

International Economics

THEORY & POLICY

Seventh Edition



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Lecture No. 4 Chapter 5

The Standard Trade Model

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Preview

- A standard model of trading economy
- Economic growth
- International transfers of income
- Import tariffs and export subsidies
- Income distribution



The Standard Trade Model

- combines ideas from the Ricardian model, The specific factors model and the Heckscher-Ohlin model
- previous three model can be regarded as special cases



The Ricardian Model

- production possibilities are determined by the allocation of labor between sectors
 - + idea of comparative advantage
 - does not allow discuss the distribution of income



The Specific Factors Model

- labor can freely move between sectors, there are other factors specific to particular industries
 - + ideal model for understanding income distribution
 - awkward for discussing the pattern of trade



The Heckscher-Ohlin Model

- multiple factors of production can move between sectors
 - + conveys deeper understanding of how resources may drive trade patterns
 - harder to work with



Models Share Basic Features

1. The production capacity of an economy can be summarized by its production possibility frontier and differences in these PPFs give rise to trade.
2. Production possibilities determine a country's relative supply schedule.
3. World equilibrium is determined by world relative demand and a world relative supply schedule that lies between the national relative supply schedules.



The Standard Model of Trading Economy

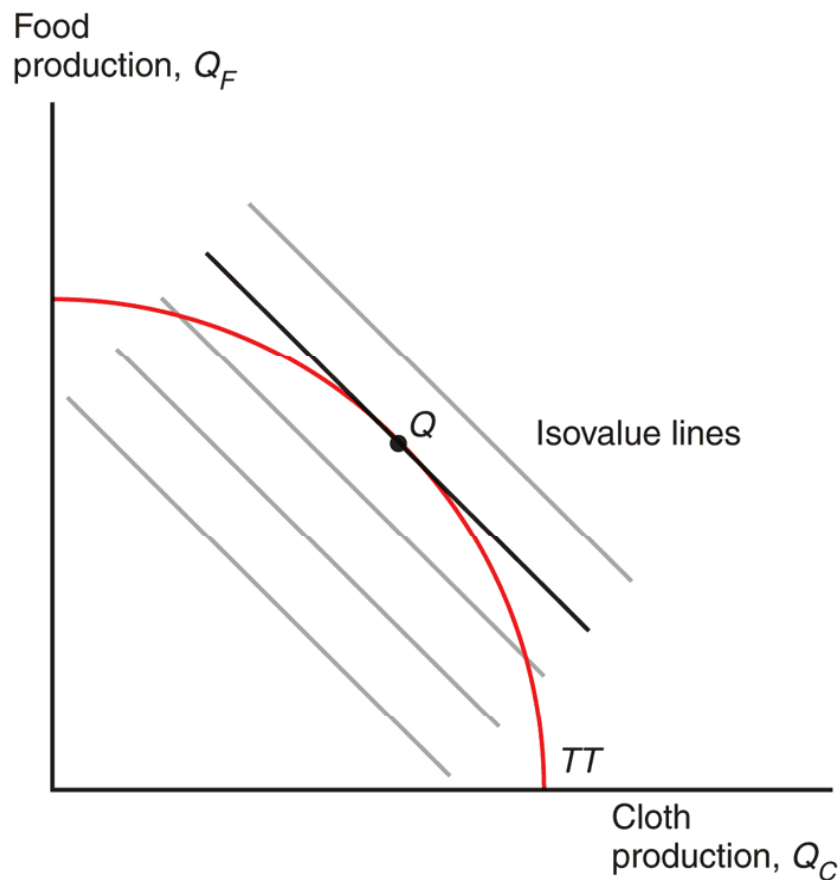
- it is built on four key relationships:
 - ◆ PPF and relative supply curve
 - ◆ relative prices and relative demand
 - ◆ world relative supply and demand → world equilibrium
 - ◆ terms of trade



Production Possibilities and Relative Supply

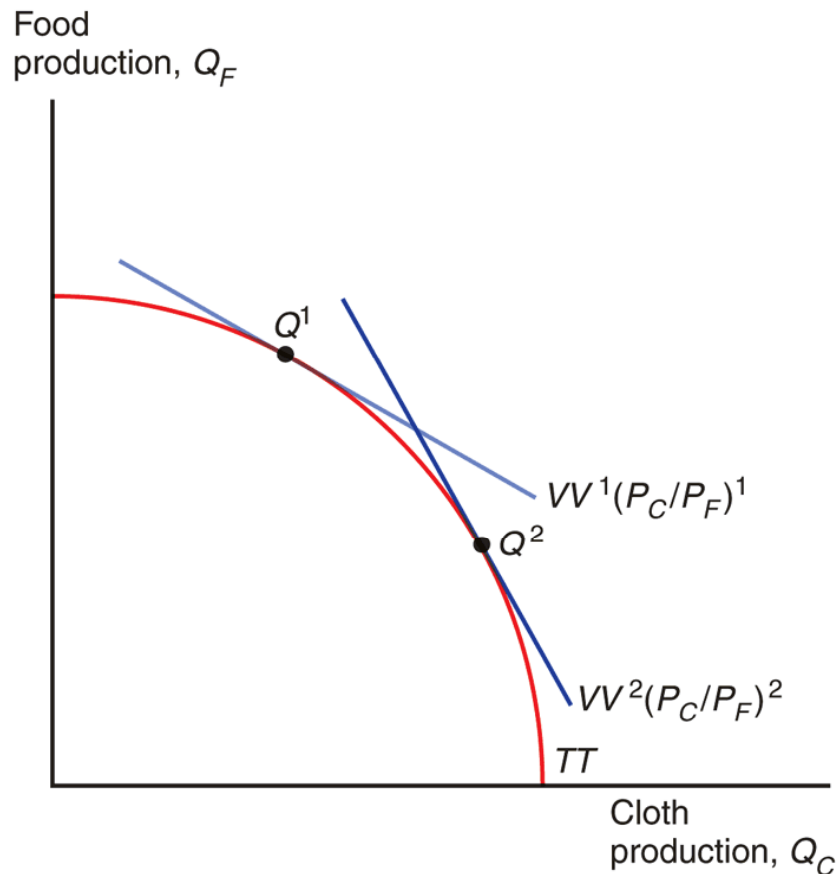
- the point of production on PPF depends on the price of cloth relative to food
- a market economy is efficient in production if maximizes the value of output at given market prices: $V = P_C Q_C + P_F Q_F$
 - ◆ the market value of output is illustrated by islovalue line – line along which the V is constant
 - ◆ the slope line equals $-(P_C/P_F)$, and if relative prices change the slope changes

Production Possibilities and Relative Supply (cont.)



- the economy will produce the highest output it can: the point Q where TT is just tangent to an isovalue line

Production Possibilities and Relative Supply (cont.)



- how an increase in the relative price of cloth affects relative supply:
 P_C/P_F rise
 - the isovalue line is steeper
 - economy produce more cloth and less food



Production, Consumption and Trade

- economy's consumption equals the value of its production

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

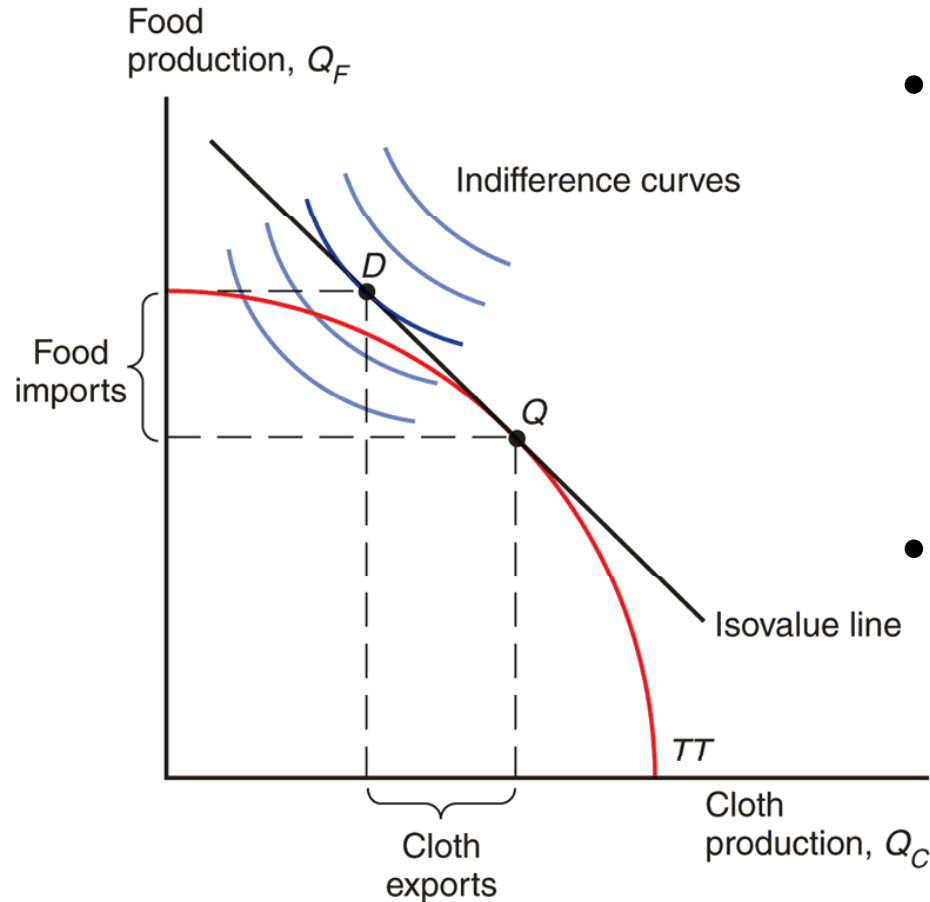
- production and consumption must lie on the same isovalue line



Production, Consumption and Trade (cont.)

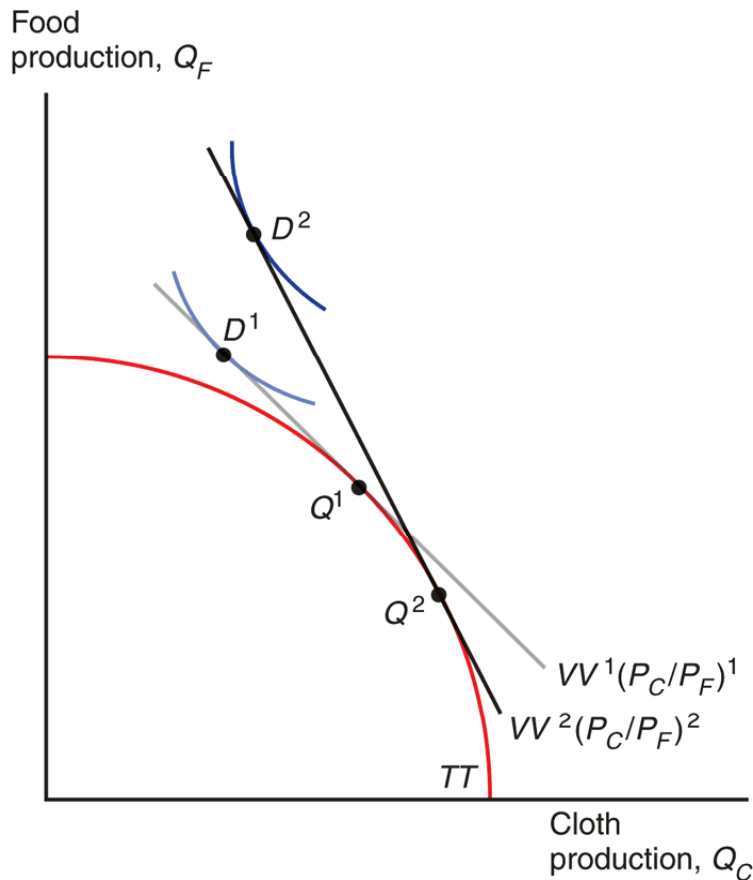
- consumer preferences can be represented by a series of **indifference curves**: combinations of goods that make consumers equally satisfied (indifferent)
- economy consumes at point where islovalue line is tangent to the highest possible indifference curve

Production, Consumption and Trade (cont.)



- the economy produces more cloth than it consumes and therefore exports cloth
- it consumes more food than it produces and therefore imports food

Production, Consumption and Trade (cont.)



- increase in the relative price of cloth → the economy produce more cloth and less food
 - this shifts the isovalue line on which the consumption must lie
 - the consumption shifts to the new point



Production, Consumption and Trade (cont.)

1. the economy has moved to a higher indifference curve – it is better off
 - ◆ the economy is an exporter of cloth and when the relative price of cloth rises, it can afford to import more food → the higher relative price of its export good represents an advantage
2. the change in relative prices leads to a shift along the indifference curve, toward food and away from cloth



Production, Consumption and Trade (cont.)

- **income effect** - the change in income when the price of one good changes relative to the price of another
 - ◆ graphically represented by shifting the indifference curve
- **substitution effect** - the substitution of one good for another when the price of the good changes relative to the other
 - ◆ graphically represented by a moving along a given indifference curve



Welfare and the Terms of Trade

- terms of trade - the price of exports relative to the price of imports
- an increase in the terms of trade increases a country's welfare
- a decrease in the terms of trade decreases a country's welfare

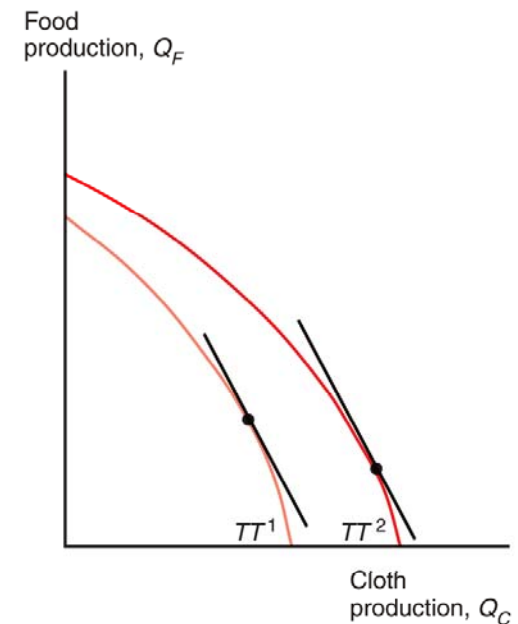


Economic Growth

- Is economic growth in other countries good or bad for our nation?
- Is growth in a country more or less valuable when it when it is integrated in the world economy?
- The standard trade model gives us precise answers to these questions.

Economic Growth (cont.)

- outward shift of a country's PPF
 - ◆ results either from increases in a country's resources or from improvements in the efficiency with which resources are used
- the international trade effects of biased growth (PPF shifts out more in one direction than in the other)





Economic Growth (cont.)

- reasons of biased growth
 - ◆ according to the Ricardian model: technological progress in one sector
 - ◆ according to the Heckscher-Ohlin model: an increase in one factor of production
- the same considerations that give rise to international trade will also lead to biased growth in a trading economy

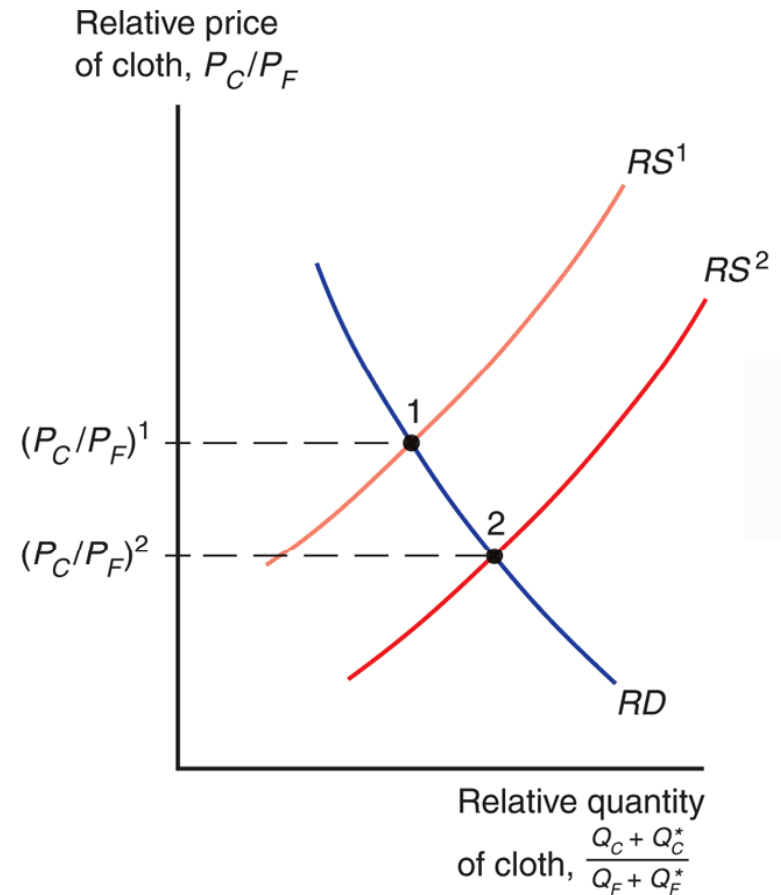


Economic Growth (cont.)

- growth that is biased toward cloth will lead to a rise in the output of cloth relative to that of food
 - ◆ the reverse is true for growth biased toward food
- important is the bias of growth, not which economy grows

Economic Growth (cont.)

- suppose that Home experiences growth strongly biased toward cloth
 - ◆ output of cloth rises while output of food declines
 - ◆ world output of cloth relative to food rises at any given price
 - ◆ worsening Home's terms of trade and improvement in Foreign's terms of trade





Economic Growth (cont.)

- export-biased growth - expands a country's PPF in the direction of that good it exports
 - ◆ cloth for Home, food for Foreign
- import-biased growth - expands a country's PPF the direction of that good it imports
 - ◆ food for Home, cloth for Foreign



Economic Growth (cont.)

- export-biased growth reduces a country's terms of trade, generally reducing its welfare and increasing the welfare of foreign countries
- import-biased growth increases a country's terms of trade, generally increasing its welfare and decreasing the welfare of foreign countries



Answers to the Initial Questions

- export-biased growth in the rest of the world is good for us, improving our terms of trade, while import-biased growth abroad worsens our terms of trade
- export-biased growth in our country worsens our terms of trade, reducing the direct benefits of growth, while import-biased growth leads to an improvement of our terms of trade

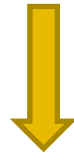


Economic Growth (cont.)

- immiserizing growth – situation when export-biased growth worsens terms of trade so much that country is worse off than it had not grown at all

International Transfers of Income

- if Home makes a transfer of some of its income to Foreign, Home's income is reduced and it reduces its expenditures and Foreign increases its expenditures



shift in world relative demand



affect the terms of trade



International Transfers of Income

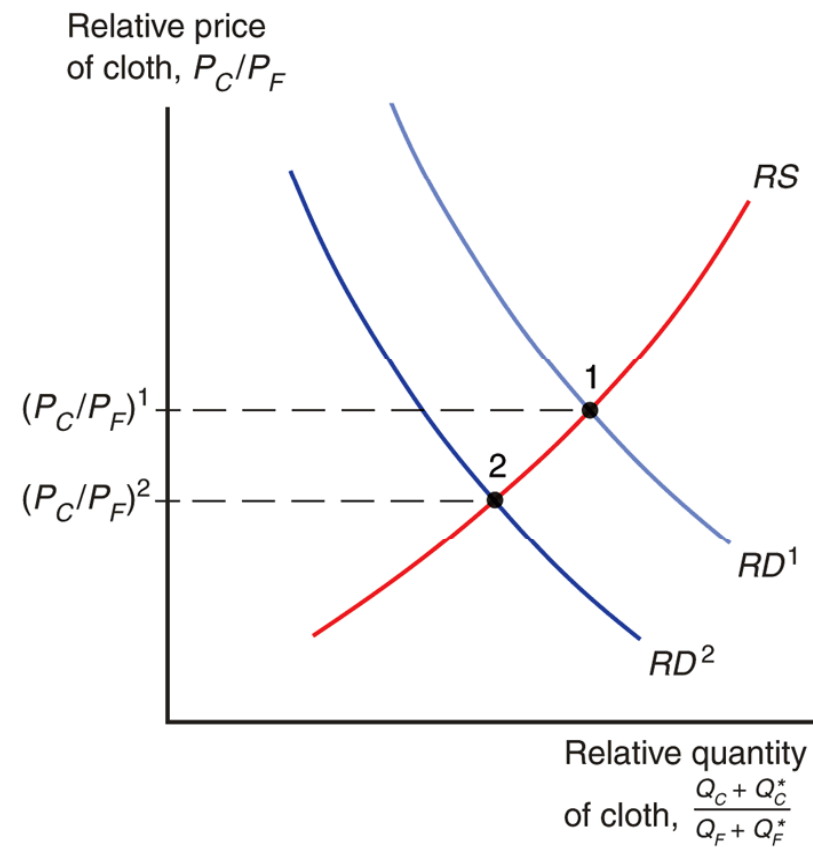
- a) Foreign allocates its extra income between cloth and food in the same proportions that Home reduces its spending
- world spending will not change: relative demand will not shift
 - no terms of trade effect



International Transfers of Income (cont.)

- b) two countries do not allocate their change in spending in the same proportions and Home has higher marginal propensity to spend on cloth than foreign
- Home's transfer payments reduce demand for cloth and increase demand for food at any given relative price → relative demand curve shifts to left
 - shift lowers the relative price of cloth and worsens Home's terms of trade

International Transfers of Income (cont.)





International Transfers of Income (cont.)

- an income transfer worsens the donor's terms of trade if the donor has a higher marginal propensity to spend on its export good than the recipient
- if the donor has a lower marginal propensity to spend on its export, its terms of trade will improve



Import Tariffs and Export Subsidies

- import tariffs - taxes levied on imports
- export subsidies - payments given to domestic producers that export
- external price – price at which good is traded internationally
- internal price – price at which good is traded within a country



Import Tariffs and Export Subsidies (cont.)

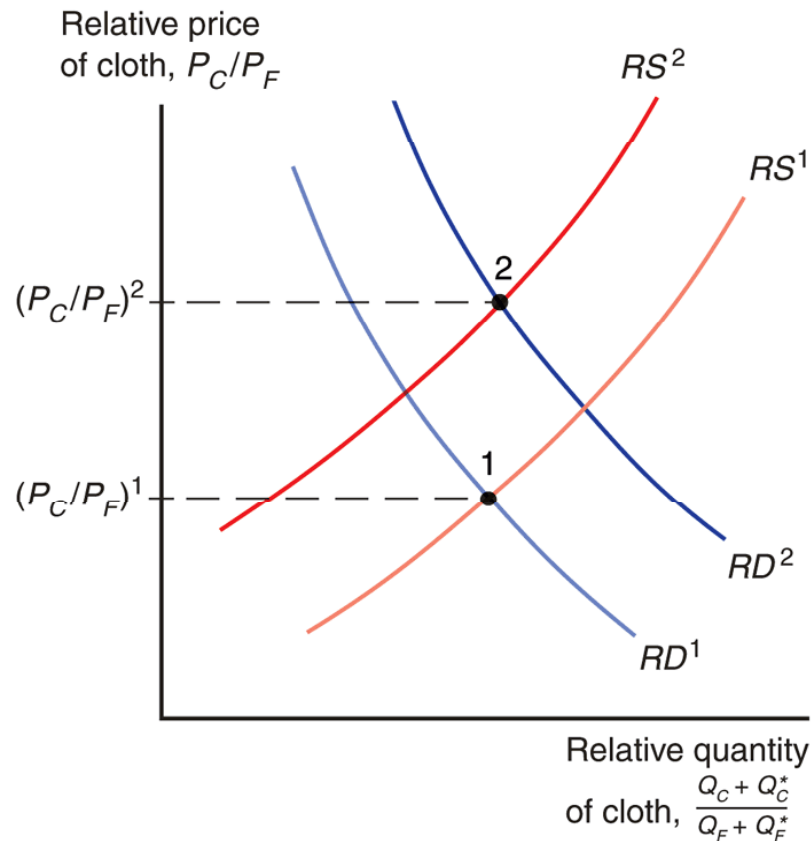
- import tariffs and export subsidies drive a wedge between prices in world markets and prices in domestic markets
- The terms of trade refers to the relative value of a country's exports and a country's imports.
 - ◆ Since exports and imports are traded in world markets, the terms of trade measures external prices.



Import Tariffs

- if Home imposes a tariff on food imports, the price of food relative to price cloth that domestic citizens face is higher
 - ◆ the price of cloth relative to the price of food that domestic consumers and producers pay is lower
 - ◆ domestic producers will receive a lower relative price of cloth, and therefore will be more willing to switch to food production: the relative supply curve will shift
 - ◆ domestic consumers will pay a lower relative price of cloth, and therefore be more willing to switch to cloth consumption: the relative demand curve will shift

Import Tariffs (cont.)



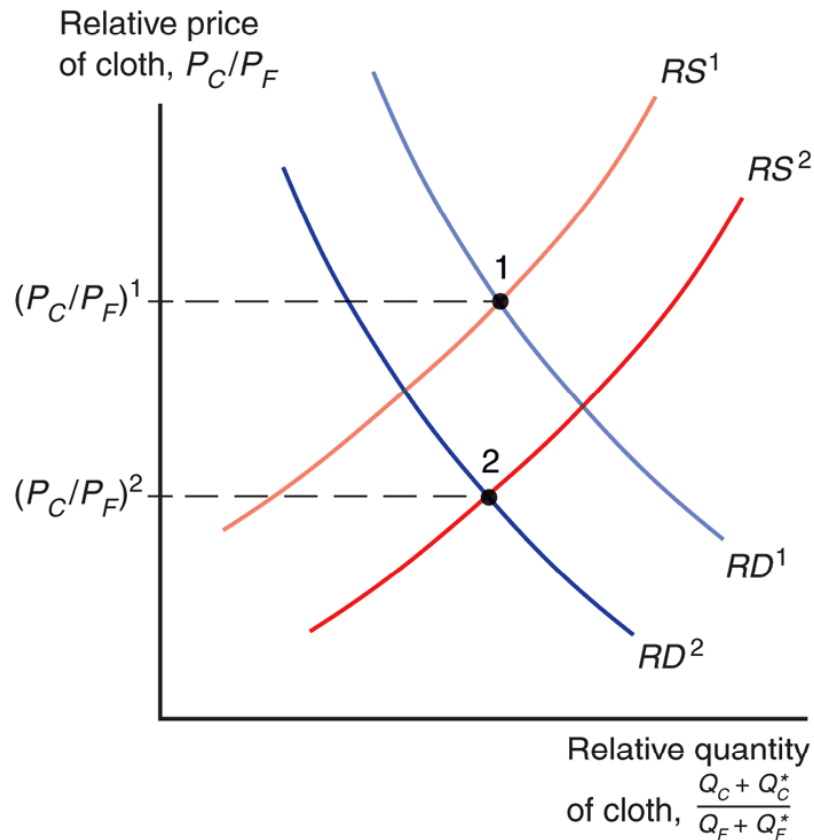
- the world relative price of cloth rises
- Home's terms of trade improve at Foreign's expense
- the magnitude of this effect depends on the size of the domestic country relative to the world economy



Export Subsidies

- if Home imposes a subsidy on cloth exports, the price of cloth relative to price food that domestic citizens face is higher
 - ◆ domestic producers will receive a higher relative price of cloth, and therefore will be more willing to switch to cloth production: the relative supply curve will shift
 - ◆ domestic consumers will pay a higher relative price of cloth, and therefore be more willing to switch to food consumption: the relative demand curve will shift

Export Subsidies (cont.)



- the world relative price of cloth falls
- Home's terms of trade worsens and improves Foreign's



Import Tariffs, Export Subsidies and Distribution of Income

- the two country, two good model predicts that
 - ◆ an import tariff by the domestic country can increase domestic welfare at the expense of the foreign country
 - ◆ an export subsidy by the domestic country reduces domestic welfare to the benefit of the foreign country



Import Tariffs and Export Subsidies

- export subsidies on a good decrease the relative world price of that good by increasing relative supply of that good and decreasing relative demand of that good
- import tariffs on a good decrease the relative world price of that good (and increase the relative world price of other goods) by increasing the relative supply of that good and decreasing the relative demand of that good



Summary

1. A change in relative prices, say due to trade, causes an income effect and a substitution effect.
2. The terms of trade refers to the price of exports relative to the price of imports in world markets.
3. Export-biased growth reduces a country's terms of trade, generally reducing its welfare and increasing the welfare of foreign countries.
4. Import-biased growth increases a country's terms of trade, generally increasing its welfare and decreasing the welfare of foreign countries.



Summary (cont.)

5. The effect of international transfers of income depend on the marginal propensity to spend on domestic goods, but generally the relative demand curve of donor will shift left leading to a decrease in the donor's terms of trade.
6. When the domestic country imposes an import tariff, the terms of trade increases and the welfare of the country may increase.



Summary (cont.)

7. When the domestic country imposes an export subsidy, the terms of trade decreases and the welfare of the country decreases.
8. Generally, a domestic import tariff increases income for domestic import-competing producers and shifts resources away from the export sector.
9. Generally, a domestic export subsidy increases income for domestic exporters and shifts resources away from the import-competing sector.