Economics Higher Level – Section 3: International Economics

Unit 3.1: International Trade

Free Trade – international trade that takes place without any trade barriers e.g. tariffs, quotas, etc.

Benefits of Trade

- More efficient allocation of resources – specialization
- Acquiring needed resources
- Source of foreign exchange
- Internal economies of scale – a larger market base
- Increased competition
- Lower prices for consumers
- Greater choice for consumers
- Flow of ideas and technology
- Interdependency of countries – reduced hostility
- Trade as an engine of growth

Autarky – self-sufficiency

Absolute Advantage – when a country can produce more of a good with the same amount of resources / when a country can produce one unit of a good with less resources than another country

Comparative Advantage – when a country can produce a good at a lower opportunity cost than another country. Sources include:

- Difference in factor endowments
- Difference in technology
- Changes in exchange rate
- Changes in relative inflation
- Protectionism
- Differences in quality

The World Trade Organization – promoting free trade by abolishing tariffs and other trade barriers and resolving trade disputes

Restrictions on Free Trade

1. **Tariffs** – a tax imposed on imports and can be either ad-valorem or per-unit (but the world supply curve will be shifted upwards either way)

Purposes of Tariffs

- **Raising revenue**
- **Restricting imports and combating dumping (when a firm sells abroad at a price below average cost or below its domestic price)**

- Aims are conflicting as a tariff will not yield much revenue if it is effective in reducing imports

Effect of a tariff on car imports in a small economy

Before:
Price: P_1
Quantity of cars demanded: Q_4
Quantity supplied by domestic producers: Q_1
Quantity of cars imported: Q_1Q_4

After:
Price: P_2
Quantity of cars demanded: Q_3
Quantity supplied by domestic producers: Q_2
Quantity of cars imported: Q_2Q_3

Gains	Losses
Domestic producers • **Increased revenue** – (P_1xQ_1) to (P_2xQ_2) • **Increased production** – Q_1 to Q_2 • **Increased consumer surplus** – area A	Domestic consumers • **Higher price** – P_2 • **Decreased consumption** – Q_4 to Q_3 • **Decreased consumer surplus** – loss of area A+B+C+D
Government • **Tariff revenue** – area C	Foreign producers • **Decreased export revenue** – $(Q_1Q_4)xP_1$ to $(Q_2Q_3)xP_1$
	Society • **Welfare loss** – area B+D (production inefficiency – extra cost B, consumption inefficiency – loss of consumer surplus D)

2. **Quotas** – restrictions on the maximum quantity of imports

Purposes of Quotas

- **Reducing the supply of imports causing a higher equilibrium price** – if a good is highly price inelastic, tariffs may not work. As a result of this, foreign exporters earn higher revenue.

Effect of a quota on car imports in a small economy

Before:
Price: P_1
Quantity of cars demanded: Q_4
Quantity supplied by domestic producers: Q_1
Quantity of cars imported: Q_1Q_4

After:
Price: P_2
Quantity of cars demanded: Q_3
Quantity supplied by domestic producers: Q_2
Quantity of cars imported: Q_2Q_3 (quota amount)

Gains	Losses
Domestic producers • **Increased revenue** – (P_1xQ_1) to (P_2xQ_2) • **Increased production** – Q_1 to Q_2 • **Increased consumer surplus** – area A	Domestic consumers • **Higher price** – P_2 • **Decreased consumption** – Q_4 to Q_3 • **Decreased consumer surplus** – loss of area A+B+C+D
Foreign producers • **Quota rent** – area C: is the gain in C higher than the loss in export revenue?	Foreign producers • **Decreased export revenue** – (Q_1Q_4)xP_1 to (Q_2Q_3)xP_1: is the loss in export revenue higher than the gain in C?
Government	Government

• **Unaffected**	• **Unaffected**
	Society • **Welfare loss** – area B+D (production inefficiency – extra cost B, consumption inefficiency – loss of consumer surplus D)

3. **Subsidies** – a grant provided by the government to firms to lower production costs and increase output (not to be confused with **export subsidies** which is paid for each unit of the good exported)

Effect of a subsidy granted to local car producers in a small economy

Before:
Price: P_1
Quantity of cars demanded: Q_3
Quantity supplied by domestic producers: Q_1
Quantity of cars imported: Q_1Q_3

After:
Price: P_1
Quantity of cars demanded: Q_3
Quantity supplied by domestic producers: Q_2
Quantity of cars imported: Q_2Q_3

Gains	Losses
Domestic producers • **Increased revenue** – (P_1xQ_1) to (P_2xQ_2) • **Increased production** – Q_1 to Q_2 • **Increased consumer surplus** – area A	Foreign producers • **Decreased export revenue** – (Q_1Q_3)xP_1 to (Q_2Q_3)xP_1
Domestic consumers	Domestic consumers

• **Unaffected**	• **Unaffected**
	Government • **Subsidy expense** – P1P2xCB
	Society • **Welfare loss** – triangle ABC (production inefficiency – extra cost P1P2CB which is higher than producer surplus P1P2CA)

4. **Administrative or regulatory barriers** – product standards, sanitary standards, pollution standards, often set to protect domestic producers rather than consumers by making it difficult and costly for foreign firms to comply

Health and safety regulations

- Protecting public safety and health
- Often an excuse to refuse import of certain commodities or causing hassle

Red tape

- Time consuming and difficult obstacles to imports and reducing quantity

Embargo

- Partial or complete prohibition of the importation and exportation of particular goods for political and economic reasons

Import license

- An authorization of the importation of certain goods into the country

Evaluating Trade Protectionism

For	Against
Infant industry argument – temporary protection until firms can take advantage of economies of scale	**Society and global resource allocation loses out** – with reference to comparative advantage, free trade achieves allocative efficiency on a global scale. Deadweight loss is often observed.
National security – certain industries cannot be dominated by foreign companies e.g. aircraft, weapons, steel	**Retaliation** – chain reactions and a spiral of increasing protectiveness between countries
Health, safety and environmental standards – protecting the local population	**Potential for corruption** – restrictions may pave the way for bribes and smuggling. Revenue can end up in the wrong pockets.
Anti-dumping and unfair competition – protectionism as an appropriate response to dumping	**Higher production costs and reduced efficiency** – incentive for local firms to operate efficiently is also reduced due to

	protectionism
Protection of domestic employment – maintaining domestic production	**Consumers mostly lose** – due to higher prices of protected goods and lower quantities of goods available in the market
Overcoming a BOP deficit – correcting the outflow of money from a country (when there is an excess of imports over exports)	**Increased costs of production and reduced export competitiveness** – some goods are used as inputs in the production of some exports, thus protecting the input good could increase the cost of producing the export good
Tariffs as a source of government revenue – more frequent in LEDCs	
Strategic trade policy – protection of high-tech industries (vital to a country's development) to aid in achieving economies of scale	
Efforts of LEDCs to diversify – diversification into a different field means it will impose barriers on the imports of products in that field	
Wage protection argument – imports are restricted from low-wage countries	

Unit 3.2: Exchange Rates

Exchange rate – the price of a currency in terms of another currency, showing the rate at which two currencies are exchanged for one another, measuring the external value of a currency e.g. S$1 = US$0.71 or S$1.40 = US$1

Freely floating exchange rates – freely determined rate by market demand and supply of a currency e.g. Australia, USA, Japan

Sources of Demand for Currency (E.g. US$)

- **Export of US goods and services to foreign countries** – demand is derived from the need for US dollars to pay for US exports
- **Short- and long-term capital inflow into the US** – making US$-denominated deposits or purchases of shares and bonds issued by US companies or FDI into the US requires US$.
- **The demand curve is downward sloping**. As the price of US$ rises, US exports and assets will be more expensive and less US$ will be demanded to purchase US goods and assets

Sources of Supply for Currency (E.g. US$)

- **Imports of foreign goods and services into the US** – US importers sell US$ to buy foreign currencies to pay for foreign imports (the sale creates this supply)
- **Short- and long-term capital outflow from the US** – making foreign currency deposits of purchases of shares and bonds issued by foreign companies or FDI into foreign countries requires foreign currency to be purchased with US$
- **The supply curve is upward sloping**. As the price of US$ rises, foreign goods and assets become cheaper and more US$ will be sold to buy foreign currencies to pay for imports and overseas investment

Changes in exchange rate – caused by shifts of demand and/or supply for the currency. A rise in exchange rate is termed **appreciation**; a fall is termed **depreciation**.

Causes of changes of demand and supply of a currency

- **Changes in long-term capital movements (FDI)** – greater profit opportunities could lead to increased FDI and **higher demand for the currency**, causing **appreciation**. Restriction of foreign investment in the country could lead to decreased FDI and **lower demand for the currency**, causing **depreciation**.
- **Changes in money income** – an economic boom leads to higher import demand and an **increase in supply of the currency**, causing **depreciation**. An increase in foreign income leads to higher export demand and an **increase in demand of the currency**, causing **appreciation.**
- **Changes in taste for exports and imports** – foreigners favoring a country's exports will **increase the demand for its currency**, causing **appreciation**. However, locals favoring imports will **decrease the demand for its currency**, causing **depreciation**.
- **Changes in relative interest rates** – an increase in the domestic interest rate attracts short-term capital inflow, **increasing the demand for its currency** as higher rates increase the returns on short-term capital. A fall in relative interest rates caused short-term capital outflow, **increasing the supply for its currency** as lower rates decreases the returns on short-term capital.
- **Speculation** – a self-fulfilling phenomenon, based on expectations
- **Changes in relative inflation** – if a domestic country suffers from a higher inflation rate, the price of domestic goods and services rises faster, and imports become cheaper while exports become dearer. This can lead to an **increase in the supply of the currency** and a **fall in demand**.

Effects of changes in exchange rates

Appreciation (exports are more expensive in foreign currency and imports are cheaper in domestic currency)

- **Inflation rate** – cheaper imports reduce inflationary pressures as costs fall, leading to lower GPL.
- **Employment** – exports are more expensive to foreign consumers, and domestic producers sell fewer exports, causing a fall in revenue. (X-M) falls and AD falls, leading to lower output. Retrenchment and rising unemployment will follow.
- **Economic growth** – fall in the value of net exports will lead to lower AD and real GDP, therefore a fall in economic growth, but cheaper imports may drive higher growth if they are mainly factors of production as it increases productive capacity.
- **Current account balance** – fall in (X-M) could worsen the current account.

Depreciation (exports are cheaper in foreign currency and imports are more expensive in domestic currency)

- **Inflation rate** – dearer imports increase inflationary pressures as costs rise, leading to higher GPL.

- **Employment** – exports are cheaper to foreign consumers, and domestic producers sell more exports. Export industries grow and leads to higher employment as demand-deficient unemployment falls. A rise in (X-M) due to higher export expenditure and lower import expenditure leads to higher AD and demand for labor.
- **Economic growth** – an increase in the value of net exports could lead to an increase in AD and real GDP. However, an increase in the price of imported capital goods could lead to an increase in the price of exports, eroding competitiveness and growth.
- **Current account balance** – an increase in (X-M) could lead to an improvement in the current account balance.

Fixed exchange rates – the government fixes the exchange rate by decree, and commits to a particular exchange rate. It can be revised in the longer term if necessary. E.g. Hong Kong and Saudi Arabia. To fix the rate, the government has to buy or sell domestic currency.

To **counter upward pressure** on its currency (e.g. increase in demand), a government will step in and sell more of its domestic currency in exchange of foreign currencies (supply curve shifts right from SSHK to SSHK2). To **counter downward pressure** on its currency (e.g. increase in supply), a government will purchase more of its domestic currency in exchange of foreign currencies (demand curve shifts right from DDHK to DDHK2). Both are illustrated in the diagram above.

Devaluation refers to the fixing of an exchange rate at a lower level, while a **revaluation** refers to the fixing of an exchange rate at a higher level. Both are officially announced when raising or lowering.

Managed float ("dirty float") exchange rates – the rate is determined by demand and supply, but the Central Bank intervenes periodically to prevent excessive fluctuation.

A currency is **overvalued** when the exchange rate is higher than the free-market rate. It is **undervalued** when the exchange rate is lower than the free-market rate.

Evaluating flexible exchange rate systems versus fixed

For flexible rates	For fixed rates
Automatic correction of BOP disequilibrium – there is no need for specific government policies, while fixed rates requite carefully deliberated valuation.	**Uncertainty discourages trade and FDI** – international traders may have more confidence in fixed rates, as they will be more sure of their profit levels in international business dealings. Inherent instability will deter long-term international contracts.
Flexibility to policy makers – governments can use monetary and fiscal policy to pursue macroeconomic objectives without external constraints. A fixed exchange rate system conflicts with such policies.	**Speculation and increased volatility** – free-floating systems encourage speculation, increasing exchange rate fluctuations and uncertainty.
No necessity to hold foreign currency reserves – as opposed to fixed rates, as reserves must be large enough to ensure fixing is tenable.	
Insulation from external economic events – prevents a country from experiencing the full effects of economic crises or foreign inflation.	

Comparison of different exchange rate systems

BOC\System	Fixed System	Floating System
Government intervention	Government over- or under-values the currency through buying or selling in the foreign exchange market.	The rate is determined freely by supply and demand. There is no government intervention.
Degree of certainty	Stakeholders have certain knowledge about the rate. It will not change unless the government fixes it at a new rate.	There is no certainty and it can change on a daily basis, depending on changes in demand and supply.
Ease of adjustment	There is no adjustment to changes in supply and demand as it is fixed by government intervention.	The rate will respond to the free forces and there will be automatic adjustment. Rates can automatically fall or increase.
Need for foreign reserves	Foreign currencies are required.	Foreign currencies are not required.

Flexibility to policymakers	Domestic policy may be constrained by a fixed rate.	The government is free to pursue any desired policy without reference to a fixed rate.

Unit 3.3: The Balance of Payments

The **balance of payments of a country** refers to a summary statement of the monetary value of all the economic transactions that have taken place over a period of time between the residents of a country and the residents of all other countries. It shows all payments made by the country to other countries **(debits)** and all payments received from other countries **(credits)**.

Debits refer to when a transaction requires foreign exchange payments (outflows of money) to abroad. **Credits** refer to when a transaction earns foreign currencies (inflows of money) from abroad.

A BOP **surplus** refers to when the balance has a positive value – inflows are larger than outflows. A BOP **deficit** refers to when the balance has a negative value – outflows are larger than inflows. Both are representative of the BOP **before** government intervention through the use of reserve assets.

Current Account (most important component) – the sum of the balance of trade in goods and services, net income flows and net current transfers.

- **BOT in goods** – the visible balance (tangible goods), consisting of all exports and imports of merchandise goods.
- **BOT in services** – the invisible balance (intangible goods), consisting of all services rendered or received from foreigners, e.g. transport, tourism, etc.
- **Income flows** – all inflows into a country of wages, rents, interest and profits from abroad minus all out flows of wages, rents, interests and profits, e.g. rental income from abroad, dividend income of stocks in another country.
- **Current transfers** – unilateral transfers: inflows into a country due to transfers from abroad minus outflows of transfers to other countries e.g. monetary gifts, foreign aid, etc.

Capital Account (smallest component) – composed of inflows minus outflows of funds for capital transfers and transactions in non-produced, non-financial assets.

- **Capital transfers** – inflows minus outflows for items such as debt forgiveness, non-life insurance claims and investment grants.
- **Transactions in non-produced, non-financial assets** – inflows of funds minus outflows arising mainly from the purchase or use of natural resources that have not been produced e.g. land, mineral rights, water, patent rights, franchises, and airspace.

Financial Account (**second largest component)** – composed of inflows minus outflows of funds for capital transfers and transactions in financial assets.

- **Direct investment (FDI)** – measuring inflows minus outflows of investments in physical capital.
- **Portfolio investment** – inflows of funds minus outflows arising from financial investments on stocks, bonds and other instruments as well as government lending (outflows) and borrowing (inflows).

- **Short-term capital movements ("hot money")** – inflow minus outflow of capital aimed at making returns from different interest rates in different countries, or returns from expectations of different rate changes.
- **Reserve assets (considered only after the capital account)** – the "balancing item", referring to foreign currency reserves that the central bank of a country can buy or sell to influence the exchange rate. Drawing on reserves is an inflow (in event of a deficit) while building up the reserves is an outflow (in event of a surplus)

Current Account + (Capital Account + Financial Account) = 0 – the deficit/surplus in the current account is exactly matched by the surplus/deficit in the combined capital and financial accounts, as reserve assets in the financial account is a balancing item and can be drawn from or deposited into.

Causes of a BOP Deficit (outflow > inflow):

- Relatively high domestic inflation rate
- Relatively high domestic growth rate
- Loss of comparative advantage
- Overvaluation of domestic currency
- Changes in taste
- Net factor income outflows
- Net unilateral transfer out of the country
- Hot money outflows
- Long term capital gains

Implications of a persistent BOP Deficit (usually not addressed in the short-term or when due to long-term capital outflows, which can be corrected by property income inflows)

- If due to lower (X-M), there will be a deflationary effect (decrease in AD), leading to lower employment and depreciation of the currency and loss of confidence, leading to imported inflation or depletion of foreign reserves
- If due to high inflation, the foreign reserves will run down and borrowing will be required. Debt servicing is a concern.

Correcting a BOP Deficit

- Sale of foreign reserves
- Borrowing
- Raising interest rates
- **Expenditure reducing** – policies that reduce AD and therefore income in order to reduce demand for imports (contractionary fiscal and monetary policy)
- **Expenditure switching** – policies that reduce the amount of import expenditure and switching this to domestically produced goods, reducing the current account deficit (protectionism and currency devaluation)
- **Supply side policies** – increasing the competitiveness of the economy, decreasing GPL and increasing price competitiveness as well as improving

competitiveness of industries with a comparative advantage, increasing quantity demanded of exports and solving the deficit

Causes of a BOP Surplus (inflow > outflow):

- Relatively low domestic inflation rate
- Relatively low domestic growth rate
- Competitive exports
- Good infrastructure
- Large FDI
- Presence of common access resources
- Free trade agreements

Implications of a persistent BOP Surplus

- If due to a rise in (X-M), there will be an inflationary effect (increase in AD), leading to rise in bank reserves, but the country will be allowing other countries to run a deficit, "borrowing" from it with no interest paid.
- If due to currency appreciation, exports will be more expensive in foreign currency.

The Marshall-Lerner condition – devaluation/depreciation will improve the current account balance only if the sum of price elasticities of demand for imports and exports is greater than 1:

$$|\text{PEDx} + \text{PEDm}| > 1$$

Theoretically, **as long as demand for imports and exports are price elastic, the devaluation/depreciation of the currency should result in an improvement in the current account** as the condition is satisfied. It will worsen if the condition is not satisfied.

The J-curve effect – a devaluation or sudden sharp depreciation often leads to an immediate deterioration in the BOP position, followed by a subsequent recovery. This is due to demand for exports and imports being price inelastic in the short-run as a result of:

- **Information lag**
- **Consumer habits**
- **Contractual obligations**

Unit 3.4: Economic Integration

Preferential Trade Agreement (PTA) – an agreement that gives preferential access to certain products from certain countries by reducing or eliminating tariffs, or by other agreements relating to trade. A member of the agreement will have easier access to markets of other members for the selected products than countries that are not members.

Trading blocs – a group of countries that join together in some form of agreement to increase trade between them and/or to gain economic benefits from cooperation. The three most common consist of an FTA, customs and monetary unions.

Free Trade Area (FTA) – consisting of a group of countries that agree to gradually eliminate trade barriers between themselves, while retaining the right to pursue its own trade policy towards other non-member countries, e.g. NAFTA, EFTA, SAFTA.

Customs Union – consisting of a group of countries that remove trade barriers between themselves and adopt common external tariffs and quotas with non-member countries, as well as acting as a group in all trade negotiations and agreements with non-members, e.g. Russia-Belarus-Kazakhstan, Mercosur, EU-Turkey.

Common Market – consisting of countries that have formed a customs union and then proceed further to eliminate any remaining barriers to trade, eliminating all restrictions on movements on any factor of production, e.g. EU, CARICOM.

Effects of trading blocs

1. Trade creation – when a trading bloc fosters specialization according to comparative advantage, causing a shift in production from higher cost producers to lower cost producers in the trading bloc. The goods are obtained more cheaply.

E.g. UK having a comparative advantage over France in lawnmower production while the EU (with France) had placed a tariff on UK lawnmowers before the UK joined. When the UK joins the EU, the tariff is removed. This is displayed below.

Effects of trade creation
Gain in consumer surplus: A+B+C+D
Loss of producer surplus: A
Loss of tax revenue to the French government: C
Net gain: B+D

2. Increased competition – induces producers to undertake R&D activities in process and product innovations, leading to productive efficiency and higher quality goods.

3. Expansion into larger markets – for firms

4. Economies of scale – a larger market allows a firm to grow large enough for LRAC to fall and results in lower prices and greater export competitiveness. Increased trade also enables exploitation of external economies of scale: improvements in infrastructure of the member nations, etc.

5. Increased investment – enlarged markets lead to firms wishing to take advantage of the larger market size by investing. Investing within the bloc also allows firms to escape the tariff or other protection.

6. Improvement in terms of trade – an increased bargaining power with the rest of the world enables such an improvement.

7. Spread of technology – integration may encourage a more rapid spread of technology through the sharing of processes and production methods.

However:

8. Trade diversion – when the entry of a country into a customs union leads to a shift in production away from low cost producers outside the bloc to high cost producers inside the bloc.

E.g. The UK imported textile from Malaysia, which had a comparative advantage, but then was compelled to impose the collective EU tariff on the Malaysian product. This is illustrated below.

Results of trade diversion
Loss of consumer surplus: A+B+C+D

Gain in domestic producer surplus: A
Welfare loss: B+C+D

9. Unequal distribution of gains and possible losses – countries are unlikely to gain equally from the operation of the bloc, creating potential for conflicts.

Monetary Union – a common market with a common currency and common bank e.g. EU, Euro, ECB.

Advantages

- Elimination of exchange risk and uncertainty
- Elimination of transaction costs
- Encouraging price transparency
- Promoting more inward investment

Disadvantages

- Reduction in economic sovereignty

Unit 3.5: Terms of Trade

TOT – an index, which shows the value of a country's average export prices relative to their average import prices. It is calculated using the following formula:

$$\text{TOT Index} = \frac{\text{Weighted index of average export prices}}{\text{Weighted index of average import prices}} \times 100$$

An increase in the price of exports with the price of imports constant means more imports can be bought with the same quantity of exports.

An increase in the price of imports with the price of imports constant means fewer imports can be bought with the same quantity of exports.

Prices are measured by a weighted price index using a base year.

If the TOT index has increased, the terms have improved and more imports can be obtained per unit.

If the TOT index has decreased, the terms have worsened and lesser imports can be obtained per unit.

Causes of changes in TOT

1. Short term factors
   - Availability of substitute goods (import availability)
   - Changes in world economic conditions
   - Changes in demand for exports and imports
   - Changes in global supply
   - Changes in the domestic rate of inflation relative to other countries
   - Changes in relative exchange rates

2. Long term factors
   - Growth in income and/or population, but do consider YED
   - Depletion of non-renewable resources
   - Changes in productivity and technological developments
   - Trade protection (if substantial)

Consequences of changes in TOT

1. Impact on current account (balance of trade)
The outcome depends on the reason for the change in TOT:
   - Changes in demand – TOT and trade balance will follow the direction of change in demand
   - Changes in supply – in the case of price inelastic demand, TOT and trade balance will follow the direction of change in supply, while in the case of

price elastic demand, only trade balance will follow the direction of change in supply, while TOT will go the opposite direction.

- Changes in exchange rate – depreciation will result in an improving trade balance only if the Marshall-Lerner condition is met.

2. Impact on global income redistribution
   - Improving TOT allows for greater opportunities for growth, while deteriorating TOT hinders acquisition of imports for production and growth prospects, as well as standard of living.

3. Impact on LEDCs specializing in primary production
   - Impact of short-run fluctuations due to
     - Low PED
     - Low PES

     Poses problems such as fluctuations in prices of primary commodities, negative impact on export revenue, spending of gains on imported consumer goods, dependency on primary commodities and fluctuation of the incomes of primary sector workers

   - Impact of long term deteriorations
     Poses problems such as a fall in export revenue adversely affecting profits of firms, leading to a fall in corporate and income tax revenue, as well as worsening of current account deficits due to falling export prices combined with low PED, and a rising opportunity cost of imports.