INTERNATIONAL ECONOMICS: REVISION NOTES

Semester 1, 2015, University of Papua New Guinea, Michael Cornish

Disclaimer: It is always possible that I have made a mistake in these notes without realising – so you rely on these notes to your own peril!

SECTION 1: INTERNATIONAL POLITICAL ECONOMY [LECTURE 3]

Michael's framework:

- **Narrative I: The West v. the Rest**
    - Legacy of colonialism
    - **Neocolonial dependency theory:**
        - The centre exploits the periphery
        - Problems:
            - Just the 'West'?
            - Is the exploitation deliberate?
- Narrative II: Globalisation and the Rise of the Rest
    - Huge increases in international trade in the developing world since the 70s and 80s
    - 'South-South' trade increasingly important
    - Horizontal linkages v. vertical linkages
    - Pressures on international economic governance
    - Rise of the 'BRICS'
- Narrative III: Rising equality, rising inequality
    - Increasing global income equality
    - BUT: Increasing national income inequality
- Narrative IV: Protectionism, Free Trade, or Fair Trade?
    - Protectionism = barriers to trade
    - Free Trade: Trade liberalisation is a net positive
        - Backed up by historical experiences!
        - But losses are concentrated, gains are spread thinly
        - Secondary issues of distribution of gains needs to be addressed
    - Fair Trade:
        - A type of product labelling (e.g. Fair Trade chocolate)
        - Primary producers (e.g. farmers) in developing countries get paid a higher (i.e. 'fairer') price for their products
        - However, only a niche market, not a solution to poverty by itself!!

SECTION 2: TRADE MODELS [LECTURES 4 TO 10]
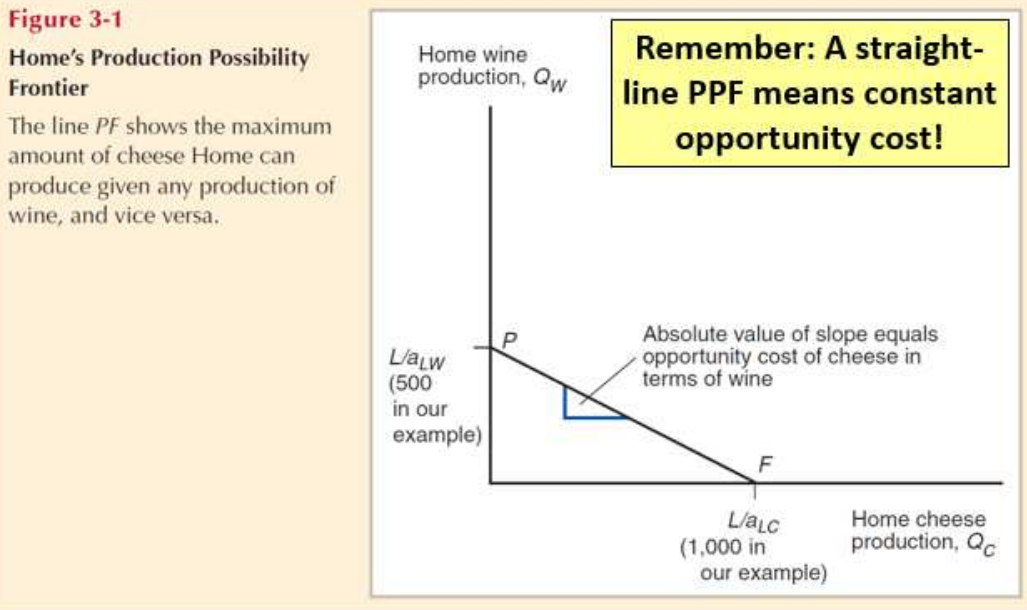
Basic concepts

- **Efficiency:**
    - **Productive efficiency**
        - A product is made using the least amount of resources
    - **Allocative efficiency**
        - Resources are allocated according to their most productive social use

- **Autarky:**
  - An economy that is closed; i.e. does not trade internationally
- **Opportunity cost:**
  - The value of the next best alternative
  - Distinguishes costs (and thus decision-making) in economics from accounting!
- **Production possibility curves / frontiers (PPCs/PPFs):**
  - Illustrates the principle of opportunity cost!
  - Shows the all of the possible combinations of two products that can be produced
  - Straight line PPF = constant opportunity cost [technically possible, but not realistic]
  - Bowed-outwards PPF = increasing opportunity cost [realistic]
  - Bending-inwards PPF = decreasing opportunity cost [not possible!]
  - Assumptions:
    - Fixed resources
    - Fixed technology
    - Productive efficiency
    - Full employment
- **Factors of production:**
  - Labour (L), Capital (K), Land (T), Entrepreneurship
- **Absolute advantage v. comparative advantage:**
  - **Absolute advantage:**
    - The ability to produce more of a product than other producers using the same amount of resources
  - **Comparative advantage:**
    - The ability to produce a product at a lower opportunity cost than other producers
- **General Equilibrium Analysis:**
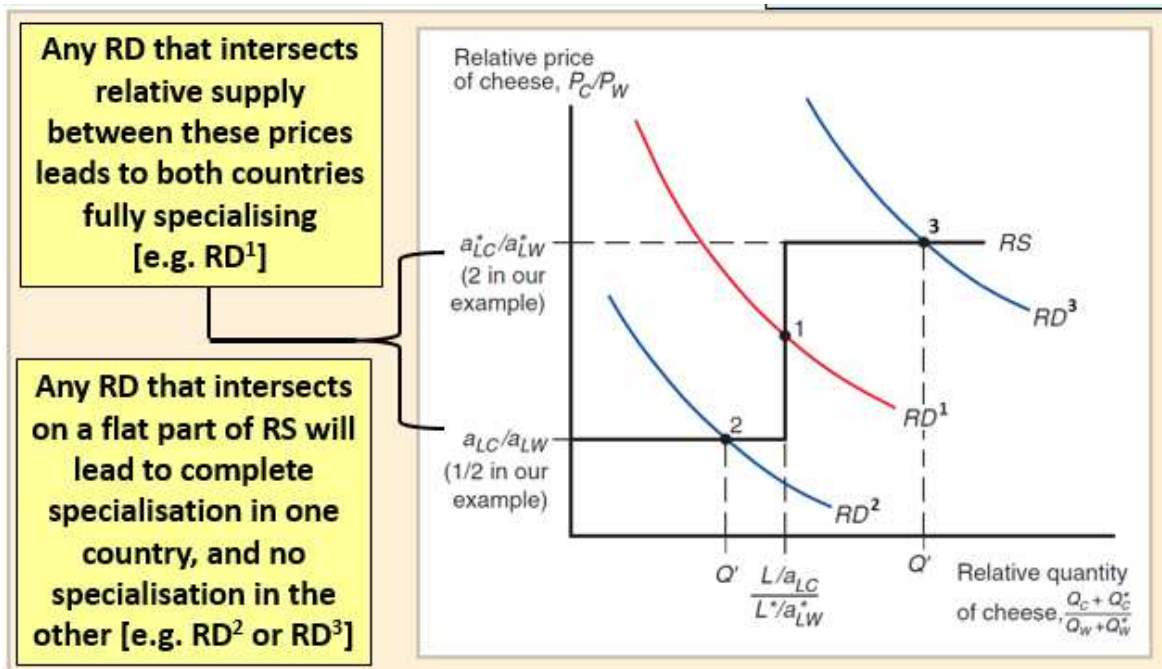 - Relative demand (RD) and relative supply (RS)

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1. **The Ricardian Model [Lecture 4]**
   - 2 products, 2 economies, 1 factor of production (L)
   - **What drives trade?**
     - Differences in labour productivity
   - Assumptions:
     - Perfect competition, homogenous labour
   - **Unit labour requirements (α)**
     - E.g. one unit of Good A requires three hours of labour: $\alpha L_A = 3$
   - **General equation for production: $L \geq (\alpha_{L1} * Q_1) + (\alpha_{L2} * Q_2)$**

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Figure 3-1

Home's Production Possibility Frontier

The line *PF* shows the maximum amount of cheese Home can produce given any production of wine, and vice versa.

Home wine production, Q_W

Remember: A straight-line PPF means constant opportunity cost!

L/a_{LW} (500 in our example)

Absolute value of slope equals opportunity cost of cheese in terms of wine

L/a_{LC} (1,000 in our example)

Home cheese production, Q_C

- Wages: **w = (P / α)**   (e.g., $w_C = (P_C / α_{LC})$)
    - o In the <u>absence of trade</u>, we expect relative prices to equal relative costs (and thus wages would equalise!)
        - ▪ Note: This is not technically <u>factor price equalisation</u> – see page 9 for that!
    - o In Home: **$P_1 / P_2 = α_{L1} / α_{L2}$**

Any RD that intersects relative supply between these prices leads to both countries fully specialising [e.g. RD^1]

Any RD that intersects on a flat part of RS will lead to complete specialisation in one country, and no specialisation in the other [e.g. RD^2 or RD^3]

Relative price of cheese, P_C/P_W

a^*_{LC}/a^*_{LW} (2 in our example)

a_{LC}/a_{LW} (1/2 in our example)

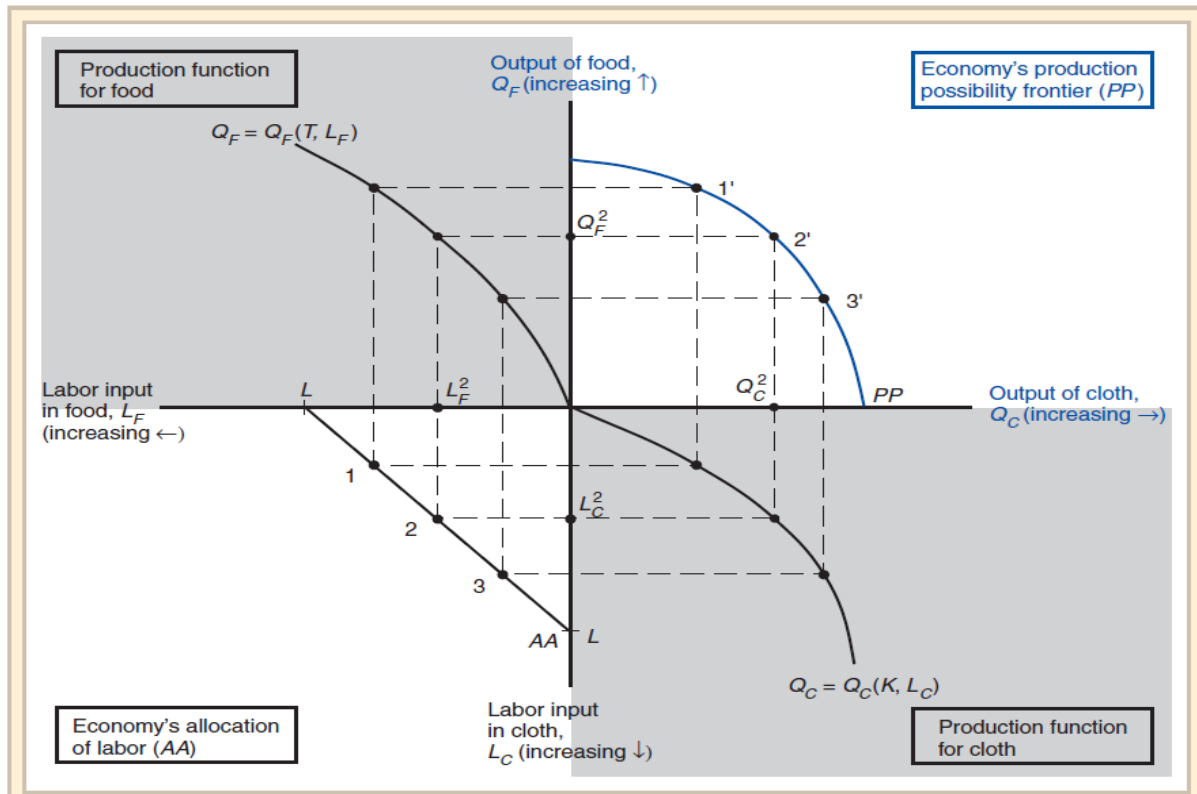Q' $\frac{L/a_{LC}}{L^*/a^*_{LW}}$ Q' Relative quantity of cheese, $\frac{Q_C + Q^*_C}{Q_W + Q^*_W}$

- RD^1: Both Home and foreign fully specialise according to their comparative advantage
- RD^2: Foreign fully specialises in wine, Home does not specialise (produces both)
- RD^3: Home fully specialises in cheese, Foreign does not specialise (produces both)

How does trade affect the economy?

- Comparative advantage creates gains from trade (i.e. welfare gains)
- Countries (either fully or partially) specialise according to their comparative advantage

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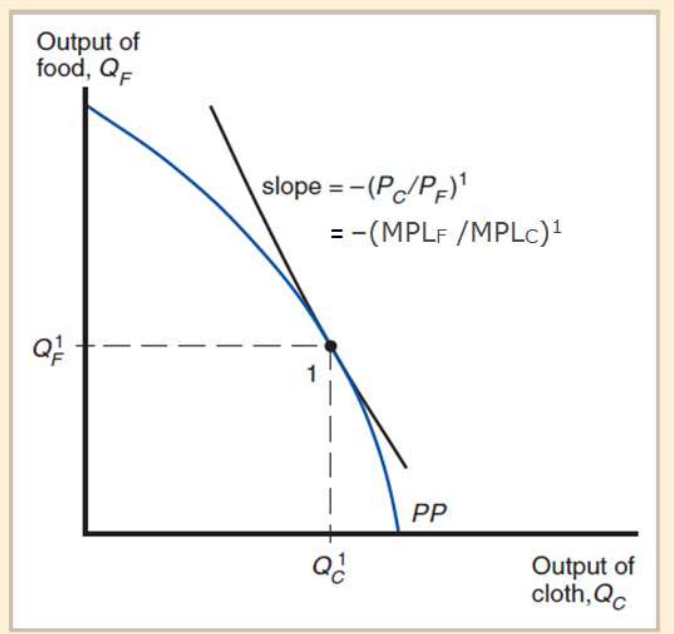## 2. The Specific Factors Model [Lecture 5]

- 2 products, 2 economies, 3 factors of production (L, K, T)
- **What drives trade?**
  - The model does not explicitly address this – it assumes changes in prices are exogenously determined by trade…!
  - Instead it looks at the <u>distributional</u> effects caused by trade
- Assumptions:
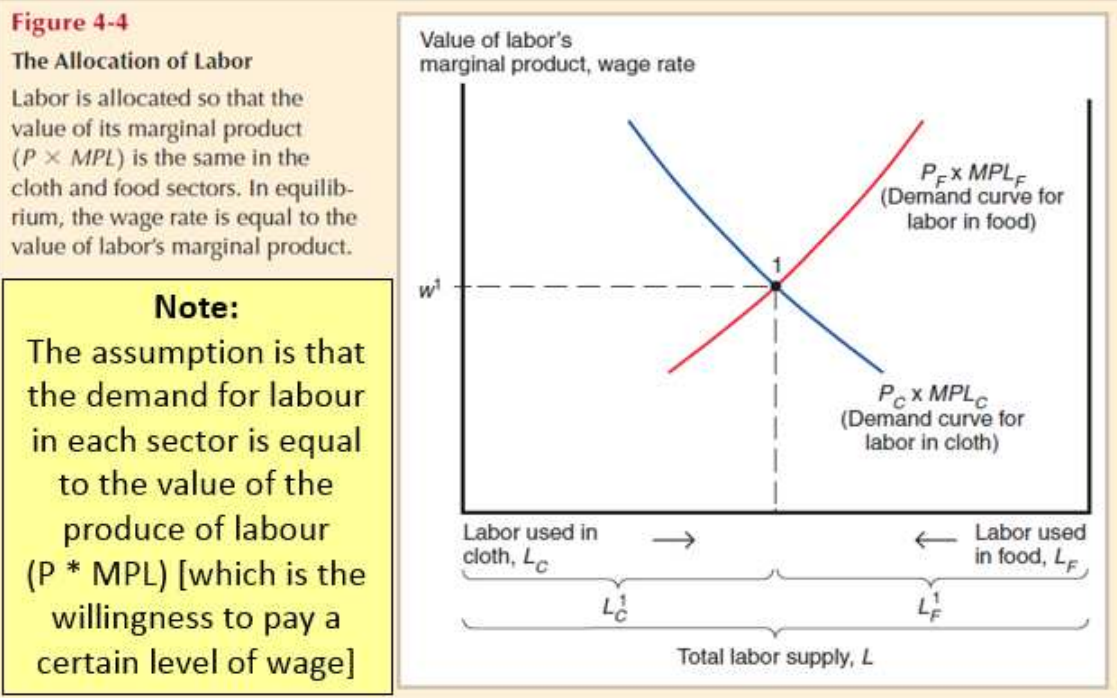 - Perfect competition, homogenous labour
- **The 'four-way' graph:**

Production function for food

Output of food, Q_F (increasing ↑)

$Q_F = Q_F(T, L_F)$

Economy's production possibility frontier (PP)

Labor input in food, L_F (increasing ←)

Output of cloth, Q_C (increasing →)

Economy's allocation of labor (AA)

Labor input in cloth, L_C (increasing ↓)

Production function for cloth

$Q_C = Q_C(K, L_C)$

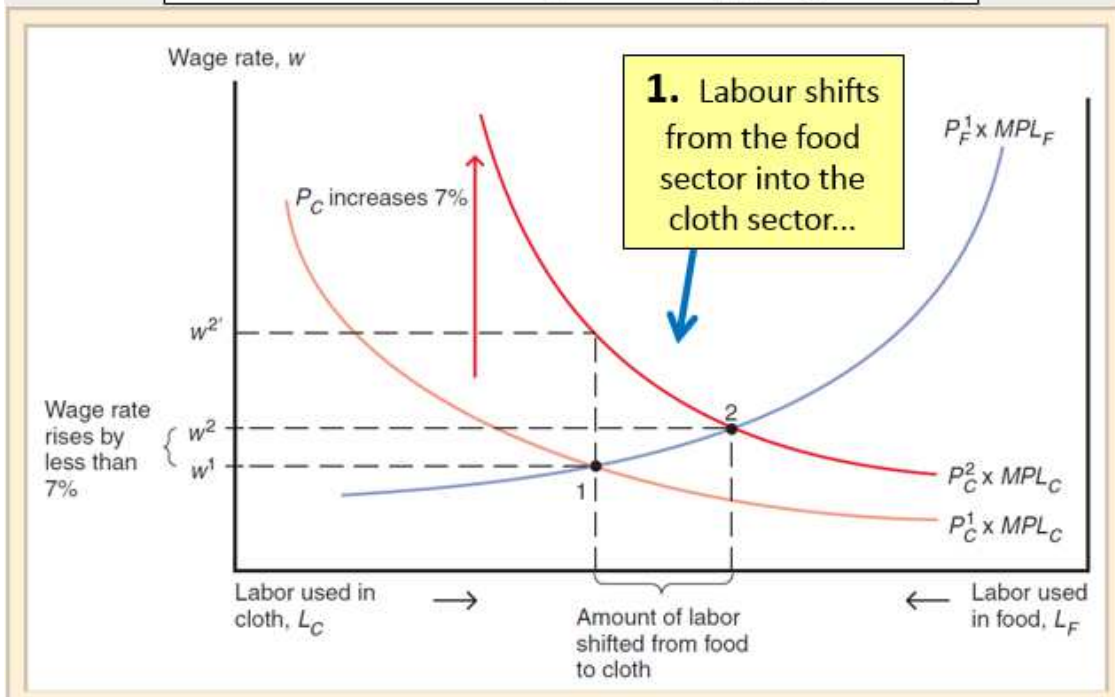**Figure 4-5**

Production in the Specific Factors Model

The economy produces at the point on its production possibility frontier (PP) where the slope of that frontier equals minus the relative price of cloth.

Output of food, Q_F

slope $= -(P_C/P_F)^1$

$= -(MPL_F / MPL_C)^1$

Q_F^1

PP

Q_C^1

Output of cloth, Q_C

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- **Wages:**
  - $w = MPL_C * P_C = MPL_F * P_F$
  - Thus: $- MPL_F / MPL_C = - P_C / P_F$

Figure 4-4

The Allocation of Labor

Labor is allocated so that the value of its marginal product $(P \times MPL)$ is the same in the cloth and food sectors. In equilibrium, the wage rate is equal to the value of labor's marginal product.

Note:

The assumption is that the demand for labour in each sector is equal to the value of the produce of labour $(P * MPL)$ [which is the willingness to pay a certain level of wage]

Value of labor's marginal product, wage rate

$P_F \times MPL_F$ (Demand curve for labor in food)

w^1

$P_C \times MPL_C$ (Demand curve for labor in cloth)

Labor used in cloth, L_C →

← Labor used in food, L_F

L_C^1 L_F^1

Total labor supply, L

An increase in one price only (e.g. cloth)

Wage rate, w

1. Labour shifts from the food sector into the cloth sector...

$P_F^1 \times MPL_F$

P_C increases 7%

$w^{2'}$

Wage rate rises by less than 7%

w^2

w^1

$P_C^2 \times MPL_C$

$P_C^1 \times MPL_C$

Labor used in cloth, L_C →

Amount of labor shifted from food to cloth

← Labor used in food, L_F

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Extension: International Labour Mobility [Lecture 9]

Figure 4-13

Causes and Effects of International Labor Mobility

Initially OL^1 workers are employed in Home, while L^1O^* workers are employed in Foreign. Labor migrates from Home to Foreign until OL^2 workers are employed in Home, L^2O^* in Foreign, and wages are equalized.
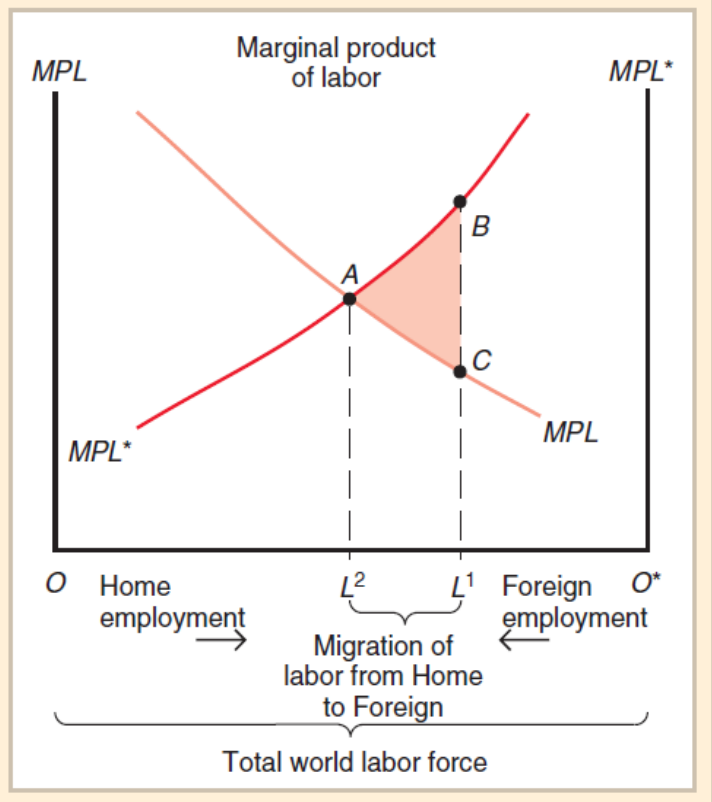
Who wins (in our example)?

- Migrant workers from Home (as wF>wH)
- Workers who stay in Home (↑wH)
- Owners of land / capital in Foreign (↓wF)

Who loses (in our example)?

- Workers in Foreign
- Owners of land / capital in Home (↑wH)

- -

How does trade affect the economy?

- Trade benefits the factor that is specific to the export market, but hurts the factor that is specific to the import market
- The effects upon the non-specific factor (L) are ambiguous

3. **The Heckscher-Ohlin Model [Lecture 6]**
   - 2 products, 2 economies, 2 factors of production (L, K) ['2 x 2 x 2 Model']
   - **What drives trade?**
     - Differences in resource endowments
     - I.e. differences in the relative abundance of factors of production)
   - Assumptions:
     - Perfect competition, homogenous labour

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Relative factor demand curves

Figure 5-5

Factor Prices and Input Choices

In each sector, the ratio of labor to capital used in production depends on the cost of labor relative to the cost of capital, w/r. The curve FF shows the labor-capital ratio choices in food production, while the curve CC shows the corresponding choices in cloth production. At any given wage-rental ratio, cloth production uses a higher labor-capital ratio; when this is the case, we say that cloth production is *labor-intensive* and that food production is *capital-intensive*.

Wage-rental ratio, w/r

Cloth production is more **labour-intensive** than food production; food is more **capital-intensive**

CC

FF

Labor-capital ratio, L/K
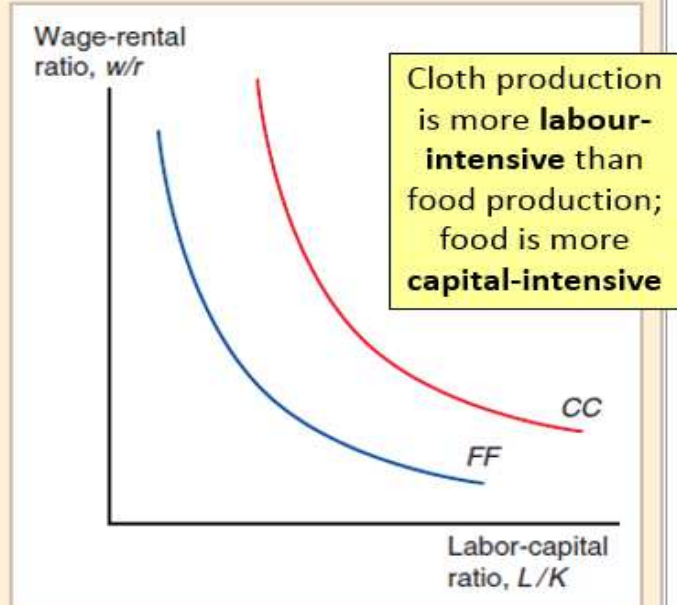
Linking relative product prices (P_C/P_F) with relative factor prices (w/r)

Figure 5-6

Factor Prices and Goods Prices

Because cloth production is labor-intensive while food production is capital-intensive, there is a one-to-one relationship between the factor price ratio w/r and the relative price of cloth P_C/P_F; the higher the relative cost of labor, the higher must be the relative price of the labor-intensive good. The relationship is illustrated by the curve SS.

Relative price of cloth, P_C/P_F

SS

Wage-rental ratio, w/r

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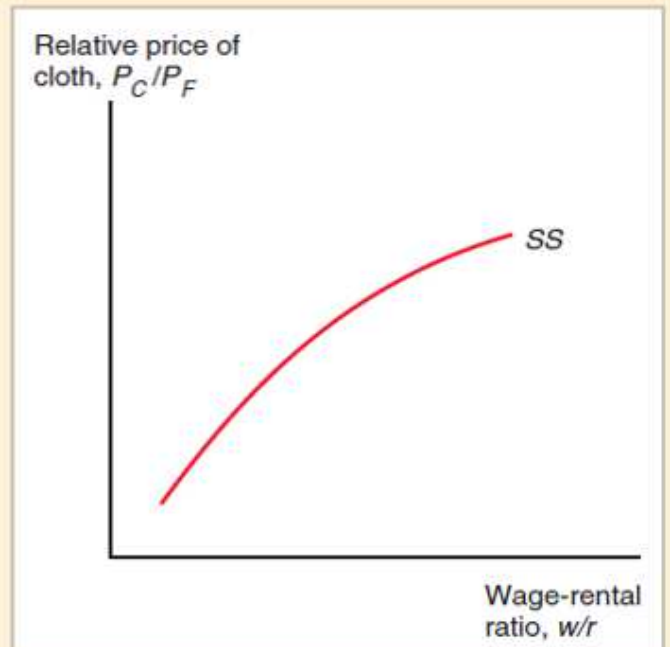
And now linking it all together: relative product prices (P$_C$/P$_F$), relative factor prices (w/r), & input combinations

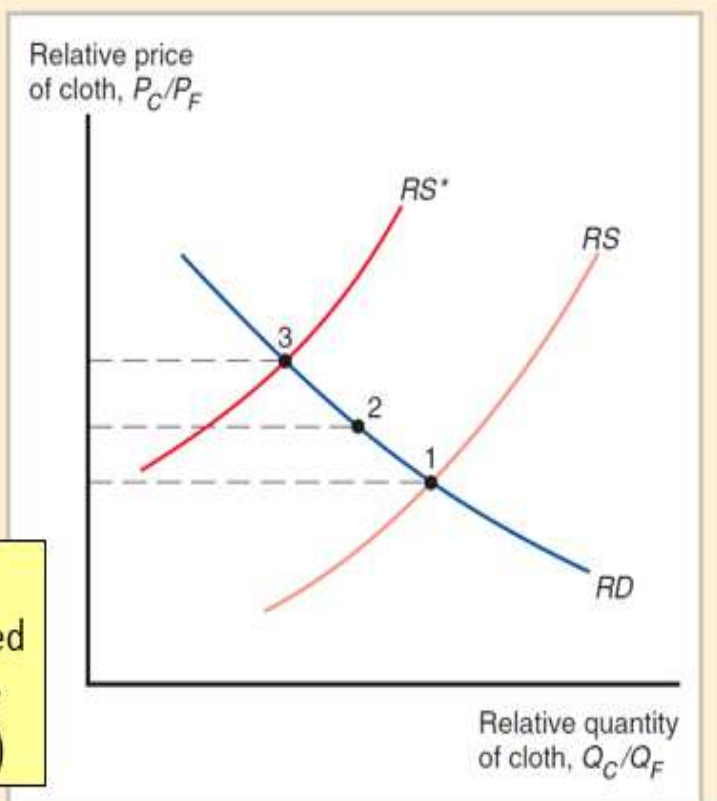Wage-rental, w/r

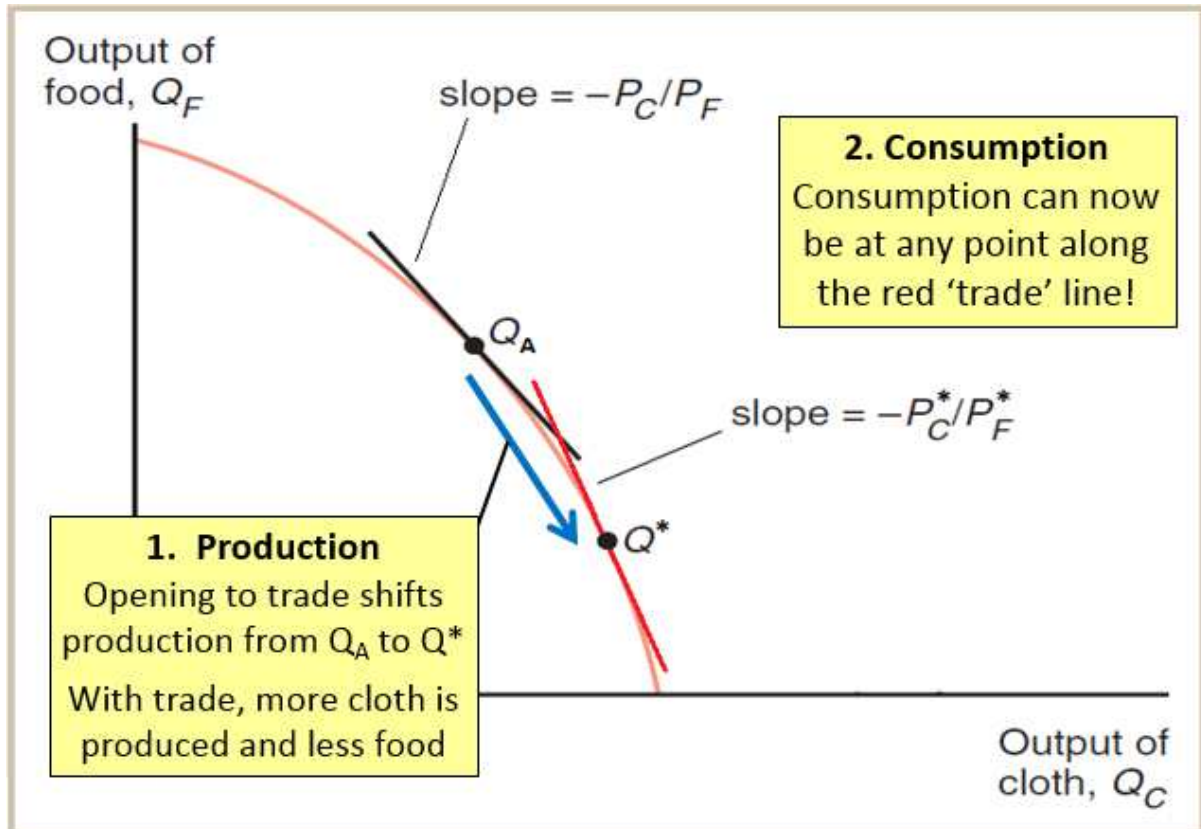SS   FF   CC

$(w/r)^2$

$(w/r)^1$

Then we decrease the L-K ratio used in both products

If we increase P$_C$ / P$_F$...

Relative price of cloth, P$_C$/P$_F$ $(P_C/P_F)^2$ $(P_C/P_F)^1$ $(L_F/K_F)^2$ $(L_F/K_F)^1$ $(L_C/K_C)^2$ $(L_C/K_C)^1$ Labor-capital ratio, L/K

←——— Increasing   Increasing ———→
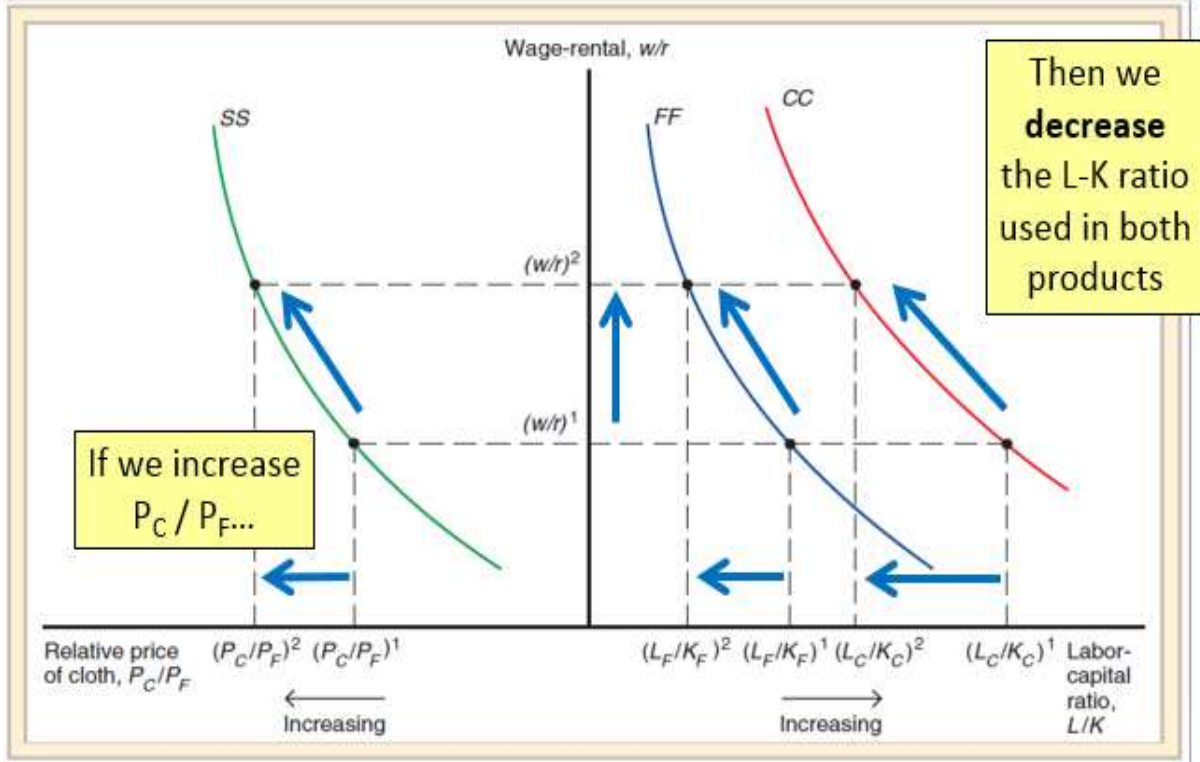
Figure 5-9

Trade Leads to a Convergence of Relative Prices

In the absence of trade, Home's equilibrium would be at point 1, where domestic relative supply RS intersects the relative demand curve RD. Similarly, Foreign's equilibrium would be at point 3. Trade leads to a world relative price that lies between the pre-trade prices, that is, at point 2.

Note:
Relative demand is assumed to be universal (the same regardless of the country)

Relative price of cloth, P$_C$/P$_F$

RS*   RS

3
2
1

RD

Relative quantity of cloth, Q$_C$/Q$_F$

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Output of food, Q_F

slope = $-P_C/P_F$

2. Consumption
Consumption can now be at any point along the red 'trade' line!

Q_A

slope = $-P_C^*/P_F^*$

1. Production
Opening to trade shifts production from Q_A to Q^*

With trade, more cloth is produced and less food

Q^*

Output of cloth, Q_C

How does trade affect the economy? [Lecture 9]

The Heckscher-Ohlin Theorem:

- The country that is relatively abundant in a factor will export the product that uses that factor intensively in its production

Factor price equalisation
- When countries trade we expect to see an equalisation of factor prices <u>when adjusted for risk and transport costs</u>
    - o I.e. wages should equalise, and rental yields on capital and land should equalise

- Owners of the country's abundant factor gains from trade, but owners of a country's scarce factors lose
- Why?
    - o When countries trade a final product with one another, they are also <u>indirectly</u> trading the factors of production *used* in that product
        - ▪ I.e. the hours of labour, and hours of capital / land usage, etc.
    - o Thus, a country effectively exports its abundant factors of production
- However, in the real world we don't see full factor price equalisation - why not?
    - o Both countries may not produce both products
    - o Differences in technology
    - o Protectionism!

Stolper-Samuelson Theorem

- A rise in the relative price of a product will lead to:
    - o A rise in the return to the factor of production that is used more intensively in its production

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o ...and, conversely, to a fall in the return to the factor of production that is used less-intensively

The Leontief Paradox

- Leontief tried to explain why trade data between Europe and the United States after World War II (specifically, in 1947) showed the *opposite* of what the Heckscher-Ohlin Model predicted
  - o I.e., the US was relatively capital abundant, Europe was relatively labour abundant, but the US was exporting <u>labour-intensive</u> products to Europe!
- <u>Possible explanations:</u>
  - o Demand reversals
  - o Factor intensity reversals
  - o 1947 was not an ordinary year
  - o US Protectionism
  - o The Heckscher-Ohlin is just too simplistic!
  - o Home bias
  - o High levels of imperfect factor mobility?
  - o High levels of imperfect competition?

The Rybczynski Theorem

- Assuming constant relative prices, an increase in the endowment of one factor of production will lead to a <u>more than proportional increase</u> in output in the sector that uses that factor intensively

The Rybczynski theorem

Two products:
Steel (capital-intensive); and Cloth (labour-intensive)

An expansion in the amount of one factor of production ($\uparrow L$) leads to:

An increase in production in the product that uses it intensively ($C_1 \Rightarrow C_2$);

...and a decrease in the production of the other product ($S_1 \Rightarrow S_2$)

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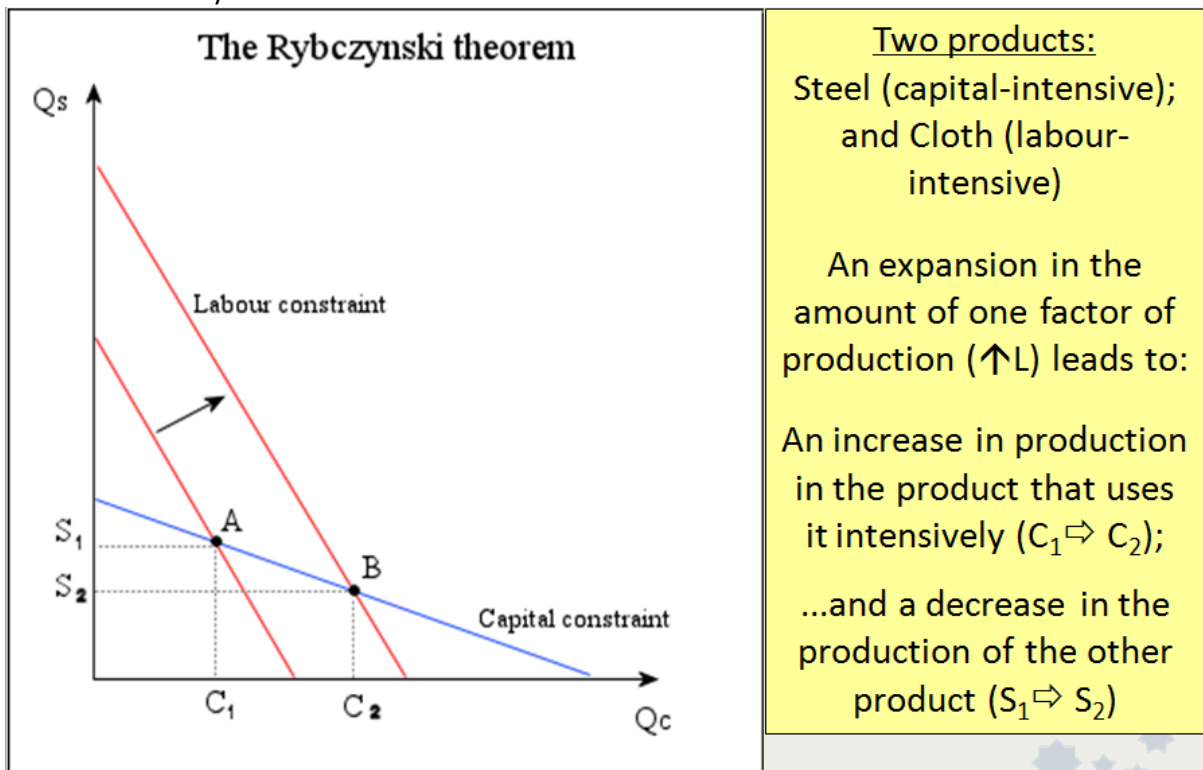
Figure 5-8

Resources and Production Possibilities

An increase in the supply of labor shifts the economy's production possibility frontier outward from TT^1 to TT^2, but does so disproportionately in the direction of cloth production. The result is that at an unchanged relative price of cloth (indicated by the slope $-P_C/P_F$), food production actually declines from Q_F^1 to Q_F^2.

And we get the same result when we relax the assumption about production required factors in fixed proportions

Output of food, Q_F

TT^2

TT^1

slope $= -P_C/P_F$

slope $= -P_C/P_F$

Q_F^1

1

Q_F^2

2

Q_C^1

Q_C^2

Output of cloth, Q_C
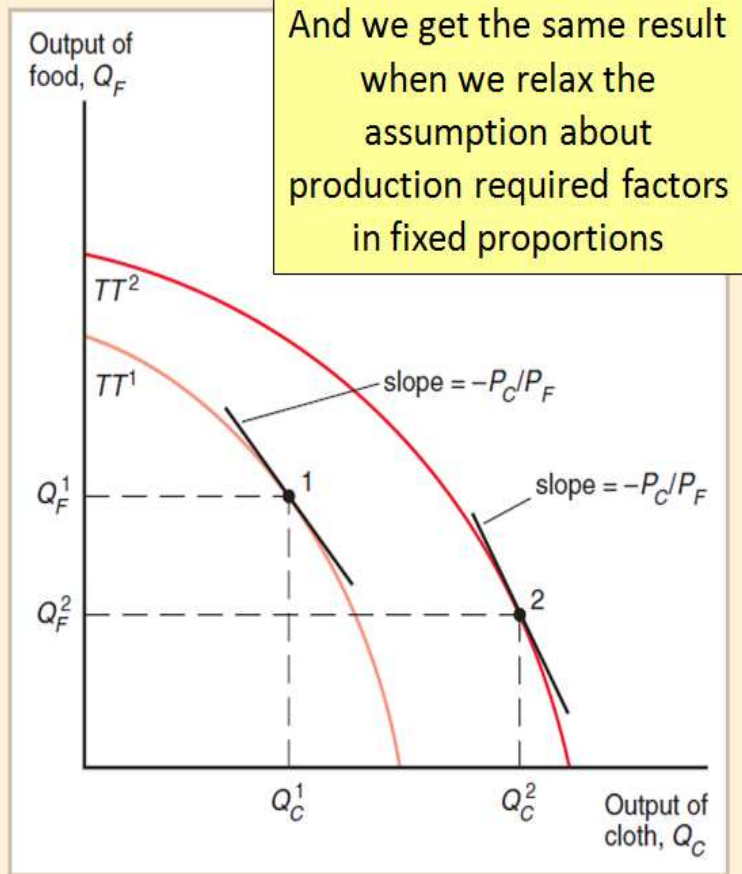
Inter-temporal comparative advantage: Will not be tested!

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4. The Standard Trade Model [Lecture 7]

Extends the Heckscher-Ohlin Model, adds in consumption preferences

- Otherwise, same assumptions, same conclusions!
  - Note: the diagrams in this section are assuming cloth is the exported product
- **Indifference curves ('utility curves')**
  - All points along a curve measure the same level of <u>utility</u> (satisfaction from consumption)
  - This means that consumers are indifferent about where they consume on the same curve
- Rules:
  - Cannot intersect (always parallel)
  - Utility functions are ordinal not cardinal (e.g. U = 10 is not twice the utility of U = 5)

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Figure 6-3

Production, Consumption, and Trade in the Standard Model

The economy produces at point Q, where the production possibility frontier is tangent to the highest possible isovalue line. It consumes at point D, where that isovalue line is tangent to the highest possible indifference curve. The economy produces more cloth than it consumes and therefore exports cloth; correspondingly, it consumes more food than it produces and therefore imports food.

(b) Production, Consumption, and Trade

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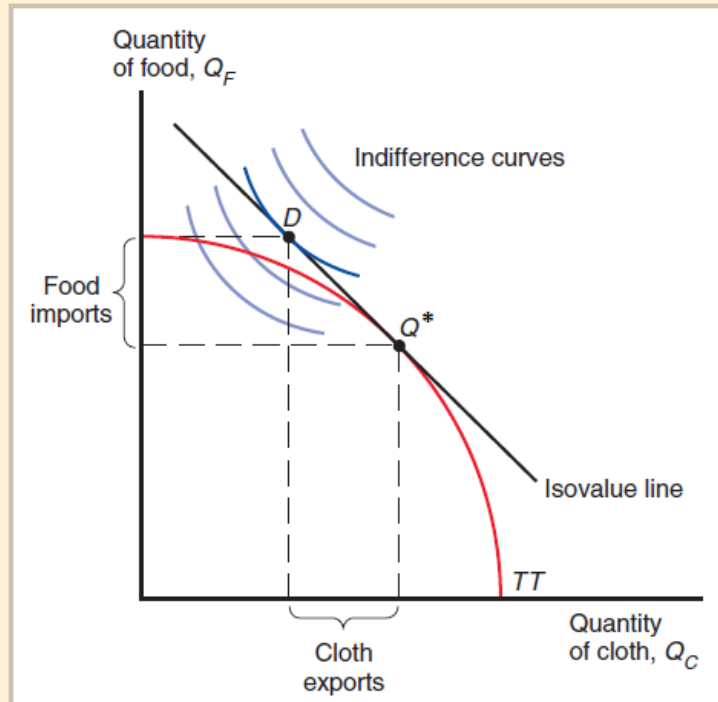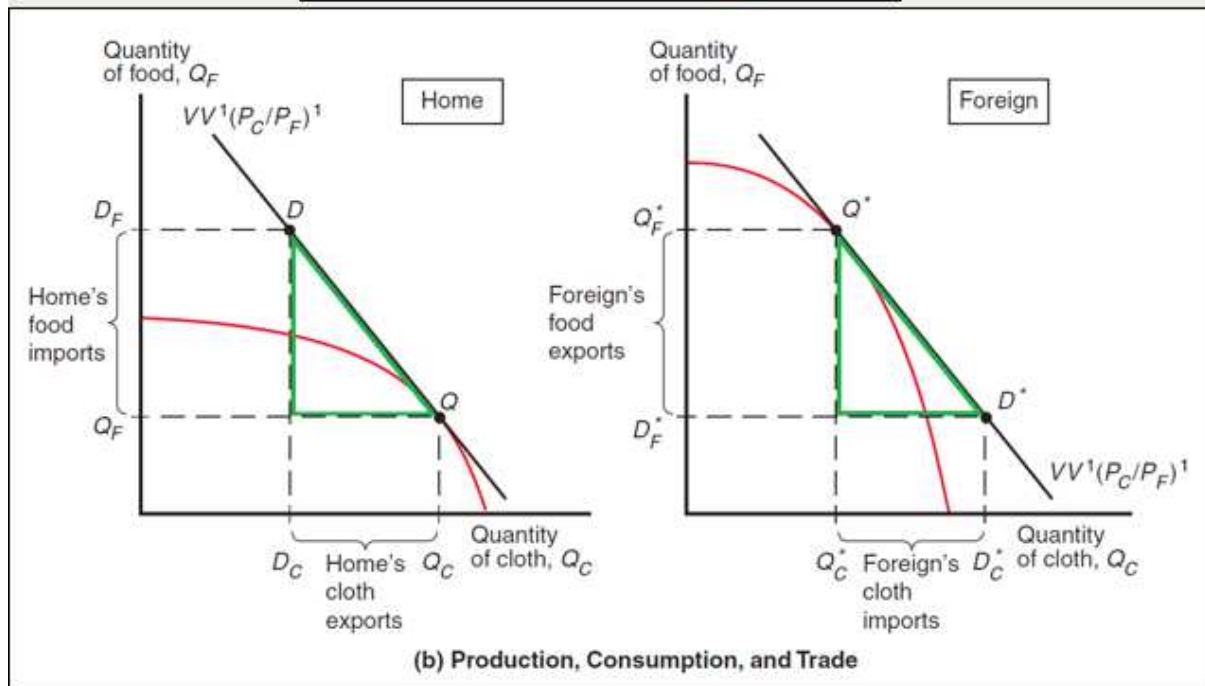
5. Modern Trade Models [Lecture 8]

Differences in demand

- Trade due to differences in consumer preferences, i.e., differences in the demand curves lead to <u>different</u> relative prices across countries
  - o E.g. our graph that showed that the Japanese liked chicken drumsticks rather than the chicken breast, and much more than other countries!

Linder's Representative Demand

- Product specialisation (and thus comparative advantage) is initially driven by <u>in-country demand</u>
- Most trade occurs between countries of similar levels of development, because it is those products that face the greatest demand
  - o Plus, there is the demand for product differentiation at that level of product
  - o E.g. Rice in the Pacific/South East Asia; motorbikes in South East Asia

Vernon's Product Life Cycle Theory

- Trade driven by product life cycles
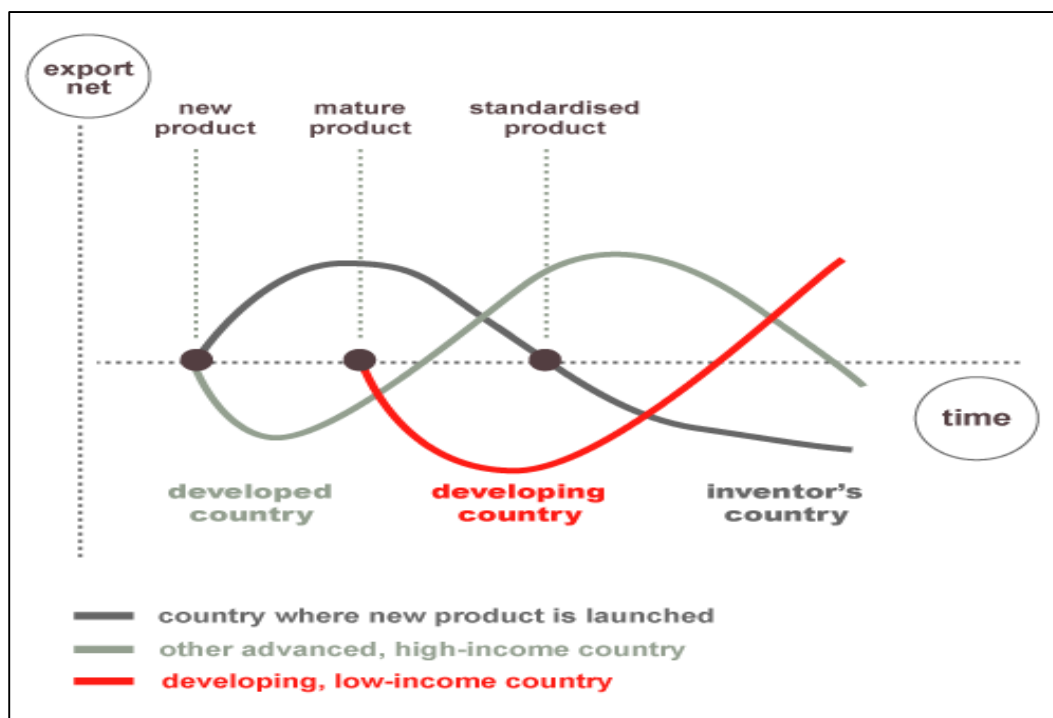
The Gravity Model

- Predicts the volume of trade based on size and proximity of economies
  - o $T_{ij} = (A * Y_i * Y_j) / D_{ij}$
    - ▪ T_{ij}: value of trade between country i and j
    - ▪ Y_i: GDP of country i
    - ▪ Y_j: GDP of country j
    - ▪ D_{ij}: distance between country i and j
    - ▪ A: a constant; this is necessary to reflect the general level of trade in both countries relative to GDP

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6. Internal and External Economies of Scale [Lectures 8 & 9]

Note: Here we relax the assumption that the international markets are in perfect competition – instead we assume imperfect competition **(monopoly, oligopoly, monopolistic competition)**

Economies of scale:

- Occurs where production is more efficient (lower cost per unit) as we increase the quantity of production
 - For example, if we were to double inputs, this would *more than double* output

External economies of scale:

- The cost per unit of production depends on the size of the industry, but not necessarily on the size of any one firm
- Caused by:
  - Specialised suppliers
    - The development of some industries requires the development of specialised goods and/or services
    - E.g., as Silicon Valley grew, specialised manufacturing firms developed to make the IT designs that were sent to them…
    - Designers from other locations would be at a competitive disadvantage
  - Labour market pooling
    - Just as with specialised suppliers, workers with specialised skills will be attracted to industrial clusters where their skills are in high demand
    - E.g., computer technicians and designers flock to Silicon Valley
    - Companies are then more easily able to find employees with the right skills from this pool of workers
  - Knowledge spillovers
    - An industrial cluster also allows for its workers to informally exchange knowledge about their work, improving their knowledge base
    - E.g., aid advisors in Papua New Guinea!

Figure 7-2

External Economies Before Trade

In the absence of trade, the price of buttons in China, P_{CHINA}, is lower than the price of buttons in the United States, P_{US}.

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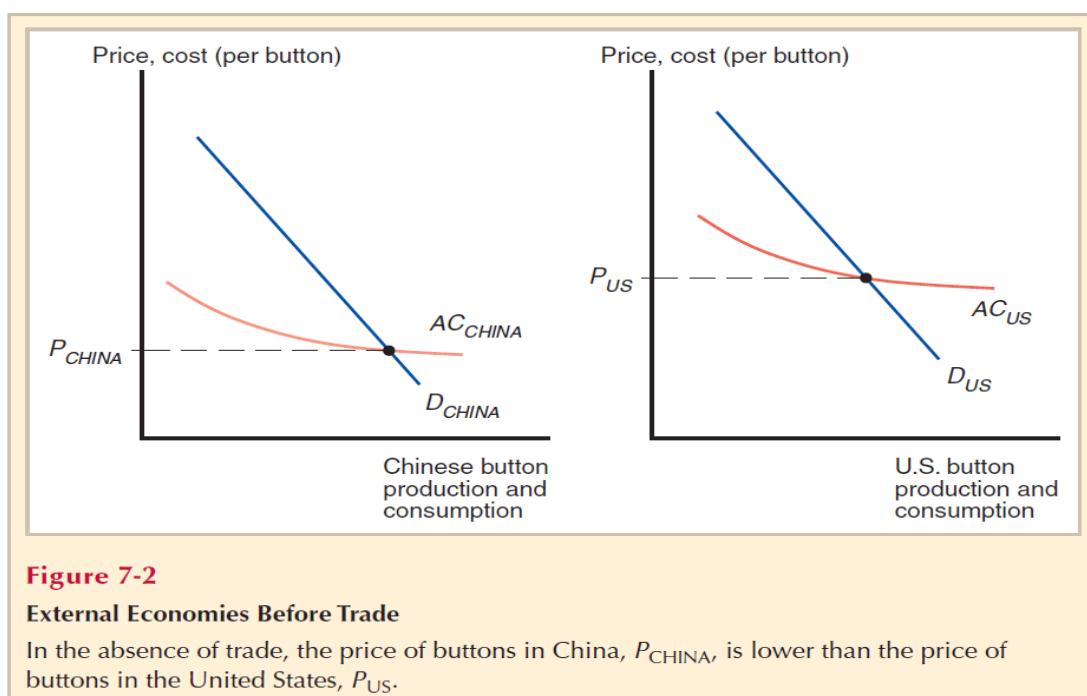
Figure 7-3

Trade and Prices

When trade is opened, China ends up producing buttons for the world market, which consists both of its own domestic market and of the U.S. market. Output rises from Q_1 to Q_2, leading to a fall in the price of buttons from P_1 to P_2, which is lower than the price of buttons in either country before trade.
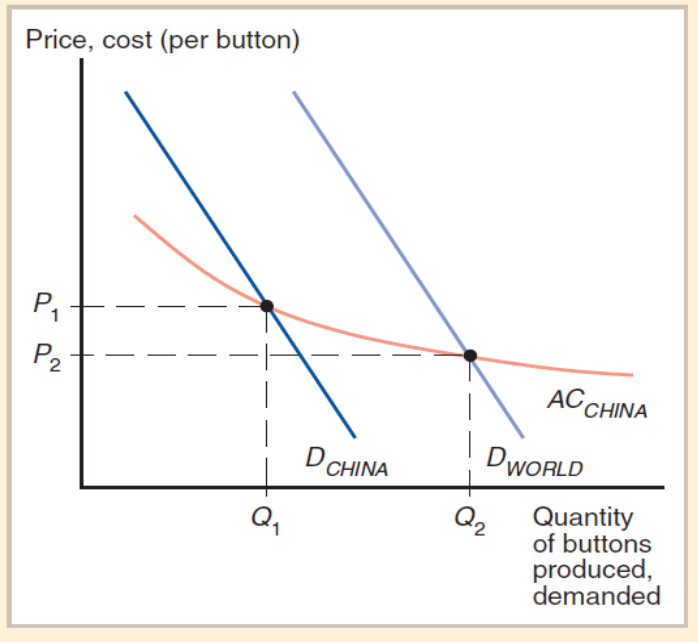
Figure 7-4

The Importance of Established Advantage

The average cost curve for Vietnam, $AC_{VIETNAM}$, lies below the average cost curve for China, AC_{CHINA}. Thus Vietnam could potentially supply the world market more cheaply than China. If the Chinese industry gets established first, however, it may be able to sell buttons at the price P_1, which is below the cost C_0 that an individual Vietnamese firm would face if it began production on its own. So a pattern of specialization established by historical accident may persist even when new producers could potentially have lower costs.
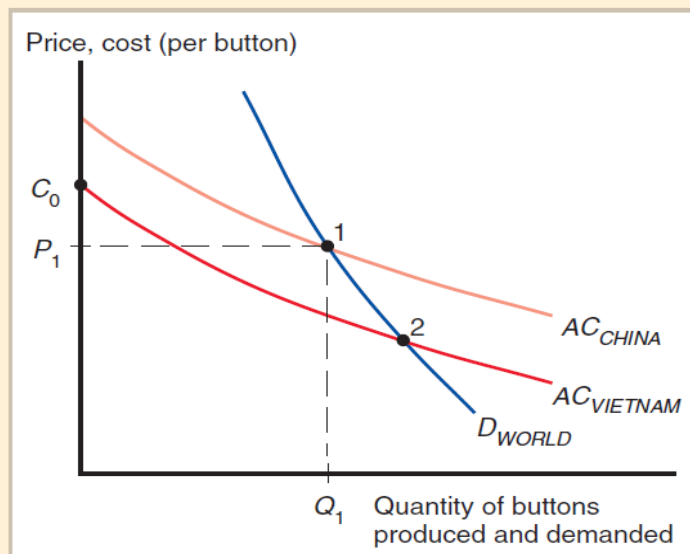
Infant Industry argument

- The issue of entrenched advantage can potentially justify protectionism in the form of the **infant industry argument**
  - I.e., Industries should have protection until they are developed enough to compete globally
  - However, competition promotes efficiency!
- So the danger is that companies <u>will not become efficient with protection</u> (unless it is phased out slowly), and will just lobby for it to continue

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Internal economies of scale

- The cost per unit of production <u>depends on the size of an individual firm</u>, but not necessarily the size of the industry…
- **CC curve:** The more firms there are in the industry, the higher the average cost
- **PP curve:** The more firms there are in the industry, the lower the price they charge
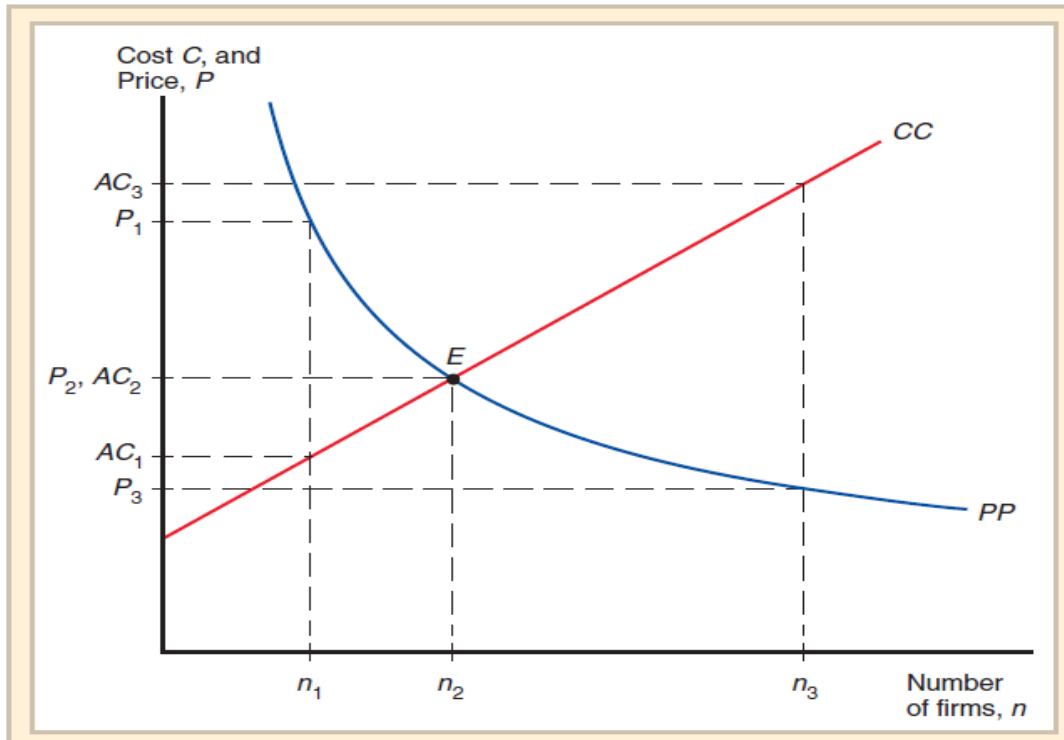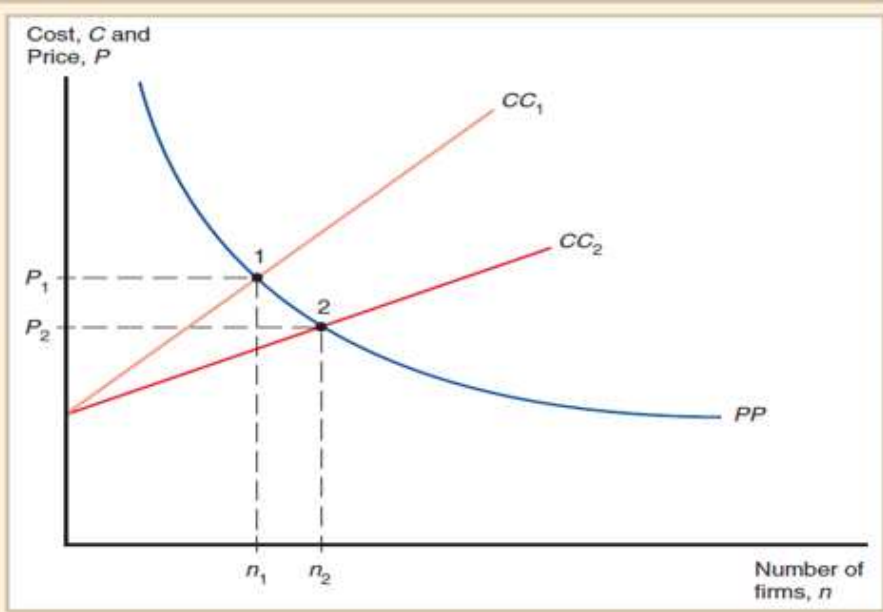

Figure 8-3

Equilibrium in a Monopolistically Competitive Market

The number of firms in a monopolistically competitive market, and the prices they charge, are determined by two relationships. On one side, the more firms there are, the more intensely they compete, and hence the lower is the industry price. This relationship is represented by *PP.* On the other side, the more firms there are, the less each firm sells and therefore the higher is the industry's average cost. This relationship is represented by *CC.* If price exceeds average cost (that is, if the *PP* curve is above the *CC* curve), the industry will be making profits and additional firms will enter the industry; if price is less than average cost, the industry will be incurring losses and firms will leave the industry. The equilibrium price and number of firms occurs when price equals average cost, at the intersection of *PP* and *CC.*

Internal economies of scale: Opening to trade

Note:
As discussed, $\uparrow Q_{Industry}$ leads to lower costs (for any given **n**), and no change in the price charged (for any given **n**)
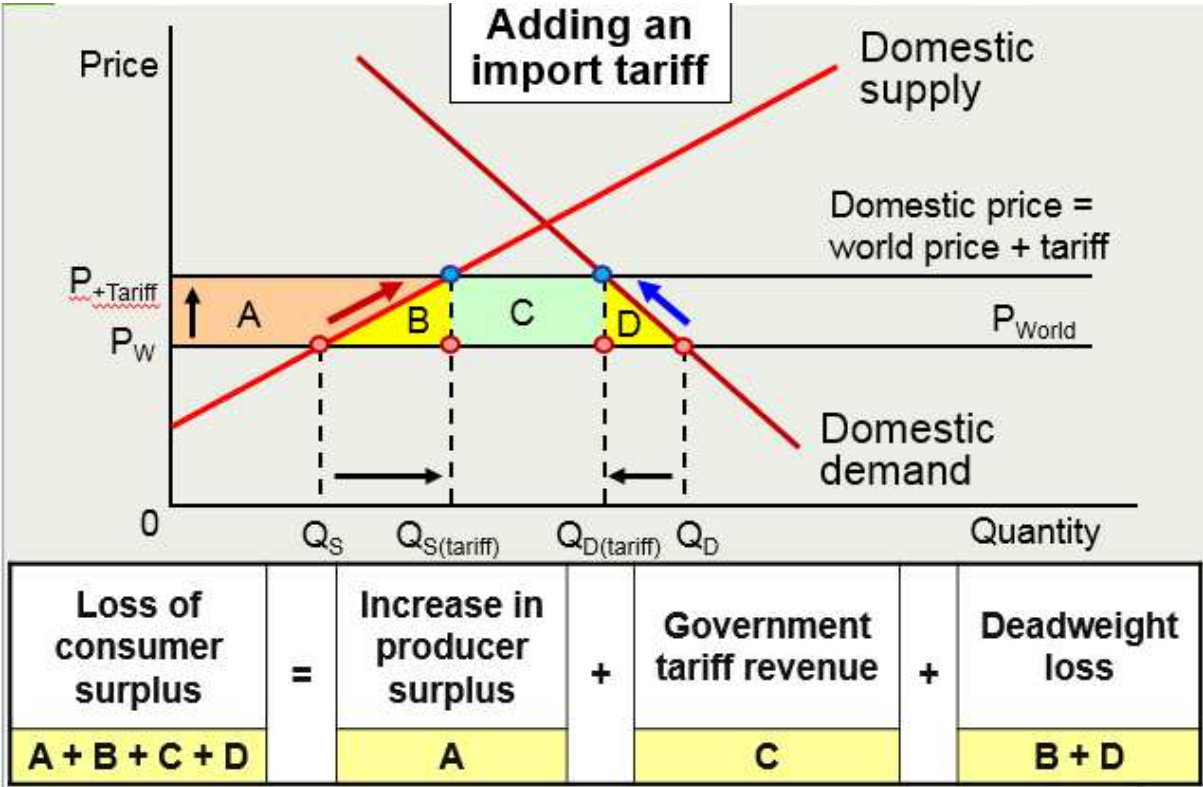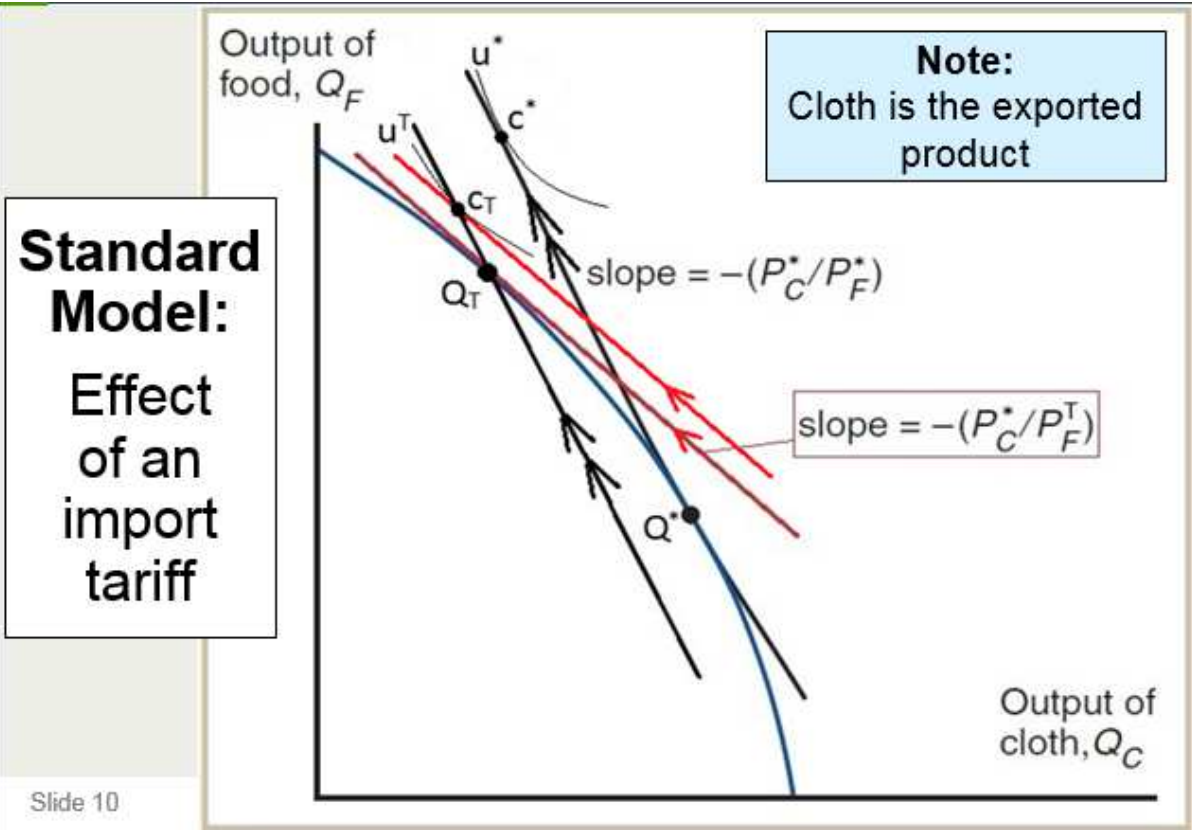
Figure 8-4

Effects of a Larger Market

An increase in the size of the market allows each firm, other things equal, to produce more and thus have lower average cost. This is represented by a downward shift from CC_1 to CC_2. The result is a simultaneous increase in the number of firms (and hence in the variety of goods available) and a fall in the price of each.

SECTION 3: TRADE POLICY [LECTURES 11, 12 & 13]

Terms of Trade: P_X / P_M : Prices of average imports relative to average exports
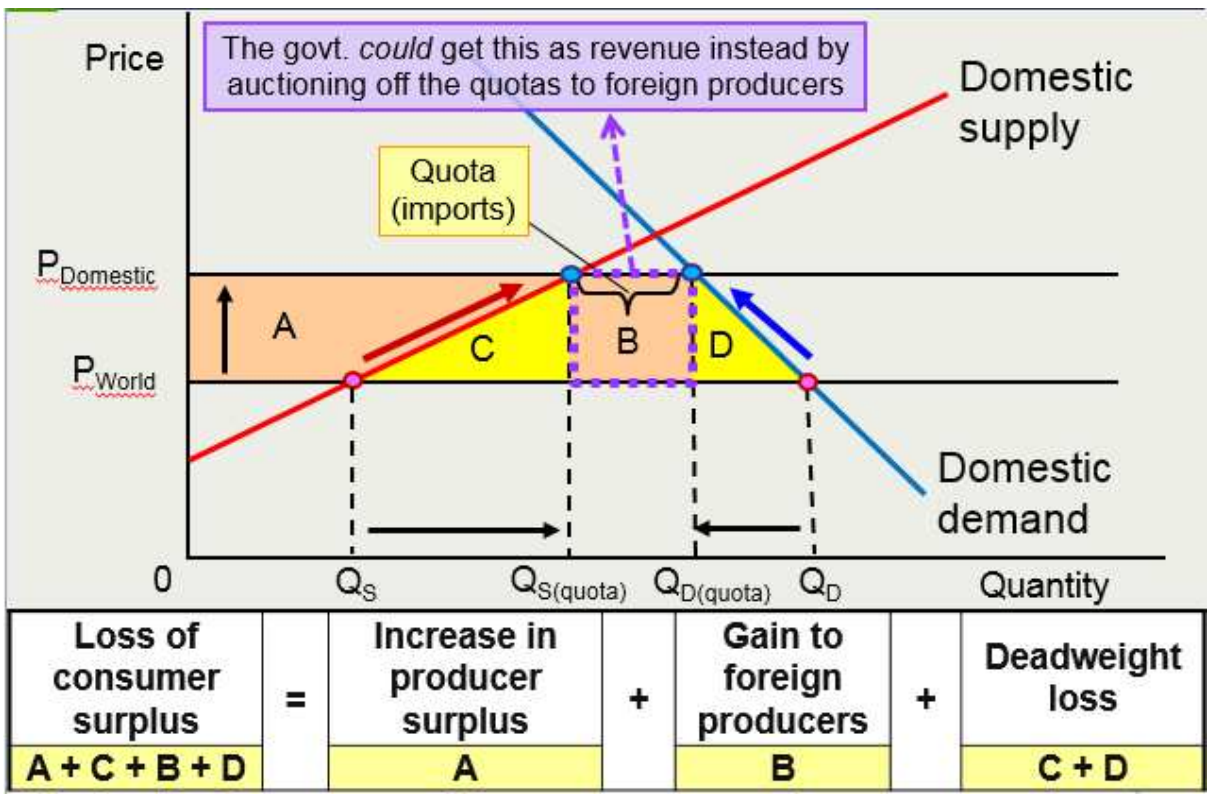
Import tariffs
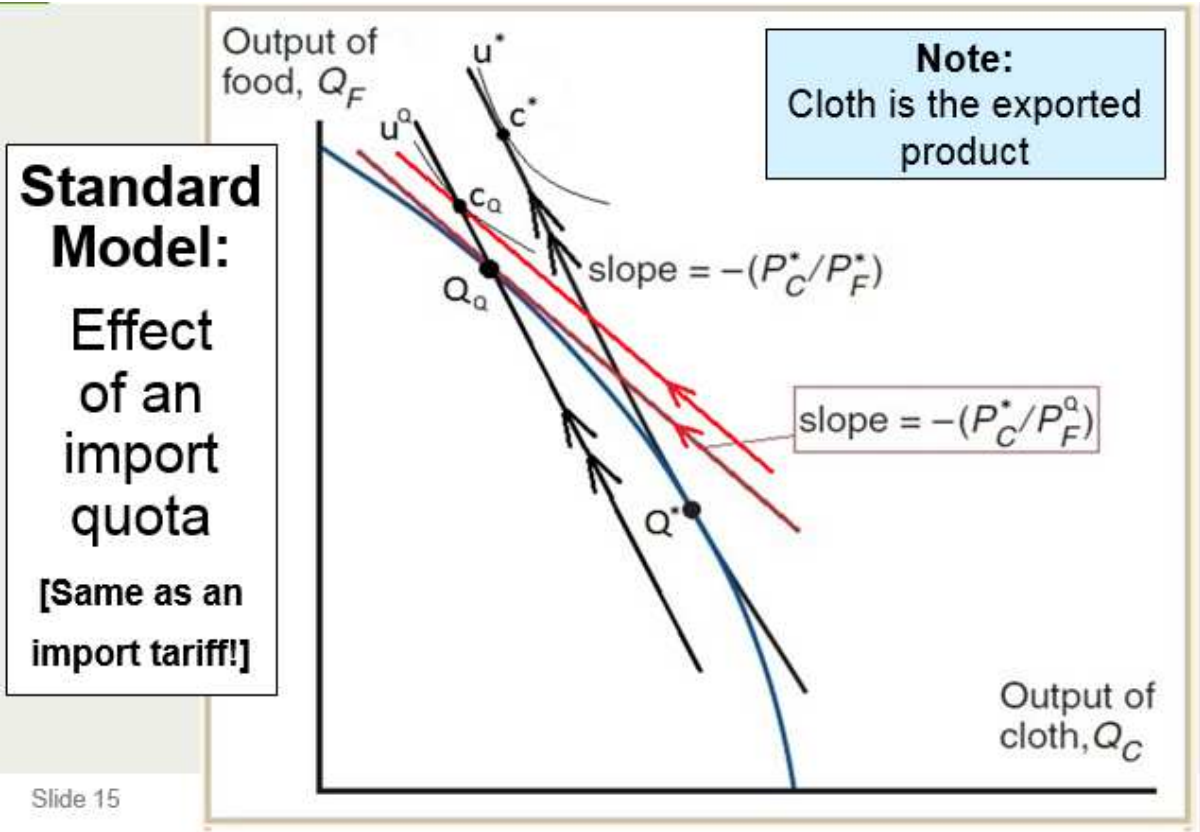

Loss of consumer surplus	=	Increase in producer surplus	+	Government tariff revenue	+	Deadweight loss
A + B + C + D		A		C		B + D

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Standard Model: Effect of an import tariff

Note: Cloth is the exported product

Slide 10

Import Quotas

Loss of consumer surplus	=	Increase in producer surplus	+	Gain to foreign producers	+	Deadweight loss
A + C + B + D		A		B		C + D

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Standard Model: Effect of an import quota [Same as an import tariff!]

Slide 15

Note: Cloth is the exported product

slope $= -(P_C^*/P_F^*)$

slope $= -(P_C^*/P_F^a)$

Output of food, Q_F

Output of cloth, Q_C

Voluntary export restraints

- Voluntary export restraints (VERs) are a quota on exports rather than imports
  - An exporting country will offer this in a trade agreement to appease the importing country
  - ...and thus deter it from imposing its own protectionism, which is usually less flexible!
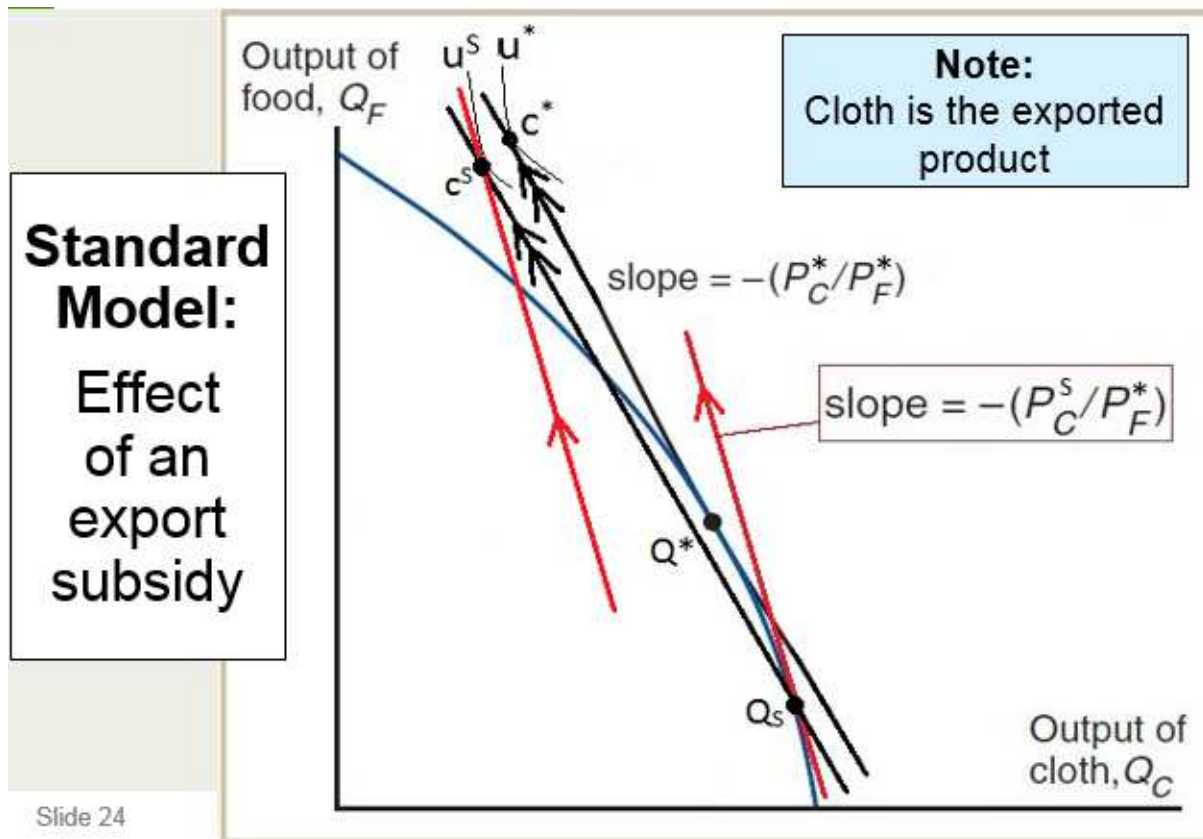 - E.g. 1981: Japanese VERs on cars exported to the US

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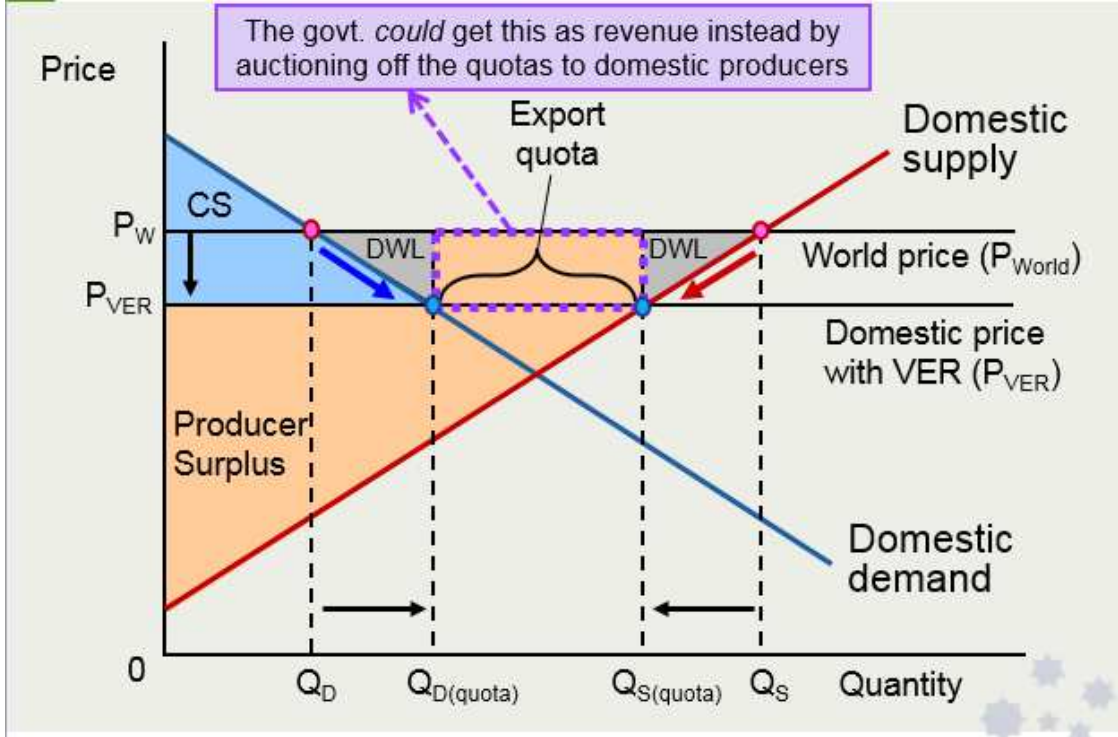
Standard Model:

Effect of a VER (export quota)

[Almost the same as import tariff/quota!]

Slide 20

Note:
Cloth is the exported product

Note which price is changing!

Export subsidies

= producer gain ($a + b + c$)

= consumer loss ($a + b$)

= cost of government subsidy ($b + c + d$)

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Standard Model: Effect of an export subsidy
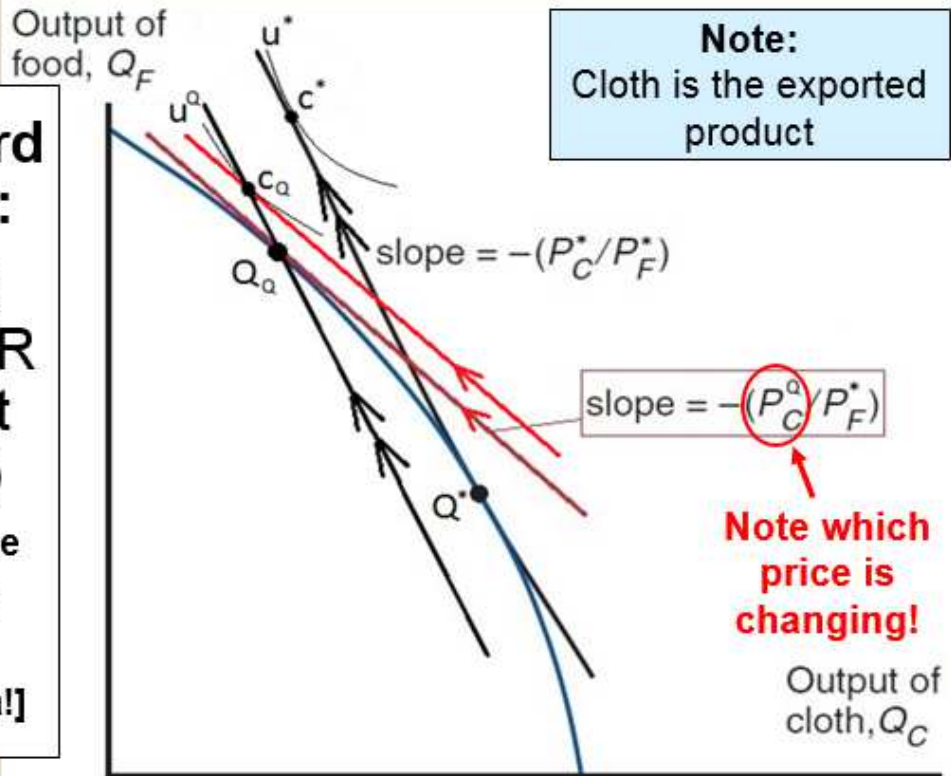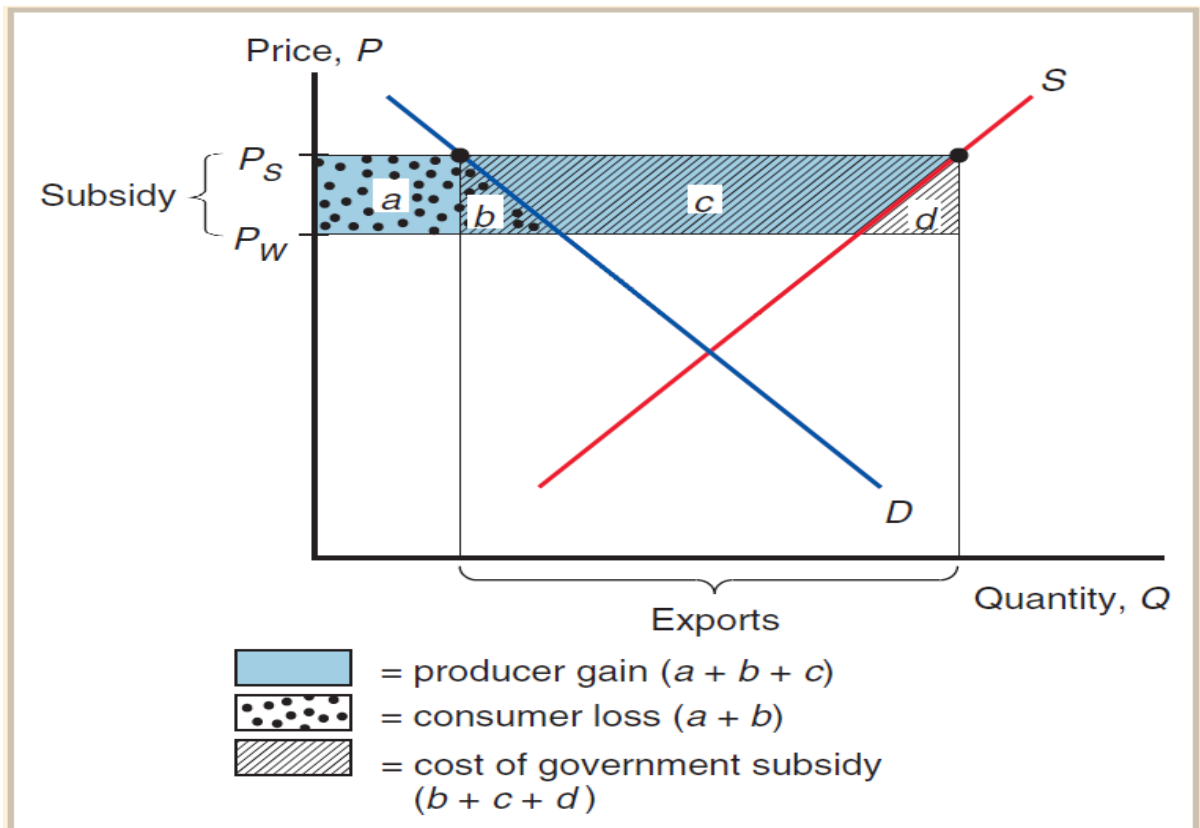
Slide 24

The Theory of Second Best

- If it is not possible for whatever reason (usually for political reasons!) to remove a protectionist measure, sometimes a second protectionist measure can reverse some of the distortions of the first
- However, it depends on the pair of policies – for example, a second tariff on another product does nothing to reverse the effects of the first! However, for example, an import tariff and an export production subsidy would do some good…
- However, welfare analysis shows us that even then, this still leads to a worse outcome – a Second Best outcome – than the removal of all protectionism

Other protectionist measures:

- Domestic price controls (price floors/ceilings)
- Tied procurement laws
  - i.e. government departments must buy domestically
- Exchange rate manipulation
- Intellectual property laws
- Quarantines
- Embargos
- Product standards

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Developing country challenges

Export dependence

- Developing countries are often dependent on export earnings to finance imports
    - Least developed countries in particular are often dependent on commodity exports
    - ...and commodity prices are volatile!
    - When commodity prices are up, there is little incentive to reform the economy
    - ...and when there *is* a slump in commodity prices, and a reform program is adopted by the government in response, people often mistake the cause of the slump as being the reform program itself, making it politically harder to implement!

Import dependence

- Often developing countries have a high dependence on imported K, industrial components, and raw materials for their domestic industries
- Can lead to Balance of Payment problems

Prebisch-Singer Thesis

- There is long term decline in commodity prices relative to the prices of manufactured goods
    - I.e., declining terms of trade
- This is due to differences in income elasticity of demand for commodities v. manufactured goods
- Thesis also holds true for labour-intensive manufactured goods v. capital-intensive manufactured goods; or anything lower down in the production value-chain v. higher up the production value-chain
- This poses a long-term problem for the least developed countries!

Import substitution

- Sometimes called import substitution industrialisation
- Use of strong protectionism against imports in an attempt to develop local industry
    - Heavy government intervention to stimulate these industries
- Problems:
    - Similar to the infant industry argument, the industry 'never grows up', remaining inefficient due to lack of competition
    - Same problems with political lobbying to ensure protection continues!
    - The government is not well-placed to 'pick winners'

Export promotion

- Use of strong protectionism for exporting industries
- Problems:
    - Some problems with inefficiency due to cushioning the effects of international competition
    - Same problems with political lobbying to ensure protection continues!
    - Some problems with 'picking winners', but usually the government chooses an industry that is already exporting (and thus the country has a comparative advantage in!)

Industrialisation strategy approach

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- A strong emphasis on the use of industrial policy
    - E.g., Industry-specific infrastructure and human capital
- Non-preferential but active support for exporters
- Can include a focus on FDI, joint ventures, skills and technology transfers

(Some) Trade Policy Challenges

- **Globalisation and low-wage labour**
    - Labour-intensive economies concerned about improving labour conditions because of the cost, and thus the potential loss of competitiveness and multi-national companies going off-shore
    - Hence, a potential 'race to the bottom'
    - Is it exploitation or opportunity?
- **Globalisation and culture**
    - The dilution of local culture by foreign cultures
        - E.g., 'cultural imperialism'
- **Globalisation and the environment**
    - **The environmental Kuznets curve:**
        - When a country initially develops, it damages the environment
        - But when the country is developed enough, the theory is that it starts to allocate funding to environmental protection
            - I.e. reflects personal preferences for income v. health v. environmental protection
        - Problems with the Environmental Kuznets curve theory:
            - Proximity: People do not seem to care as much about places they cannot see
            - Many environment issues are regional or global, and need international cooperation

Figure 12-3

The Environmental Kuznets Curve

Empirical evidence suggests that as economies grow, they initially do increasing environmental damage—but they become more environmentally friendly once they become sufficiently rich. China, where the environment is deteriorating as the economy expands, is in effect moving from A to B. Richer countries may be moving from C to D, using some of their growth to improve the environment.
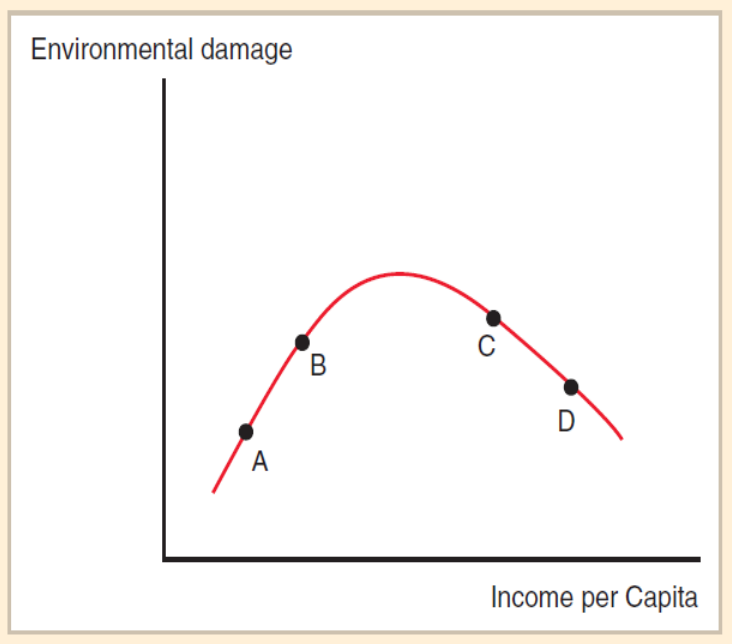
- **Pollution havens:**
    - The concentration of pollution-making industries in developing countries, where there are less environmental regulations

- **The WTO and national independence**
  - Benefits of membership v. loss of national sovereignty

SECTION 4: INTRODUCTION TO MONETARY ECONOMICS [LECTURES 14 & 15]

Balance of Payments Accounts

- **Current Account + Capital Account = Financial Account**

Capital account:

- Tracks transfers of assets into or out of a country
- **+ve:** FDI, foreign loans, foreign aid (when goods or services are attached)
- **–ve:** 'capital flight'
- Improving the capital account:
  - FDI, foreign aid, remittances
  - Sound monetary and fiscal policy

Financial Account

- Sometimes called the cash account, or the international reserves account
- Includes:
  - Foreign cash reserves
  - Gold
  - Deposits with the IMF
  - Finance from the IMF
- Acts as balancing item in balance of payments

Current Account

- X, M
- Income [e.g., interest and dividends]
  - Dividends coming in from overseas investments, interest on loans to foreigners
  - Dividends in local companies going overseas to foreign shareholders, interest on loans provided by foreigners
  - Not the FDI itself
- Remittances and transfers
- **+ve:** Money coming in
- **–ve:** Money going out
- **Why care about the current account?**
  - Employment (from the export industry)
  - International borrowing
    - It shows the *size and direction* of international borrowing
  - The current account balance is equal to the change in its net foreign wealth
    - Current account is a flow variable
    - Net foreign wealth is the stock variable
    - Thus, tracking the current account over time helps to identify if a country's public and private debt is sustainable or not!
- Improving the current account:
  - Increase X earnings
  - Decrease interest/dividend payments going overseas

- o Devaluation!
  - ▪ ↓M, ↑X (but keep the effect on imported production inputs - often required for exporting - in mind!)
- o Sound monetary and fiscal policy

Twin Deficits Hypothesis

- Argues there is a strong link between current account deficits and govt. budget deficits
- Some, *tentative* empirical evidence supports the hypothesis

Exchange Rates

- Fixed exchange rates
- Floating exchange rates
  - o Prone to price volatility, speculation
- 'Managed float'
  - o Occasional intervention
  - o Can be done through the use of 'bands'

Internal Balance

- **Full employment and price stability**
- Imbalances:
  - o Underemployment or over-employment
  - o High inflation or deflation

External Balance

- **Unlike with internal balance, there are no unambiguous benchmarks!**
- Often it is assumed that balanced, Balance of Payments Accounts creates 'external balance'
- However, it depends on the country's strategy!
  - o E.g., running a current account deficit because of loans from the rest of the world is not a problem as long as the loans receive a higher return than the interest paid on them
  - o Consumption-smoothing is another reasonable justification for a current account deficit
    - ▪ E.g., if there is a current account deficit due to a natural disaster or crop failure
- Long-term trends are more important than short-term imbalances
- Problems with excessive current account deficits:
  - o If it is cause by debt repayment flows, are investment opportunities in the country truly good enough to warrant huge debts?
  - o Danger of a 'sudden stop' (in lending)
- Problems with excessive current account surpluses:
  - o Implies low domestic investment, which may indicate faulty domestic policies
  - o Potential lost domestic tax revenues
  - o Potential domestic underemployment
  - o Usually comes at a cost to domestic consumption
 - o Will the country get back the money that it lent overseas? (E.g., think of Greece!)

The open economy trilemma

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- In an open-economy, it is impossible to have more than two from the following list:
    1. Exchange rate stability
    2. Monetary policy autonomy
    3. Freedom of movement of capital

Figure 19-1

The Policy Trilemma for Open Economies

The vertices of the triangle show three features that policy makers in open economies would prefer their monetary system to achieve. Unfortunately, at most two can coexist. Each of the three policy regime labels along the triangle's edges (floating exchange rate, fixed exchange rate, financial controls) is consistent with the two goals that it lies between in the diagram.
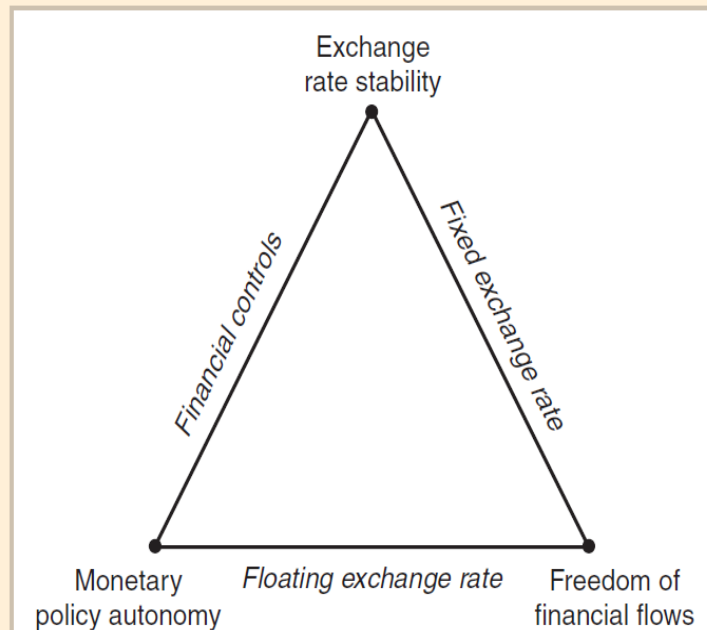
History of the International Monetary System

Note: Don't worry, I will not test you on the dates!!

Gold Standard: 1870-1914

- Governments fixed the exchange rate between gold and their own currencies
    o Gold was 'convertible' (exchangeable at the bank for currency) on demand!

1. The gold standard acts an <u>automatic stabiliser</u>

2. The gold standard 'solves' the trilemma by adopting ER stability and freedom of financial flows

The Interwar Years: 1918 - 1939

- Governments resorted to printing money to finance their expenditures during WWI
    o This effectively suspended the gold standard
    o The fixed exchange rate regimes under the gold standard disintegrated
- 1929: Start of the Great Depression

**The Bretton Woods System: 1945 - 1973**

- Meeting held by Allies at 'Bretton Woods' (in the US) near the end of WWII (1944)
- Agreement to create a stable architecture for the international monetary system
    o They understood the contribution of economic instability to WWII!
- Created the **Bretton Woods Institutions**:
    o The IMF
    o The World Bank
- Exchange rates were fixed to the USD

o …which was in turn fixed to the gold standard (at $35 an ounce)
o Global monetary policy was thus controlled by the US

- The intention was to avoid volatile exchange rates, which was viewed as the cause of the interwar instability
  o Except that this was a symptom of the instability, rather than the cause!

- In 1960, Robert Triffin, highlighted a long-term problem with this system:
  o The global economy was growing faster than the global supply of gold, and central banks around the world had started accumulating more and more USD into their own international reserves…
  o Eventually, the huge and growing global supply of USD would make convertibility into gold impossible!
  o He was right - US ended fixed exchange rate between USD and gold ('convertibility') between 1971 and 1973

Bretton Woods 'Plus': 1973 onwards

The benefits of floating exchange rates:

1. **Monetary policy autonomy**

2. **Symmetry (between the US and other countries)**
   o The US would no longer be able to set global monetary policy, and could choose to influence its own exchange rates, just like other countries can

3. **Exchange rates as automatic stabilisers**
   o I.e., $\downarrow$X => depreciation => $\downarrow$M and $\uparrow$X => appreciation => $\uparrow$M & $\downarrow$X… and so on!

3. **Exchange rates and external balance**
   o Exchange rates would help reduce big current account deficits and surpluses
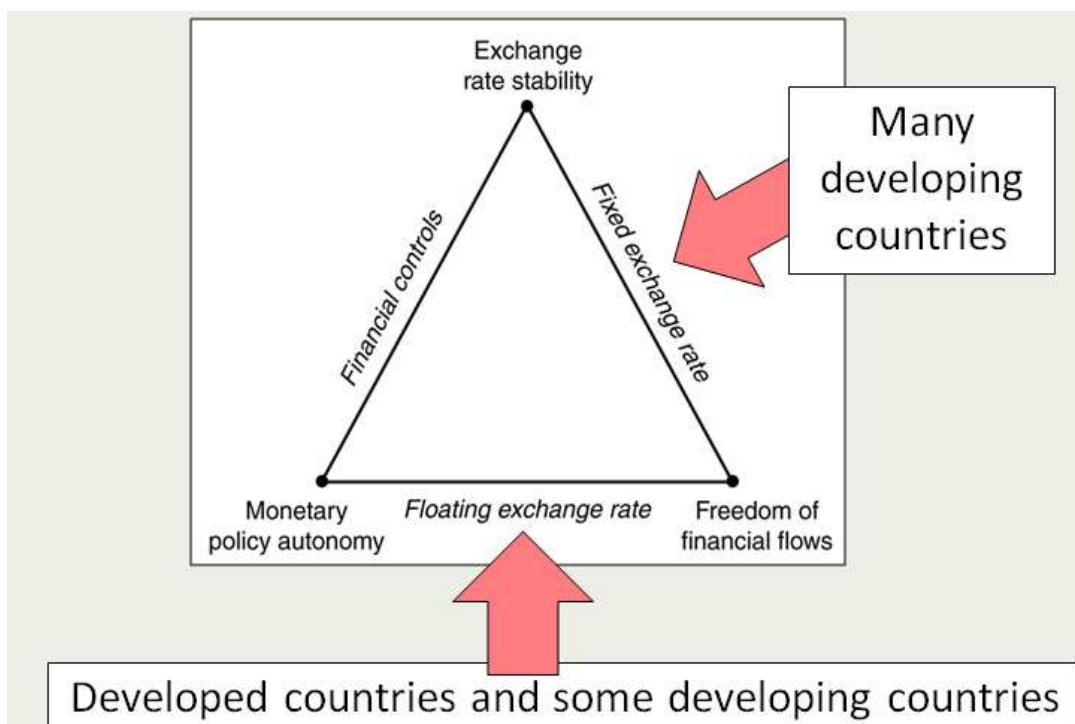
SECTION 5: MONETARY FLOWS [LECTURES 17 & 18]

FDI [Lecture 17]

- **Multinational companies ('MNCs')**
  - Can be exceedingly large
  - Large role in FDI
  - Often possess strong market power
  - Profit motivation
  - Rising in new industries
  - There are developing country MNCs too!
- **Arguments for FDI:**
  - Plugging the savings gap
  - Benefits for the Balance of Payments Accounts
  - Government revenue
  - Technology transfer
  - Plugging entrepreneurial /managerial gaps
- **Arguments against FDI:**
  - Crowding out domestic investment
  - Disadvantages for Balance of Payments Accounts
  - Concessional tax treatments reduce potential govt. revenue
  - Transfer pricing
  - Technology immobility (i.e., is technology transfer always possible?)
  - Environmental damage
  - Exploitation of local people
  - Benefits spread unevenly (e.g. think of the LNG Project!)
  - Capital-intensive (i.e. not much employment creation)
  - Political influence of foreign companies
  - **Obviously not all of these apply in every case - depends on the context!**

Foreign portfolio Investment [Lecture 17]

- Investment without full ownership or control (i.e. foreigners owning shares in local companies)
- More prone to speculative flows which can fuel volatility

Remittances [Lecture 17]

- Money paid by locals living overseas to their family/friends
- Policy options:
  - Try to decrease the cost of remitting funds!

International Aid [Lecture 18]

- Think about: What should be the role of aid?
- How to improve aid effectiveness:
  - Improve donor effectiveness
  - Improve recipient effectiveness
  - Improve the relationship / coordination effectiveness

THE END! It has been my pleasure teaching you! GOOD LUCK!!

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