prices Affects Relative Supply?



Relative Prices and Demand (1 of 6)

- The **value** of the economy's consumption must equal the value of the economy's production.

$$P_C D_C + P_F D_F = P_C Q_C + P_F Q_F = V$$

- Assume that the economy's consumption decisions may be represented as if they were based on the tastes of a single representative consumer.
- An **indifference curve** represents combinations of two goods that leave the consumer equally well off (indifferent).

Relative Prices and Demand (2 of 6)

- Indifference curves
  - are downward sloping — if you have less cloth, then you must have more food to be equally satisfied.
  - become flatter when they move to the right — with more cloth and less food, an extra yard of cloth becomes less valuable in terms of how many calories of food you are willing to give up for it.

Relative Prices and Demand (3 of 6)

- Consumption choice is based on ***preferences*** and ***relative price*** of goods:
  - Consume where the isovalue line is tangent to the indifference curve.
- Economy exports cloth — the quantity of cloth produced exceeds the quantity of cloth consumed — and imports food.

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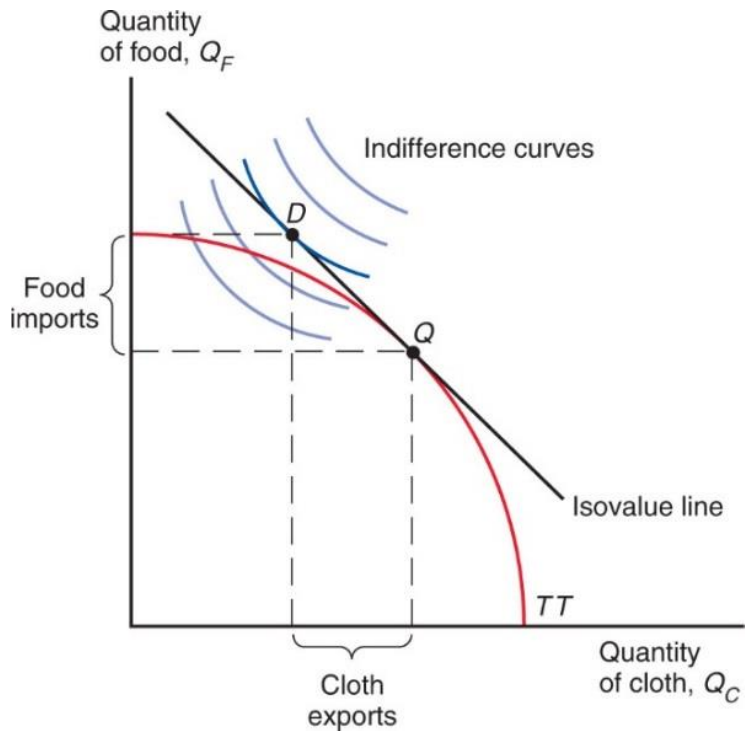
Production, Consumption, and Trade in the Standard Model



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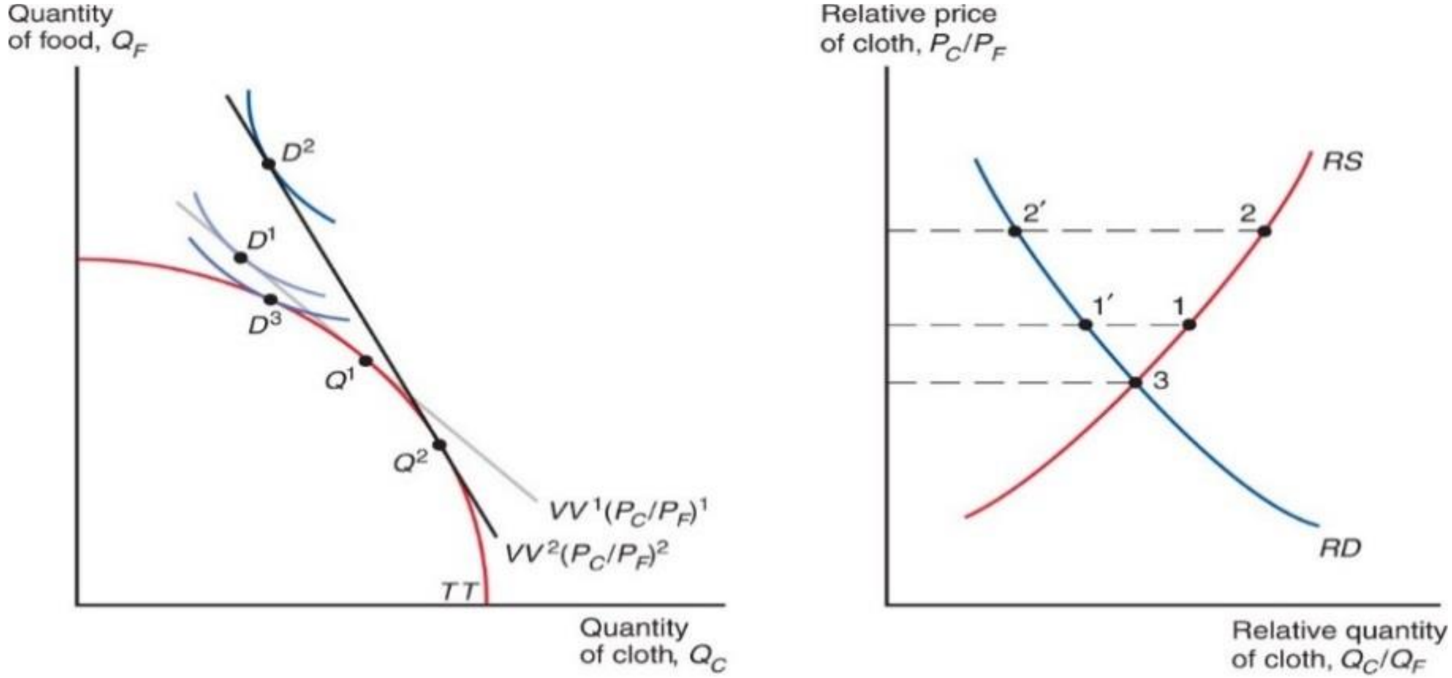
Relative Prices and Demand (4 of 6)

- Relative prices and relative demand
  - An increase in the relative price of cloth $\frac{P_C}{P_F}$ causes consumption choice to shift upward
  - Demand for cloth relative to food $\frac{D_C}{D_F}$ falls. as the relative price of cloth to food rises.

Relative Prices and Demand (5 of 6)

- An economy that exports cloth is better off when the price of cloth rises relative to the price of food:
  - the isovalue line becomes steeper and a **higher indifference curve** can be reached.
- A higher relative price of the exporting good means that more units of the other good can be imported for every unit of export.

Effects of a Rise in the Relative Price and Gains from Trade



(a) Production and Consumption

(b) Relative Supply and Demand

Relative Prices and Demand (6 of 6)

- If the economy cannot trade:
  - The relative price is determined by the intersection of relative demand and relative supply for that country.
  - Consume and produce where the indifference curve is tangent to the PPF.

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Unequal Gains from Trade across the Income Distribution (1 of 2)

- Gains from trade due to imports becoming cheaper relative to exports are unevenly distributed across consumers due to **differing consumption patterns**.
- The **distribution of income** is one of the major sources of divergence in consumption patterns.
- Consumers with lower income spend relatively more of their income on *food and some manufactured goods* (such as apparel), whereas consumers with higher income spend relatively more on *services*.

Unequal Gains from Trade across the Income Distribution (2 of 2)

- Because food and manufactured goods are traded much more heavily than services, poorer consumers benefit much more from lower import prices than richer consumers.
- Estimated gains from trade are 35% higher for a consumer at the 10th percentile of a country's income distribution relative to the 90th Percentile (average across 40 countries).

The Welfare Effects of Changes in the Terms of Trade

- The **terms of trade** refers to the price of exports relative to the price of imports.
- Do you think an increase in the terms of trade increases a country's welfare or decreases it???
- Why???

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A Real World Example

- Developing countries experienced increases in their terms of trade during the **2000s commodity price boom.**
- Fuel
- Precious Metals
- Industrial Metals
- Chemicals

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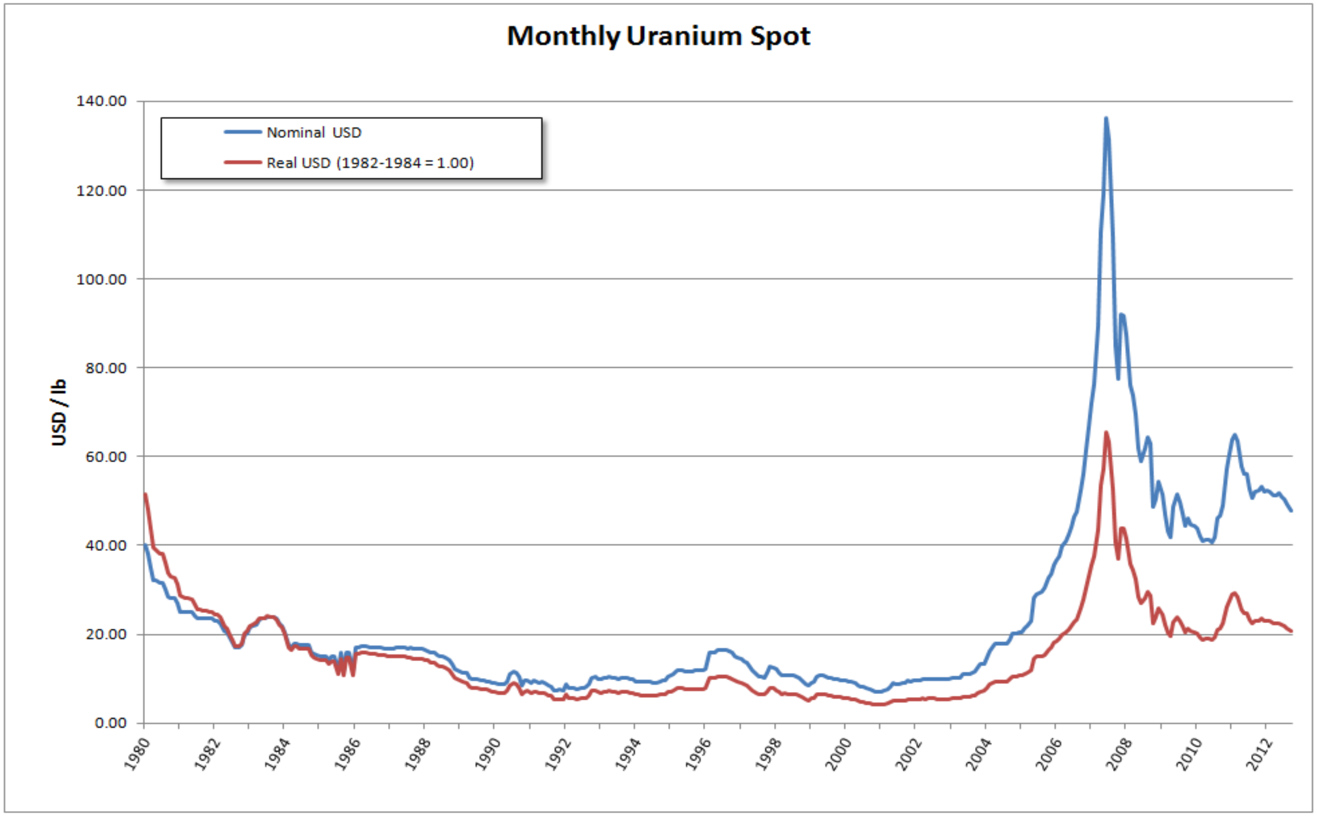
A Real World Example

- Increased growth of the BRIC Countries increased demand for electrical goods which affected the price of some metals such as copper
- Mining countries like the Democratic Republic of the Congo

Global Copper Prices

A Real World Example

- The 2006 flooding of the Cigar Lake Mine in Saskatchewan
- Interest in nuclear power by the UK government between 2006 and 2008



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A Real World Example

- How about the **price of manufactured goods**?

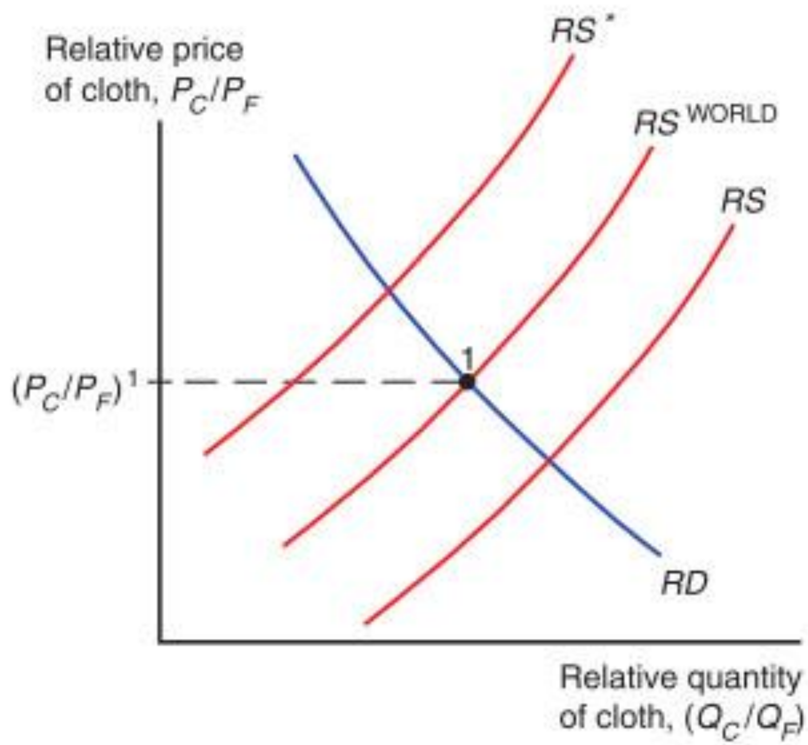
- In the past two decades, a rise in **globalization** has reduced the price of manufactured goods.
- Industrialized countries' advantage over developing countries is becoming less significant.

Determining Relative Prices

- To determine the relative prices, use:
  - **World relative supply**
  - **World relative demand**
  - World quantities are the sum of quantities from the two countries in the world:

$$\frac{\left(Q_C + Q_C{}^*\right)}{\left(Q_F + Q_F{}^*\right)} \text{ and } \frac{\left(D_C + D_C{}^*\right)}{\left(D_F + D_F{}^*\right)}.$$

Equilibrium Relative Price with Trade and Associated Trade Flows



(a) Relative Supply and Demand

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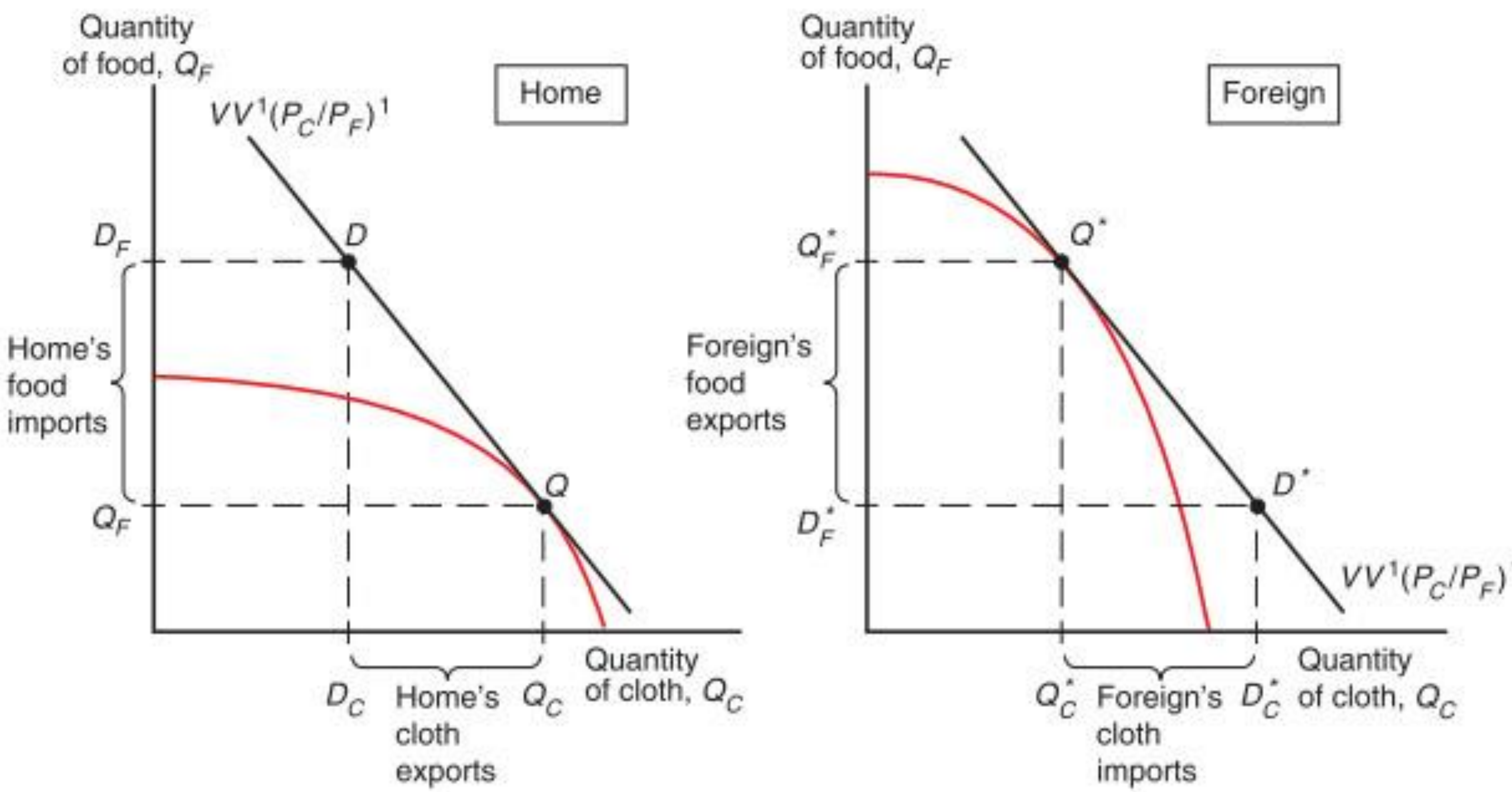
Equilibrium Relative Price with Trade and Associated Trade Flows



(b) Production, Consumption, and Trade