

IB Economics— Summary Sheets

May 2018

Demand, Supply & Elasticity

Demand

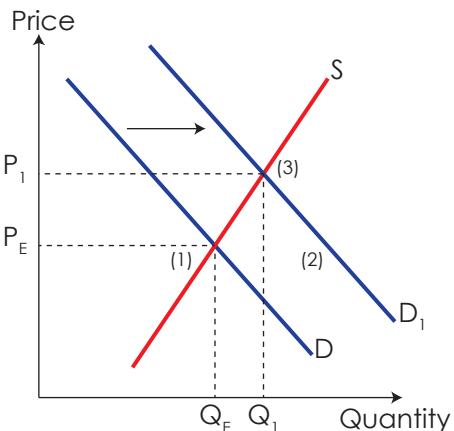
Demand: of an individual consumer indicates the various quantities of a good or service the consumer is willing and able to buy at different prices during a particular time period.

Law of Demand: there is a negative causal relationship between the price of a good and its quantity demanded. As the price of a good increases, quantity demanded falls.

Determinants of Demand

(Shifts of the Demand Curve)

- (1) Number of buyers
- (2) Income
- (3) Tastes & preferences
- (4) Price of related goods
- (5) Consumer expectations



Price Signals & Incentives

The key to the market's ability to allocate resources can be found in the role of prices as signals and prices as incentives. As **signals**, prices communicate information to decision-makers. As **incentives**, prices motivate decision-makers to respond to the information.

Efficiency

The competitive market realizes **allocative efficiency**, producing the combination of goods most wanted by society. **Productive efficiency** is also realized, producing goods with the fewest possible resources. These conditions are known as **economic efficiency** or **Pareto optimality**.

Price Elasticity of Demand

Price Elasticity of Demand (PED): is a measure of the responsiveness of the quantity of a good demanded to changes in its price.

Elastic ($PED > 1$): $\% \Delta Q_d > \% \Delta P$
Inelastic ($PED < 1$): $\% \Delta Q_d < \% \Delta P$

Determinants of PED

- (1) Portion of consumer income
- (2) Access to substitutes
- (3) Necessities versus luxuries
- (4) Branding and advertising
- (5) Length of time
- (6) Addiction

Price Elasticity of Supply

Price Elasticity of Supply (PES): is a measure of the responsiveness of the quantity of a good supplied to changes in its price.

Determinants of PES

- (1) Length of time
- (2) Resource mobility
- (3) Spare capacity of firms
- (4) Ability to store stocks

Cross Price Elasticity

Cross-price elasticity of demand (XED): is a measure of the responsiveness of demand for one good to changes in the price of another good, and involves demand curve shifts.

$$XED = \frac{\% \Delta Q_X}{\% \Delta P_Y}$$

Substitutes: XED > 0
Complements: XED < 0

Income Elasticity of Demand

Income elasticity of demand (YED): is a measure of the responsiveness of demand to changes in income, and involves demand curve shifts.

$$YED = \frac{\% \Delta Q_d}{\% \Delta Y}$$

Luxury: YED > 1
Normal: YED > 0
Inferior: YED < 0
Necessity: YED < 1

Supply

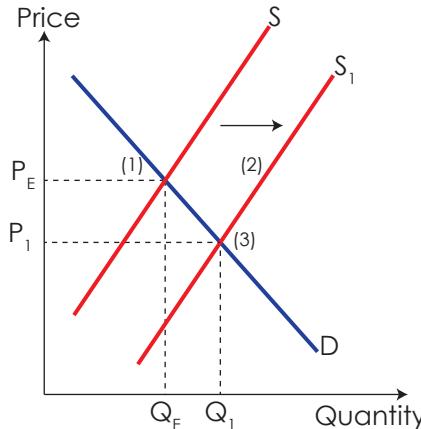
Supply: of an individual firm indicates the various quantities of a good or service a firm is willing and able to produce and supply to the market at different possible prices.

Law of supply: there is a positive causal relationship between the quantity of a good supplied and its price. As the price of the good increases, the quantity supplied also increases.

Determinants of Supply

(Shifts of the Supply Curve)

- (1) Number of firms
- (2) Resource prices
- (3) State of technology
- (4) Price of related goods
- (5) Producer expectations
- (6) Taxes & Subsidies
- (7) Supply-side shocks



Consumer Surplus

Consumer Surplus: is the highest price consumers are willing to pay for a good minus the price actually paid.

Producer Surplus

Producer Surplus: is the price received by firms for selling their good minus the lowest price that they are willing to accept to produce the good.

At the point of competitive market equilibrium, **social surplus**, defined as the sum of consumer plus producer surplus, is maximum.

In competitive markets, when **MB = MC**, or when social surplus is maximum, social welfare is max.

Market Failure- Problems & Solutions

Positive Externality

Positive Externality: a type of externality where the 'spillover' benefits on third-parties are positive or beneficial.

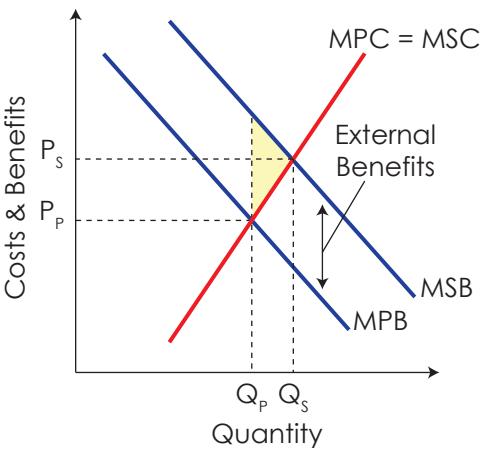
Positive Externality (Consumption- Merit Good)

Positive Externality of Consumption

a positive externality caused by consumption activities leading to a situation where $MSB > MPB$.

Example: Flu Shots

Merit Goods: are goods that are considered to be desirable for consumers, but which are underprovided by the market.



Solutions

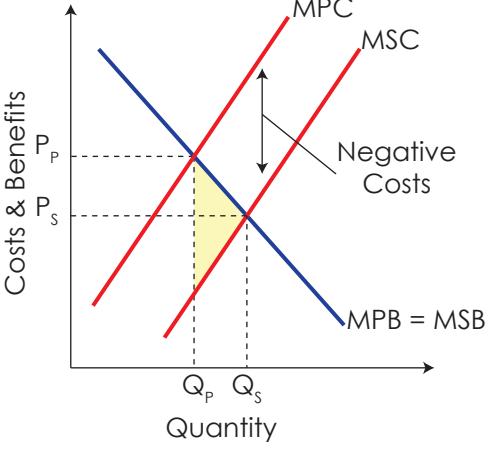
(Positive Externality of Consumption)

- (1) Government legislation
- (2) Positive advertising
- (3) Subsidies
- (4) Direct government provision

Positive Externality (Production)

Positive Externality of Production
a positive externality caused by production activities leading to a situation where $MSC < MPC$.

Example: Producing Chocolate



Market Failure

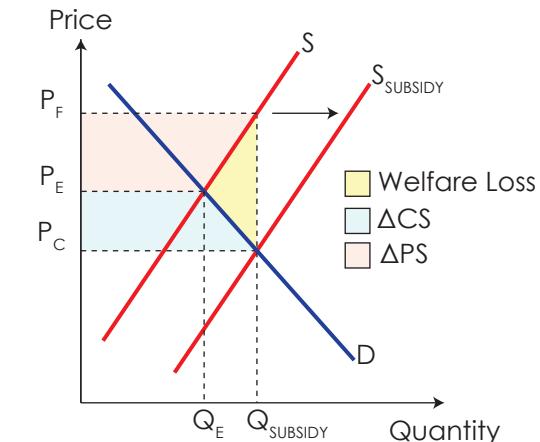
Market Failure: refers to the failure of the market to allocate resources efficiently.

Market failure results in allocative inefficiency, where too much or too little of goods or services are produced or consumed from the point of view of what is socially most desirable.

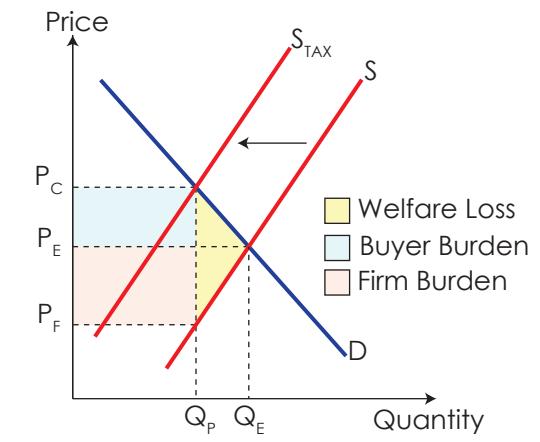
Allocative efficiency is achieved when $MSC = MSB$. When there is no externality, the competitive free-market leads to an outcome when $MPC = MSC = MPB = MSB$

Externalities: occur when the actions of consumers or producers give rise to negative or positive side-effects on other people who are not part of these actions, and whose interests are not taken into consideration.

Subsidies



Taxation



Solutions (Negative Externality of Production)

- (1) Government regulations
- (2) Carbon taxes
- (3) Cap and trade schemes

Negative Externality

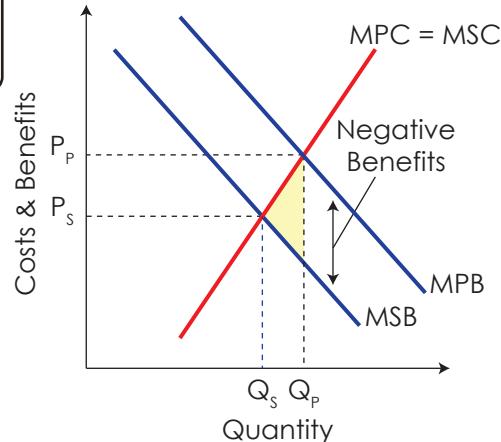
Negative Externality: a type of externality where the 'spillover' costs on third-parties are negative

Negative Externality (Consumption- Demerit Good)

Negative Externality of Consumption
a negative externality caused by consumption activities, leading to a situation where $MSB < MPB$.

Example: Smoking Cigarettes

Demerit Goods: are goods that are considered undesirable for consumers and are overprovided by the market.



Solutions

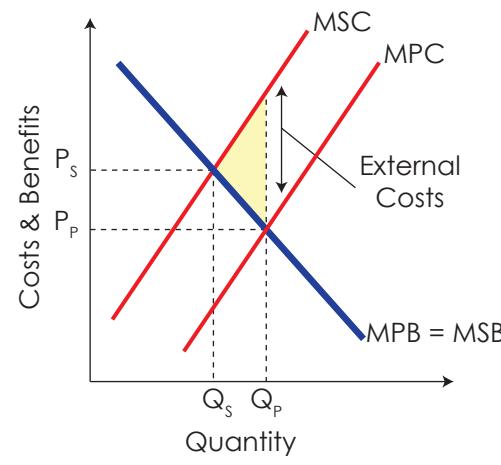
(Negative Externality of Consumption)

- (1) Government regulations
- (2) Negative advertising
- (3) Indirect taxes

Negative Externality (Production)

Negative Externality of Production
a negative externality caused by production activities, leading to a situation where $MSC > MPC$.

Example: Steel Production



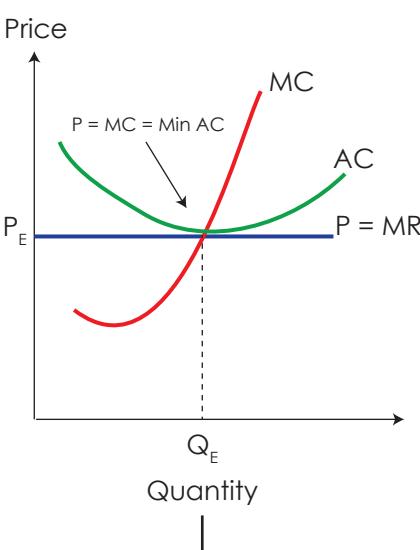
Perfect Competition

Profit or Losses?

Profit (Normal Profit)

If $P = AC$, which is called the firm's **break-even price**, the firm is making zero economic profit, but earning normal profit

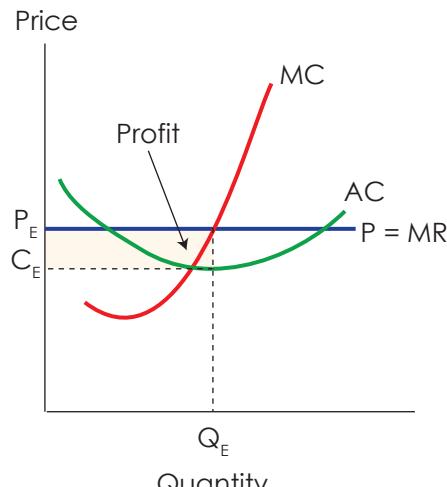
In perfectly competitive long-run equilibrium, firms' economic profits and losses are eliminated, and revenue is just enough to cover all economic costs, so that every firm earns normal profit



Profit (Supernormal Profit)

If $P > AC$, the firm makes supernormal profit (positive economic profit).

In perfect competition, firms can only earn supernormal profits in the short-run



The model of perfect competition is based on the following assumptions:

- (1) **Large number of firms:** each firm's output is small in relation to the size of the market. Consequently, firms are **price takers** and the demand curve is **perfectly elastic**
- (2) **Homogeneous products:** the products produced by the firms in each industry are identical
- (3) **Free entry and exit:** there are no barriers to entry into or exit from the industry
- (4) **Perfect information:** all firms and all consumers have complete information regarding products, prices, resources and methods of production
- (5) **Perfect resource mobility:** resources can easily and without any cost be transferred from one firm to another

No matter how much output the perfectly competitive firm sells, $P = MR = AR$ and these are constant at the level of the horizontal demand. This follows from the fact that price is constant regardless of the level of output sold

Allocative efficiency occurs when firms produce the particular combination of goods and services that consumers mostly prefer. Allocative efficiency is achieved when $P = MC$

Productive efficiency occurs when production takes place at the lowest possible cost. Productive efficiency is achieved when production occurs at **minimum AC**.

In long-run equilibrium under perfect competition, the firm achieves both allocative ($P = MC$) and productive efficiency ($P = \min AC$). At the level of the industry social surplus is a maximum, and $MB = MC$

In the short-run, the perfectly competitive firm achieves allocative efficiency but is unlikely to achieve productive efficiency

Losses (One Case)

If $P < AC$, the firm makes a loss (negative economic profit)

Positive Output ($AC > P > AVC$)

When $AC > P > AVC$ at the level of output where $MR = MC$, the firm is making a loss but should continue producing because its loss is smaller than its fixed cost

Shut-Down Price ($P = AVC$)

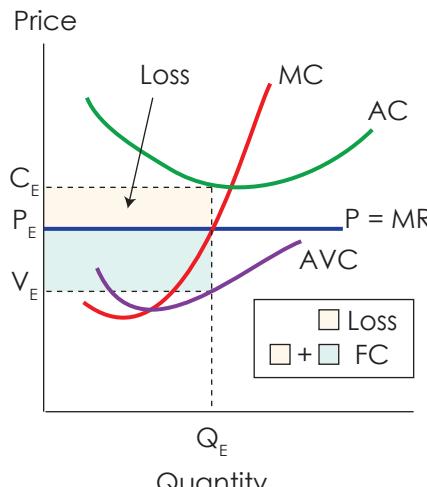
The price $P = \min AVC$ is the firm's shut-down price in the short run. At this price, the firm's total loss is equal to its fixed costs

Shut-Down ($P < AVC$)

When price falls below the shut-down price, so that $P < \min AVC$, the firm should shut down in the short run, and will make a loss equal to its fixed costs

Long Run (Exit Industry)

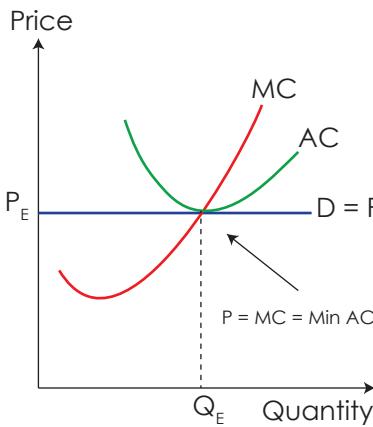
In the long run, a loss-making firm shuts down and exits the market



Market Structures Comparison

Pure Competition

- (1) Large number of firms
- (2) Homogeneous products
- (3) Free entry and exit
- (4) Perfect information
- (5) Perfect resource mobility



Evaluation

- Allocative efficiency
- Productive efficiency
- Low prices for consumers
- Competition leads to the closing down of inefficient producers
- Market responds to consumer tastes
- Market responds to changes in technology or resource prices

Limitations

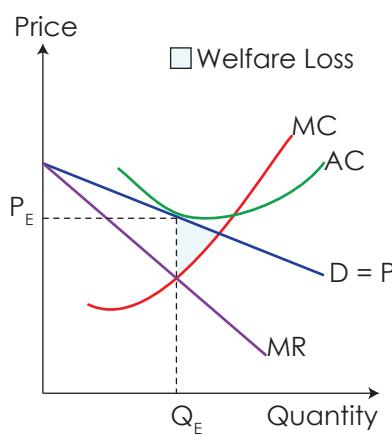
- (1) Unrealistic assumptions
- (2) Lack of product variety
- (3) Market failure
- (4) Limited ability to engage in research and development
- (5) Waste of resources in the process of long-run adjustments
- (6) Limited possibilities to take advantage of economies of scale

Examples

- Agriculture/Commodities

Monopolistic Competition

- (1) Large number of firms
- (2) Free entry and exit
- (3) Product differentiation



Differentiation

- Physical differences
- Quality differences
- Location
- Services
- Product image

Evaluation

Monopolistic competition is neither allocative ($P > MC$) nor productively efficient ($P > \text{Min AC}$)

Long-Run

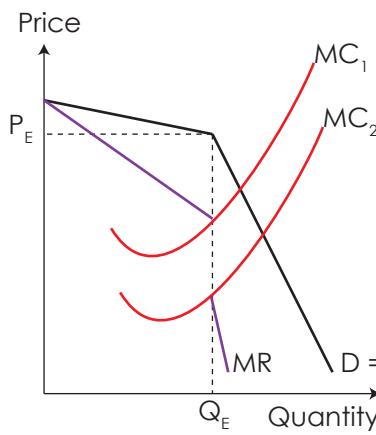
In the long-run, profit making industries attract new entrants; in loss-making industries, some firms shut down and exit the industry. The process of entry and exit of firms in the long run ensures that economic profit or loss is zero and all firms earn normal profit

Examples

- Restaurants
- Smartphones
- Clothing
- Shoes
- Processed foods

Oligopoly

- (1) Small number of big firms
- (2) High barriers to entry
- (3) Differentiated or similar
- (4) Mutual interdependence



Non-Collusive

Firms that do not collude are forced to take into account the actions of rivals in making price decisions

Without collusion there is still price stability

Firms do not compete with each other on the basis of price

Collusion

Collusion in oligopoly refers to an agreement between firms to restrict output or fix the price, in order to limit competition and increase monopoly power and profit

A cartel is a formal deal to limit competition between the member firms and to maximize joint profits.

Cartels collectively behave like a monopoly

Obstacles

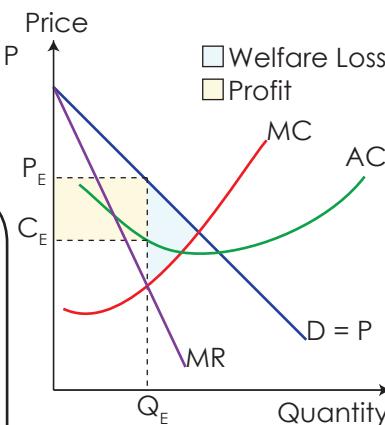
- Incentive to cheat
- Cost differences
- Different demand curves
- Number of firms
- Potential for a price war
- Recessions
- Potential new entrants

Monopoly

- (1) Single/dominant firm
- (2) No close substitutes
- (3) Strong barriers to entry

Barriers to Entry

- Economies of scale
- Branding
- Patents/Licences
- Trade restrictions
- Control of resources



Evaluation

Monopoly is neither allocative ($P > MC$) nor productively efficient ($P > \text{Min AC}$)

Strengths

- Technological innovation
- Economies of scale
- Greater efficiency

Natural Monopoly

If the market demand for a product is within the range of falling LRAC, this means a single large firm can produce for the entire market at a lower AC than two or more smaller firms

Regulation

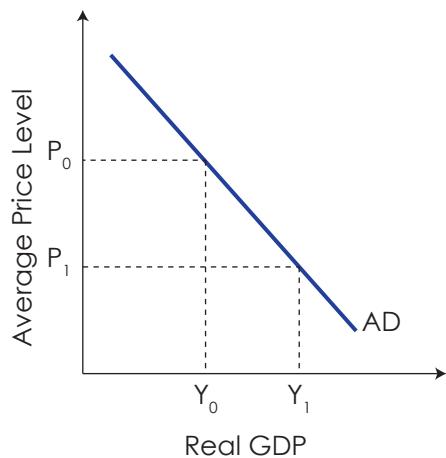
- Anti-trust laws
- Regulation of monopoly
- Marginal-cost pricing
- Average-cost pricing

Aggregate Supply & Aggregate Demand

AD

(Aggregate Demand)

Aggregate Demand: is the total amount of real output that consumers, firms, the government and foreigners want to buy at each possible price level, over a particular time period



GDP

Gross Domestic Product (GDP): is the market value of all final goods and services produced in a country over a time period

It is one of the most commonly used measures of aggregate output.

AS

(Aggregate Supply)

Aggregate Supply: is the total quantity of goods and services produced in an economy over a particular time period at different price levels

Measures of GDP

There are three ways to measure the value of aggregate output.

(1) **Expenditure approach:** adds up all the spending to buy final goods and services produced within a country over a time period.

$$GDP = C + I + G + (X - M)$$

(2) **Income approach:** adds up all income earned by the factors of production that produce all goods and services within a country over a time period.

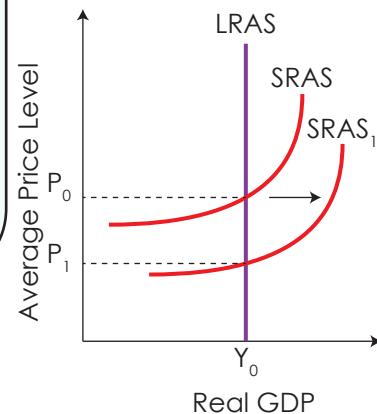
$$GDP = W + I + R + P$$

(3) **Output approach:** calculates the value of all final goods and services produced in a country over a time period

SRAS

(Short-run Aggregate Supply)

SRAS: shows the relation between price level and the quantity of real output produced by firms when resources prices and wages do not change



Movement Along AD

(Changes in Price Level)

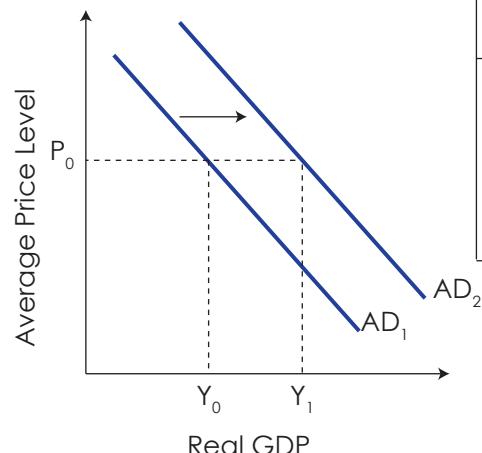
(1) **Wealth effect:** if the price level increases, the real value of wealth falls and people reduce spending

(2) **Interest rate effect:** in response to a rise in price level, banks raise the interest rate on loans to households and firms reducing spending

(3) **International trade effect:** if the domestic price level increases, exports become more expensive and imports cheaper.

Shifts in AD

(Changes in Exogenous Factors)



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Gross Domestic Product (GDP): is the market value of all final goods and services produced in a country over a time period

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Shifts in SRAS

(Changes in production costs)

(1) Δ Wages
(2) Δ Resource prices
(3) Δ Business taxes
(4) Δ Subsidies to firms
(5) Δ Supply-side shocks

Shifts in LRAS

(1) Δ Production factors
(2) Δ Technology
(3) \uparrow Efficiency
(4) Institutional changes
(5) \downarrow Unemployment

Vertical LRAS

In the long-run firms' costs of production remain constant as the price level changes. With constant real costs, firms' profits are also constant, and firms no longer have an incentive to increase or decrease their output

Changes in Consumer Spending (C)

- (1) Δ Consumer confidence
- (2) Δ Interest rates (Monetary policy)
- (3) Δ Wealth
- (4) Δ Personal income taxes (fiscal policy)
- (5) Δ Level of household indebtedness

Changes in Investment Spending (I)

- (1) Δ Business confidence
- (2) Δ Interest rates (Monetary policy)
- (3) Δ Technology
- (4) Δ Business taxes (Fiscal policy)
- (5) Δ Level of corporate indebtedness
- (6) Legal and institutional changes

Changes in Government Spending (G)

- (1) Δ Political priorities
- (2) Δ Economic priorities (Fiscal policy)

Changes in Foreign Spending (X - M)

- (1) Δ National income abroad
- (2) Δ Exchange rate
- (3) Δ Level of trade protection

Macroeconomics- Understanding the Objectives

Unemployment

Unemployment: refers to people of working age who are willing and able to work, actively seeking employment, but unable to find a job.

- (1) Loss of real output, ↓ Real GDP
- (2) Income loss for unemployed
- (3) Loss of tax revenue
- (4) Unemployment benefits costs
- (5) Unequal income distribution
- (6) Social problems
- (7) Reduced future job prospects

Types of Unemployment

Structural unemployment: occurs as a result of technological changes and changing patterns of demand, as well as changes in the geographical location of jobs, and labour market rigidities.

Labour market rigidities: are factors preventing the forces of supply and demand from operating in the labour market

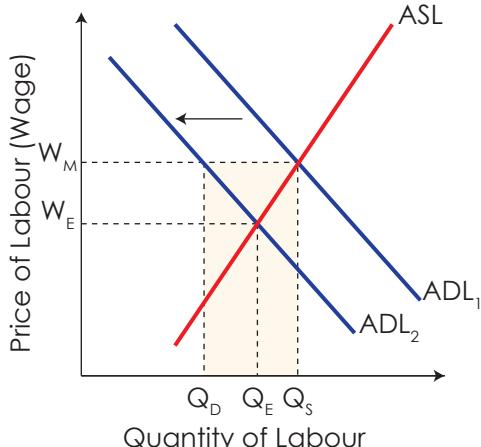
- (1) Minimum wage legislation
- (2) Labour union activities
- (3) Employment protection laws
- (4) Strong unemployment benefits

Frictional unemployment: arises from new entrants into the labor market and from job turnover caused by technological change or geographical movement of workers.

Cyclical unemployment: also called demand deficient unemployment, is unemployment that arises due to fluctuations in the nation's business cycle.

Labour Market

(Cyclical Unemployment)



Macroeconomic Objectives

- (1) Full employment
- (2) Stable price levels
- (3) Economic growth
- (4) Equitable distribution of income
- (5) External balance ($X = M$)

Economic Growth

Economic Growth: increases in total real output/GDP produced by an economy.

Sources of Economic Growth

Productivity: which refers to the amount of output attributable to each unit of input is the main source of ↑ Real GDP

- (1) ↑ Quality of the factors of production
- (2) ↑ Quantity of the factors of production

Economic Growth

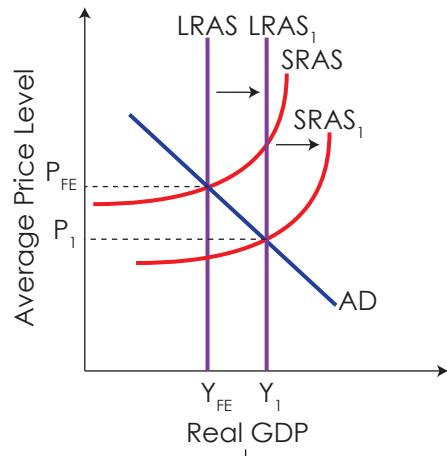
(Short-run: ↑ AD)

Short-run economic growth: is caused by an increase in aggregate demand.

- Produces beyond its full employment
- ↑ Demand-pull inflation
- ↑ Wages & ↓ SRAS in the long-run

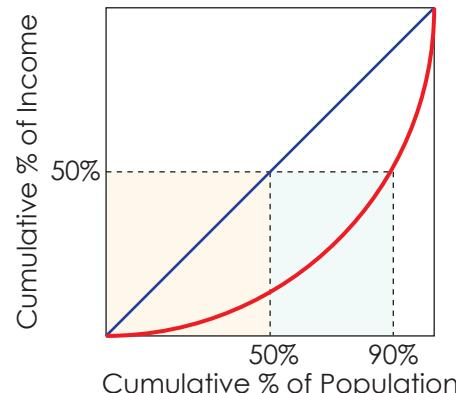
Economic Growth

(Long-run: ↑ LRAS)



Equity in Income Distribution

(Lorenz Curve)



Inflation/Deflation

Inflation: a sustained increase in the general price level over time

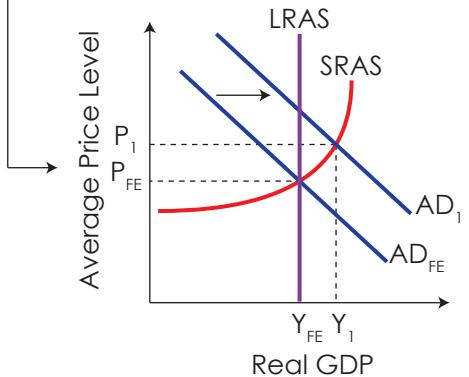
Deflation: a sustained decrease in the general price level over time

Consumer Price Index (CPI): is a measure of the cost of living for the typical household, and compares the value of a basket of goods & services in one year with the value of the same basket in a base year

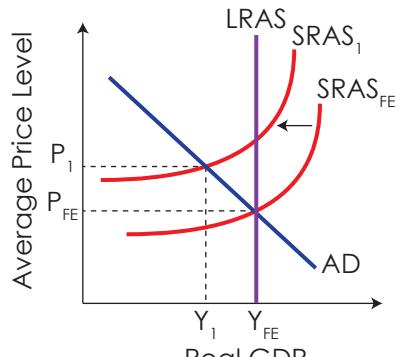
- (1) Loss of purchasing power
- (2) ↓ Real IR for savers
- (3) ↑ Nominal IR for borrowers
- (4) ↓ International competitiveness
- (5) ↑ Menu costs
- (6) ↑ Uncertainty

Types of Inflation

Demand-pull Inflation: involves an excess AD over SRAS at the full employment level of output, and is caused by an ↑ AD



Cost-push Inflation: is caused by ↓ SRAS resulting from a negative supply-side shock and increases in input prices



Types of Deflation

- Demand-deficient deflation: ↓ AD
- Supply-side deflation: ↑ SRAS/LRAS

Macroeconomics- Inflation & Phillips Curve

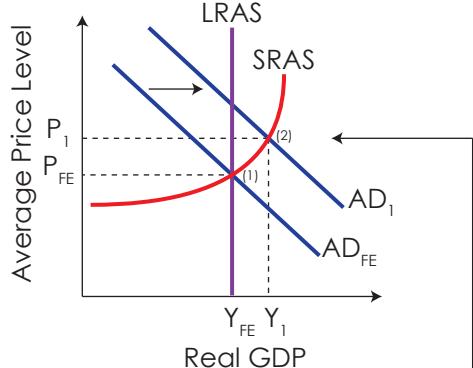
Inflation

Inflation: is a sustained increase in the general price level over time.

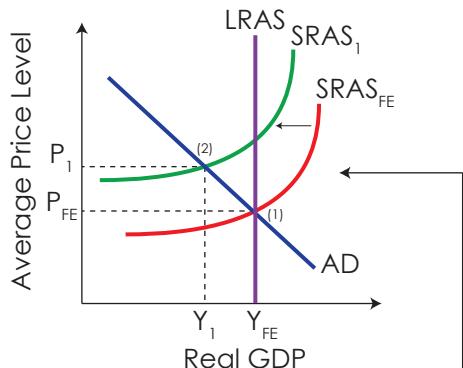
Disinflation: refers to a fall in the rate of inflation.

Types of Inflation

Demand-pull Inflation: involves an excess AD over SRAS at the full employment level of output, and is caused by an \uparrow AD



Cost-push Inflation: is caused by \downarrow SRAS resulting from a negative supply-side shock and increases in input prices



Measuring Inflation

Consumer Price Index (CPI): is a measure of the cost of living for the typical household, and compares the value of a basket of goods & services in one year with the value of the same basket in a base year

Consequences of Inflation

- (1) Loss of purchasing power
- (2) \downarrow Real IR for savers
- (3) \uparrow Nominal IR for borrowers
- (4) \downarrow International competitiveness
- (5) \uparrow Menu costs
- (6) \uparrow Uncertainty

Phillips Curve

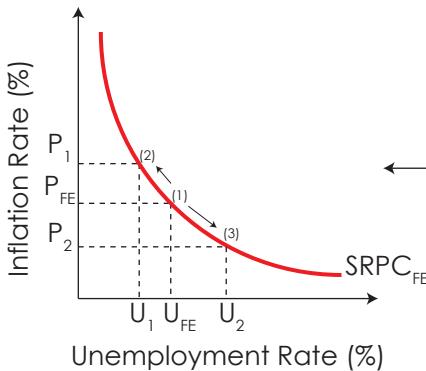
Phillips curve: a curve showing the relationship between unemployment and inflation.

Short-Run Phillips Curve

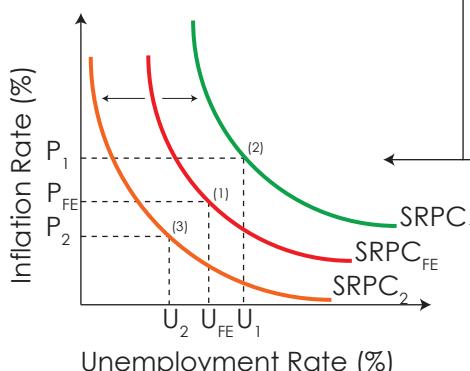
Short-run Phillips curve: shows a negative relationship between the rate of inflation and the unemployment rate.
- \uparrow Inflation then \downarrow Unemployment

In the short-run policy-makers can choose between the competing alternatives of low inflation and low unemployment by selecting appropriate demand-side policies

ΔAD involves movement along the short-run Phillips curve and will cause a change in employment and the price level.



$\Delta SRAS$ involves shifts of the short-run Phillips curve.



Long-Run Phillips Curve

Long-run Phillips curve: is vertical at the natural rate of unemployment. In the long-run unemployment is independent of the rate of inflation.

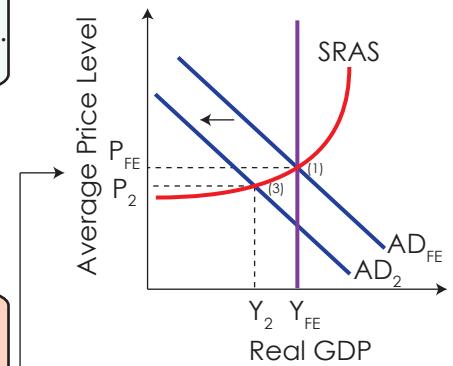
In the long-run, the only impact of an \uparrow AD is to \uparrow Inflation, while the level of real output and unemployment remain unchanged at the natural rate of unemployment.

Deflation

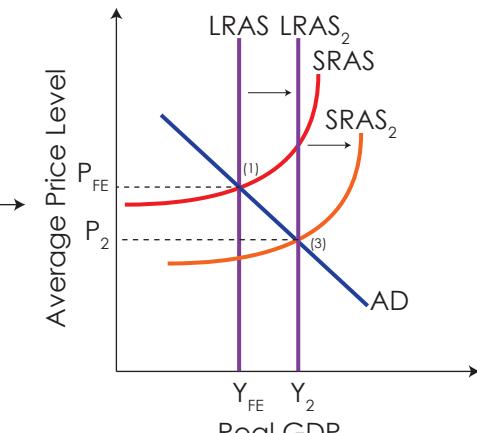
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Types of Deflation

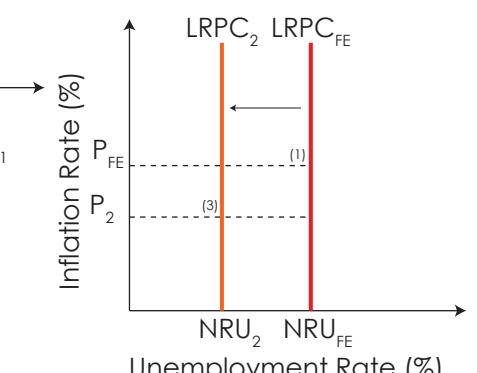
Demand-deficient deflation: \downarrow AD



Supply-side deflation: \uparrow SRAS/LRAS



$\Delta LRAS$ shifts of the long-run Phillips curve.



Core Inflation

Core rate of inflation: a rate of inflation based on CPI that excludes goods with volatile prices, such as food and energy.

Stagflation

Stagflation: persistent high inflation combined with high unemployment and low growth.

Macroeconomics- Understanding the Solutions

Demand-Side Policies ←

Demand-side policies: policies that attempt to change AD in order to achieve the macroeconomic objectives and minimize the severity of the business cycle.

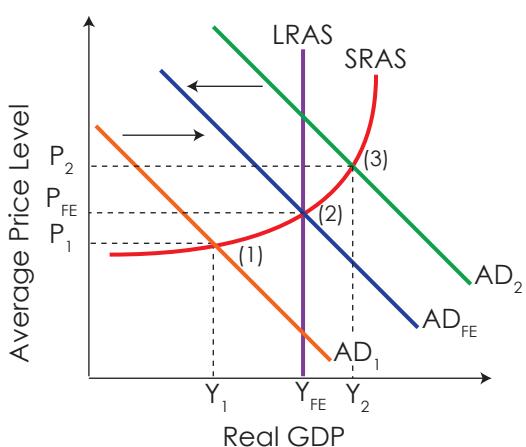
Fiscal Policy

(Demand-Side Policy)

Fiscal policy: manipulations by the government of its own expenditures and taxes in order to influence the level of aggregate demand.

Contractionary: $\downarrow G$ or $\uparrow \text{Tax} \Rightarrow \downarrow \text{AD}$

Expansionary: $\uparrow G$ or $\downarrow \text{Tax} \Rightarrow \uparrow \text{AD}$



Macroeconomic Goals

- (1) Full employment
- (2) Stable price levels
- (3) Economic growth
- (4) Equitable distribution of income
- (5) External balance ($X = M$)

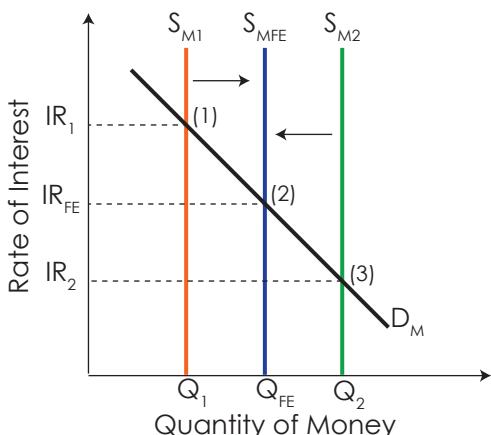
Monetary Policy

(Demand-Side Policy)

Monetary policy: manipulations of interest rates and money supply by the central bank to influence the consumption (C) and investment (I) components of AD.

Contractionary: $\downarrow S_M$ or $\uparrow IR \Rightarrow \downarrow \text{AD}$

Expansionary: $\uparrow S_M$ or $\downarrow IR \Rightarrow \uparrow \text{AD}$



Supply-Side Policies

Supply-side policies: policies that attempt to increase LRAS in order to achieve long-term economic growth. They do not attempt to stabilize the economy.

Interventionist

(Supply-Side Policy)

Interventionist policies: government led attempts to increase the productive capacity of the country.

- (1) Investment in human capital
 - Training and education
 - Provision and access to healthcare
- (2) Investment in new technology
- (3) Investment in infrastructure
- (4) Industrial policies
 - Support for infant industries
 - Financial incentives for SMEs

Market-Based

(Supply-Side Policy)

Market-based policies: attempt to reduce government intervention thereby allowing the free market to increase efficiency and improve incentives.

Automatic Stabilizers

Automatic stabilizer: are factors that automatically, without any action by government, work towards stabilizing the economy by reducing short-term fluctuations of the business cycle.

- (1) Progressive income taxes
- (2) Unemployment benefits

Strengths

(Fiscal Policy)

- (1) \downarrow Severity & length of recession
- (2) \uparrow Spending directly impacts AD
- (3) \downarrow Rapid & escalating inflation
- (4) Ability to affect potential output
- (5) Ability to target specific sectors

Weaknesses

(Fiscal Policy)

- (1) Time lags
- (2) Political constraints
- (3) Crowding-out/Net-export effect
- (4) Inability to deal with stagflation
- (5) Limitations of tax cuts
- (6) Inability to fine-tune economy

Weaknesses

- (1) Reduced ability to deal with shocks
- (2) Difficult implementation/targeting

Δ Money Supply

The central bank manages the money supply with the following monetary tools,

- (1) Δ Discount rate
- (2) Buy or sell government bonds
- (3) Δ Reserve ratio requirement

Strengths

(Monetary Policy)

- (1) Relatively quick implementation
- (2) Central bank independence
- (3) No political constraints
- (4) No crowding-out
- (5) Ability to adjust IR incrementally

Weaknesses

(Monetary Policy)

- (1) Time lags
- (2) Possible ineffectiveness in recession
- (3) Conflict of government objectives
- (4) Inability to deal with stagflation

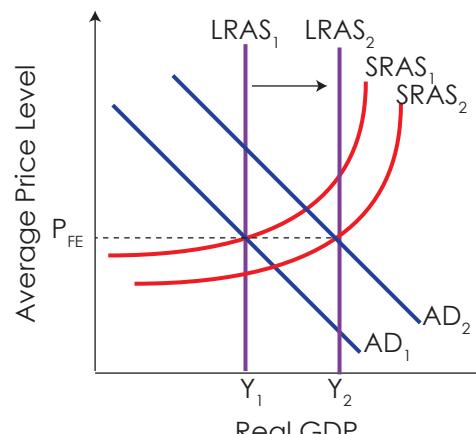
Inflation Targeting

Inflation targeting: monetary policy focusing on achieving an inflation target, rather than on focusing on the goals of low and stable rate of inflation and low unemployment.

Strengths

Strengths: lower & more stable inflation

- (1) Lower & more stable inflation
- (2) Ability to anticipate inflation
- (3) Central bank transparency
- (4) Monetary/Fiscal coordination



Strengths

Free Trade & Protectionist Policies

World Trade Organization

(Functions and Objectives)

(1) Functions of the WTO

- Executes WTO agreements
- Forum for trade negotiations
- Handles trade disputes
- Monitors national trade policies
- Technical assistance & training
- Facilitates IGO co-operation

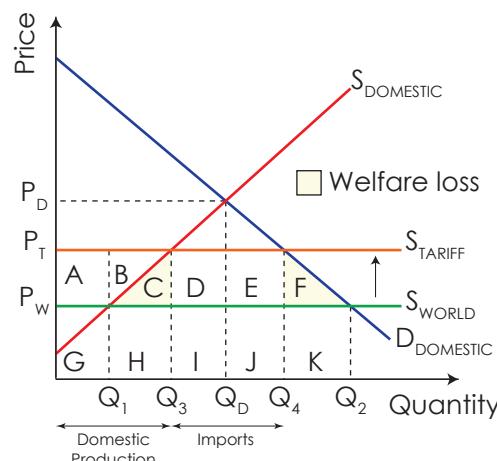
(2) Principles of the WTO

- Trade without discrimination
- Free trade through negotiation
- Predictability and transparency
- Promotion of fair competition
- Encouraging development

Tariffs

Tariff: taxes on imported goods.

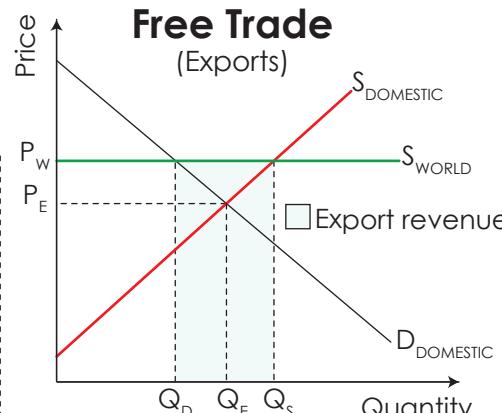
Taxes are viewed as an added cost of production by firms, so a tariff shifts the supply curve to the left.



- ↑ Quantity supplied & ↓ Imports
- ↓ Quantity demanded
- Domestic consumers are worse-off
- Domestic producers are better-off
- ↑ Domestic employment
- ↑ Government revenue (**D + E**)
- Income distribution worsens
- ↑ Inefficiency of production (**C + F**)
- Foreign producers worse-off
- Global misallocation of resources

Benefits of Trade

- (1) ↑ Specialization & production
- (2) Economies of scale
- (3) ↑ Product variety & choice
- (4) ↑ Economic growth rates
- (5) ↑ Competition & efficiency
- (6) Lower prices for consumers
- (7) Acquisition of needed resources
- (8) Source of foreign exchange
- (9) Spread of technology & ideas



Trade Protection

Trade protection: government intervention in international trade through the imposition of trade restrictions to prevent the free entry of imports into a country and to protect the domestic economy from foreign competition.

Arguments for Protectionism

- (1) Infant industry argument
- (2) Strategic trade policy
- (3) National security
- (4) Health and safety standards
- (5) Environmental standards
- (6) Diversification of production
- (7) Raise government revenue
- (8) Overcome trade deficits
- (9) Prevent dumping of goods
- (10) Protect domestic employment
- (11) Wage protection argument

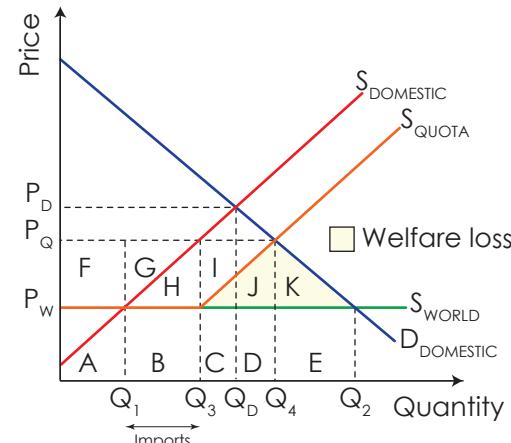
Summary of Effects

(Trade Barriers)

- (1) Producers and workers (through the increase in domestic employment) are the only groups that benefit from all types of trade protection
- (2) The gain of producers has a cost in terms of higher costs of production and reduced efficiency
- (3) Consumers lose in most cases (\uparrow Price and $\downarrow Q_D$), except for subsidies.
- (4) Income distribution in most cases worsens
- (5) Foreign producers are worse off in all cases
- (6) Society as a whole and global resource allocation lose under all forms of trade protection
- (7) Trade protection may have a negative effect on a country's export competitiveness
- (8) Trade protection may give rise to trade wars
- (9) Trade protection creates a potential for corruption

Quotas

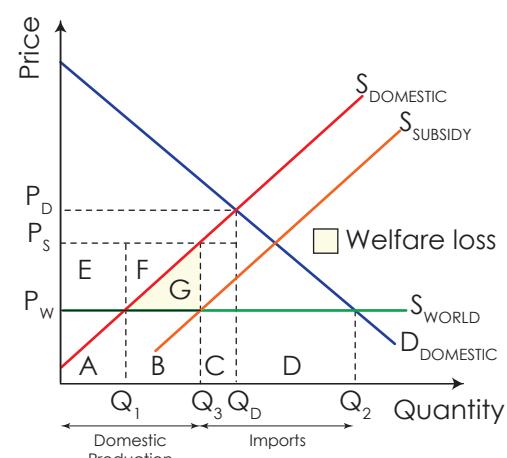
Quota: is a legal limit to the quantity of a good that can be imported over a particular time period.



- ↑ Quantity supplied & ↓ Imports
- ↓ Quantity demanded
- Domestic consumers are worse-off
- Domestic producers are better-off
- ↑ Domestic employment
- Income distribution worsens
- ↑ Inefficiency of production (**J + K**)
- Global misallocation of resources

Subsidies

Subsidy: is a government payment to a firm for each unit of output produced. Subsidies can be used to promote exports and/or reduce the quantity of imports



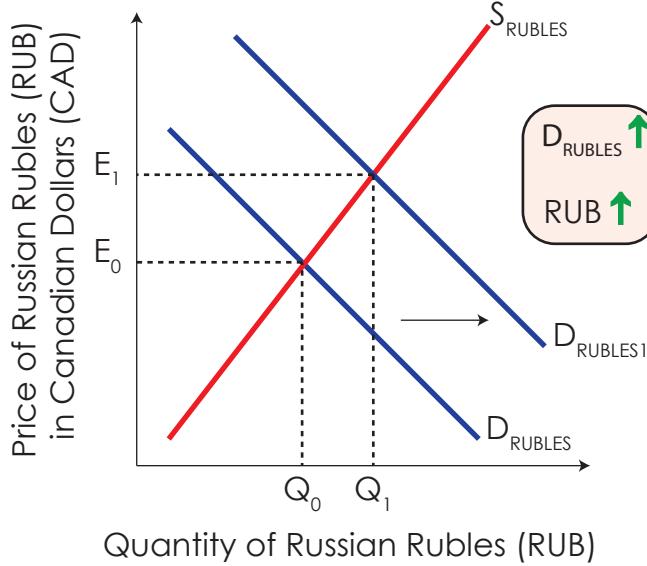
- ↑ Quantity supplied & ↓ Imports
- Consumption is not affected
- Domestic producers are better-off
- Government expenditure (**E+F+G**)
- Taxpayers are worse-off
- ↑ Domestic employment
- ↑ Inefficiency of production (**G**)
- Exporting countries are worse-off
- Global misallocation of resources

Does the Exchange Rate Appreciate or Depreciate?

- (1) Tastes and preferences
- (2) Relative Income changes
- (3) Relative Price levels
- (4) Speculation
- (5) Relative Interest rates
- (6) Investment from abroad
- (7) Central bank intervention

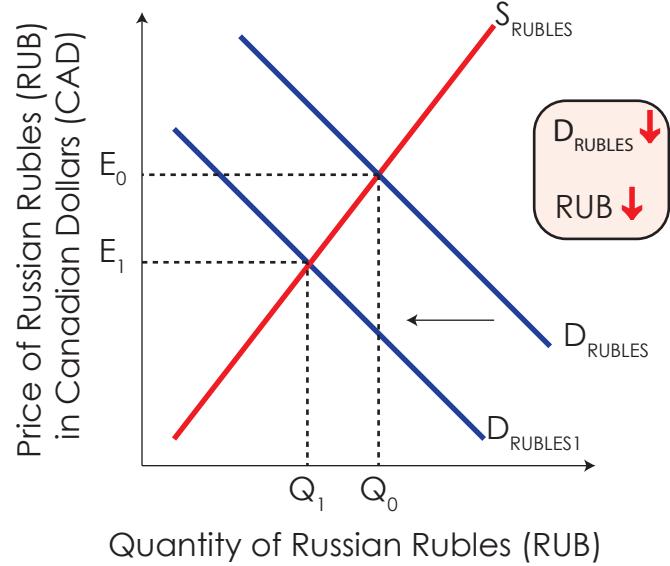
Appreciation (Foreign Currency)

- Reduced imports
- Increased exports
- Lower relative growth
- Lower relative inflation
- Speculative buying
- Higher relative interest rates
- Increased FDI
- Central Bank buying

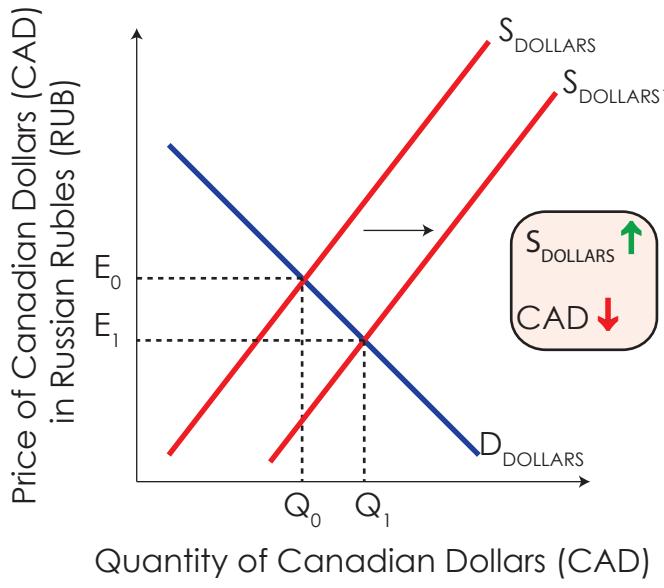


Depreciation (Foreign Currency)

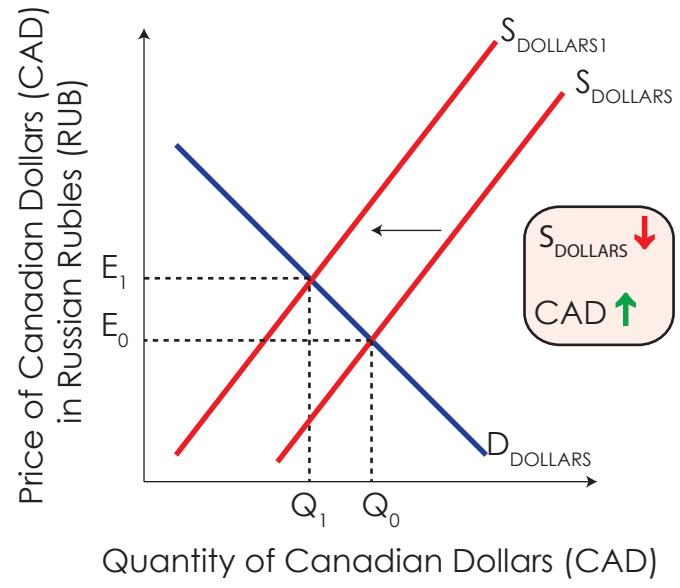
- Increased imports
- Reduced exports
- Higher relative growth
- Higher relative inflation
- Speculative selling
- Lower relative interest rates
- Decreased FDI
- Central Bank selling



Depreciation (Domestic Currency)



Appreciation (Domestic Currency)



Exchange Rates Flexible or Fixed?

The **exchange rate** is the rate at which one currency can be exchanged for another.

Fixed

(Central Bank)

A **fixed exchange rate system** is an exchange rate system where exchange rates are fixed by the central bank of each country

Advantages

- Increased stability
- Increased trade
- No import inflation
- No speculation

Disadvantages

- Large reserves
- Unfair competition
- Difficult to set rate
- Domestic instability
- Inflexible to shocks
- BOP disequilibrium

Revaluation

Revaluation is an increase in the value of a currency.

- (1) **Reserves:** buy domestic currency & sell foreign
- (2) **Interest Rates ↑**
- (3) **Exchange Controls:** limit foreign currency holdings
- (4) **Import limits**

Devaluation

Devaluation is a decrease in the value of a currency

- (1) **Reserves:** sell domestic currency & buy foreign
- (2) **Interest Rates ↓**
- (3) **Exchange Controls:** limit domestic currency holdings of foreigners

Managed

(Market Forces + Central Bank)

A **managed exchange rate system** is an exchange rate system that is free to float to their market levels over long periods of time. However, central banks periodically intervene in order to stabilize them over the short term.

Dirty Float

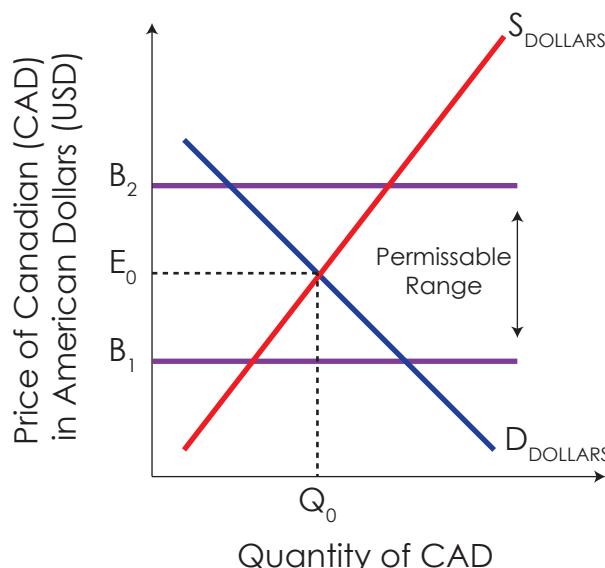
(Flexible + Managed)

Dirty float is managed system of exchange rates in which the government intervenes in order to prevent excessive exchange rate fluctuations

Adjustable Peg

(Fixed + Managed)

Adjustable peg is a managed system of exchange rates in which a central rate is chosen, but flexibility is built-in to allow the rate to move freely within an exchange rate band.



Flexible

(Market Forces)

A **freely floating exchange rate system** is an exchange rate system where exchange rates are determined entirely by market forces.

Advantages

- No reserves
- Domestic stability
- Auto-correction
- BOP equilibrium
- Flexible to shocks

Disadvantages

- Uncertainty
- Risk of shocks
- Import Inflation
- Destabilization
- Speculation

Overvalued Currency

Overvalued currency is a currency whose value is higher than the free market value

- (1) Black markets
- (2) Cheaper imports
- (3) Trade deficit

Undervalued Currency

Undervalued currency is a currency whose value is lower than the free market value

- (1) Unfair trade
- (2) Cheaper exports
- (3) Trade surplus

Balance of Payments Deficit or Surplus?

The **balance of payments** of a country is a record of all the economic transactions of a country's economy with the rest of the world

$$\text{Current Account} + \text{Financial Account} + \text{Capital Account} = 0$$

Deficit

(Negative BOP)

A **current account deficit** means a country consumes more than it produces. It pays for the extra output consumed through a financial account surplus

A current account deficit is matched by a surplus in the capital and financial accounts combined.

Foreign reserves decline

Persistent current account deficits must be financed by loans from abroad or the sale of domestic assets

- (1) High indebtedness
- (2) Exchange rate ↓
- (3) Poor credit rating
- (4) Higher interest rates
- (5) Lower economic growth
- (6) Lower standard of living

There are three long-term methods for correcting deficits in the balance of payments

- (1) Expenditure-switching
- (2) Expenditure-reducing
- (3) Supply-side policies

Debits

(Supply of the currency)

Payments made to other countries

Credits

(Demand for the currency)

Payments received from other countries

Current Account

(Balance of Trade)

The **current account** measures the flow of funds between a nation and the rest of the world for the purchase of goods & services and income transfers.

- (1) Balance of trade in goods
- (2) Balance of trade in services
- (3) Income balance
- (4) Current transfer balance

Debits

Imports
Service debits
Income debits
Transfer debits

Credits

Exports
Service credits
Income credits
Transfer credits

Capital Account

The **capital account** records the transactions involving ownership of capital, forgiveness of debt, or the acquisition and disposal of intangible assets between a nation and all other nations.

- (1) Capital transfers
- (2) Debt forgiveness
- (3) Exchange of intangible assets

Debits

Capital outflow
Debt debit

Credits

Capital inflow
Debt credit

Financial Account

The **financial account** measures the exchanges between a nation and the rest of the world involving ownership of financial and real assets

Debits

Outflow of FDI (Investment abroad)
Outflow of portfolio investment
Sell domestic currency

- (1) Direct investment (FDI)
- (2) Portfolio investment (stocks)
- (3) Foreign exchange reserves

Credits

Inflow of FDI
Inflow of portfolio investment
Buy domestic currency

Surplus

(Positive BOP)

A **current account surplus** means a country consumes less than it produces, and part of the income generated from the sale of extra output produced corresponds to a financial account deficit

A current account surplus is matched by a deficit in the capital and financial accounts combined.

Foreign reserves increase

Countries with a current account surplus are net purchasers of assets abroad or net lenders to other countries

- (1) Low consumption
- (2) Insufficient investment
- (3) Exchange rate ↑
- (4) Reduced exports

Marshall-Lerner Condition

Elastic or Inelastic?

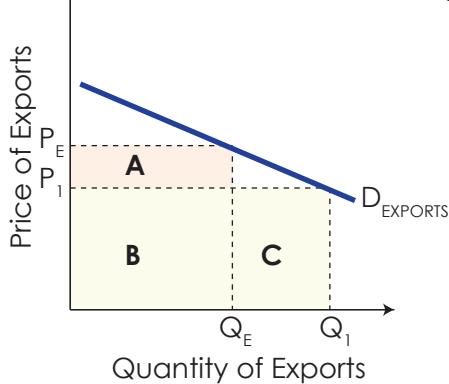
The **Marshall-Lerner** condition tells us how successful a depreciation or devaluation of a country's currency will be as a means to improve a current account deficit in the balance of payments

Elastic

(Exports, $PED_X > 1$)

If the $PED_{EXPORTS}$ is **elastic** and **prices fall** as a result of depreciation, the $\% \Delta$ in the quantity of exports is **more than proportional** for the $\% \Delta$ in price.

Price of exports ↓
Export revenues ↑
 $Revenue_{BEFORE} = A + B$
 $Revenue_{AFTER} = B + C$



Elastic

(Imports, $PED_M > 1$)

If the $PED_{IMPORTS}$ is **elastic** and **prices increase** as a result of depreciation, the $\% \Delta$ in the quantity of imports is **more than proportional** for the $\% \Delta$ in price.

Price of imports ↑
Import spending ↓
 $Revenue_{BEFORE} = B + C$
 $Revenue_{AFTER} = A + B$

Deterioration

($PED_X + PED_M < 1$)

Trade deficit ↑

If the sum of the PED for imports and exports is less than 1 ($PED_X + PED_M < 1$) then the trade balance worsens following devaluation.

If a country has combined elasticities of less than one, intervention to appreciate the currency would be the best way to improve the balance of payments

Improvement

($PED_X + PED_M > 1$)

Trade deficit ↓

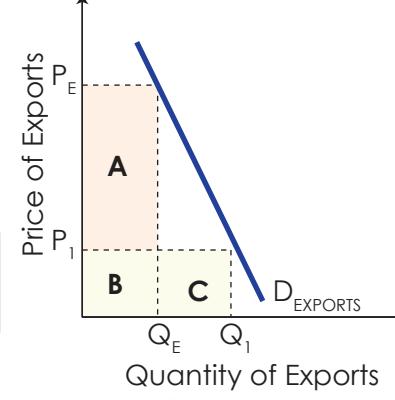
If the sum of the PED for imports and exports is greater than 1 ($PED_X + PED_M > 1$) then the trade balance improves following devaluation.

Inelastic

(Exports, $PED_X < 1$)

If the $PED_{EXPORTS}$ is **inelastic** and **prices fall** as a result of depreciation, the $\% \Delta$ in the quantity of exports is **less than proportional** for the $\% \Delta$ in price.

Price of exports ↓
Export revenues ↓
 $Revenue_{BEFORE} = A + B$
 $Revenue_{AFTER} = B + C$

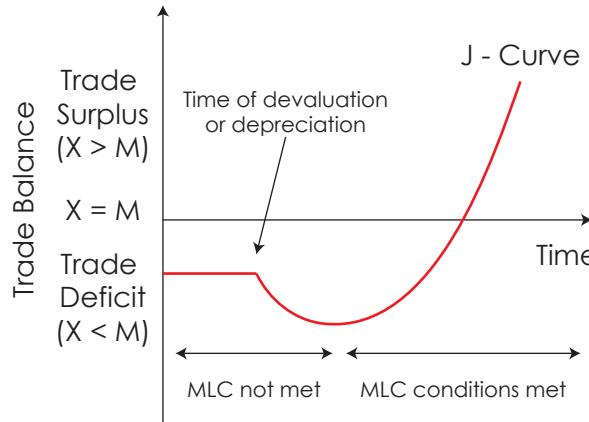


Inelastic

(Imports, $PED_M < 1$)

J-Curve Effect

The **J-Curve** suggests that when devaluation occurs the balance of payments is likely to worsen before it improves. However, in the longer term, the changes in price brought on by depreciation are noticed and responded to by firms and consumers



If the $PED_{IMPORTS}$ is **inelastic** and **prices increase** as a result of depreciation, the $\% \Delta$ in the quantity of imports is **less than proportional** for the $\% \Delta$ in price.

Price of imports ↑
Import spending ↑
 $Revenue_{BEFORE} = B + C$
 $Revenue_{AFTER} = A + B$

Terms of Trade Improving or Deteriorating?

The **terms of trade** relates the prices a country receives for its exports to the prices for its imports. It is also a measure of the amount of imports that can be bought per unit of exports

$$\text{Terms of Trade} = \frac{\text{Average price of Exports}}{\text{Average price of Imports}} \times 100$$

Improvement (Terms of Trade > 100)

An **improvement in the terms of trade** occurs when the average price of exports increases relative to import prices.

The country will find importing relatively cheap, as there is a fall in the opportunity cost of imports

Price of Exports ↑
Price of Imports ↓

Example

If the terms of trade change, so the price of robots increases to \$15 per robot (*ceteris paribus*), Robotia imports 15 units of coffee for one robot

Global Supply ($PED_x < 1$ or $PED_m < 1$)

Given a change in global supply that causes a change in a country's terms of trade, when PED_x or PED_m are inelastic, the terms of trade and the trade balance move in the same way

TOT ↑ & Trade Balance ↑
TOT ↓ & Trade Balance ↓

Global Supply ($PED_x > 1$ or $PED_m > 1$)

When PED_x or PED_m are elastic, the terms of trade and the trade balance move in opposite directions.

TOT ↑ & Trade Balance ↓
TOT ↓ & Trade Balance ↑

The terms of trade are set to 100 in the base year, the reference point for future changes

Conditions

| Condition | Impact on TOT |
|----------------------|---------------|
| Terms of Trade < 100 | Deterioration |
| Term of Trade = 100 | Unchanged |
| Terms of Trade > 100 | Improved |

Balance of Trade

A change in the terms of trade leads to an improvement in the balance of trade if it causes an increase in the value of exports or a decrease in the value of imports

Example

Suppose Robotia exports robots and imports coffee. Initially, Robotia receives \$10 per robot exported and pays \$1 per unit of coffee imported. It therefore imports 10 units of coffee by exporting 1 robot.

Deterioration (Terms of Trade < 100)

A **deterioration in the terms of trade** occurs when the average price of imports rises relative to exports

The average export would buy less in terms of imported goods, as there is an increase in the opportunity cost of imports

Price of Exports ↓
Price of Imports ↑

Example

If the terms of trade change, so the price of coffee goes up to \$2 per unit (*ceteris paribus*), Robotia imports only 5 units of coffee for one robot.

Global Demand

When the terms of trade change due to a change in the global demand for a good, the terms of trade and the trade balance move in the same direction: either they both improve or they both deteriorate.

Short-run Changes

- (1) Changes in global demand
- (2) Changes in global supply
- (3) Changes in relative inflation
- (4) Changes in exchange rates

Long-run Changes

- (1) Growth in incomes
- (2) Changes in productivity
- (3) Technological advances
- (4) Trade protection

Long-term Deterioration

- (1) Low YED of primary products
- (2) Technological advances
- (3) Protection of agriculture

Economic Integration Comparison

Bilateral Trade (Two Countries)

Bilateral trade is trade involving two trading partners, usually two countries

Multilateral Trade (Many Countries)

Multilateral trade is trade between many countries; at the present time these are mainly carried out within the framework of the WTO.

Advantages

- (1) Increased competition
- (2) Expansion into larger markets
- (3) Economies of scale
- (4) Lower prices for consumers and greater consumer choice
- (5) Increased investment
- (6) Improved resource allocation
- (7) Improved efficiency in production
- (8) Increased economic growth

Trade Creation

Trade creation is the replacement of higher cost products (imported or domestically produced) by lower cost imports.

Disadvantages

- (1) Fall in employment in certain industries
- (2) Unequal distribution of gains and losses
- (3) Exploitation of workers
- (4) Environmental impact
- (5) Rising trade imbalance

Trade Diversion

Trade diversion is the replacement of lower cost products (imported or domestically produced) by higher cost imports

Economic integration refers to economic interdependence between countries, usually achieved by agreement between countries to reduce or eliminate trade and other barriers between them

Preferential Trade Agreement (PTA)

Preferential trade agreement (PTA) is an agreement between two or more countries to lower trade barriers between them on particular products, resulting in easier access to the markets of other members for the selected products, compared with the access of countries that are not members

South Asian Preferential Trade Agreement (Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan)

Free Trade Agreement (FTA)

Free trade area (FTA) is a type of trading bloc, consisting of a group of countries that agree to eliminate trade barriers between themselves.

Each member country retains the right to pursue its own trade policy towards non-member countries

NAFTA (North American Free Trade Agreement)

Customs Union

Customs union is a type of trading bloc, consisting of a group of countries that fulfil the requirements of a free trade area (elimination of trade barriers between members) and in addition adopt a common policy towards all non-member countries

EEC (European Economic Community)

Common Market

Common market is a type of trading bloc in which countries that have formed a customs union proceed further to eliminate any remaining tariffs in trade between them; they continue to have a common external policy and in addition agree to eliminate all restrictions on the movement of any factors of production within them.

MERCOSUR (Southern Common Market) (Argentina, Brazil, Paraguay, Uruguay)

Monetary Union

Advantages

- (1) No exchange rate risk
- (2) Lowers transaction costs
- (3) Price transparency
- (4) Inward investment ↑

Disadvantages

- (1) Loss of monetary policy
- (2) Fiscal policy constraints

PTA

Elimination of some barriers to trade

+

FTA

Elimination of all barriers to trade

+

Customs Union

Common external trade policy

+

Common Market

Elimination of restrictions on movements of any of the factors of production

+

Monetary Union

Common currency

European Union

Economic Development- Understanding the Problem

Common Characteristics

- (1) Low levels of GDP per capita
- (2) High levels of poverty
- (3) Large agriculture sector
- (4) Large urban informal sector
- (5) High birth rates/population ↑
- (6) Low levels health/education
- (7) Low levels of productivity
- (8) Dual economies

Economic Growth

Economic Growth: involves increases in total real output produced by an economy over time.

There are several sources of growth in LDCs,

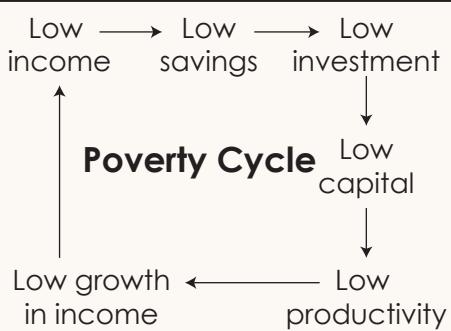
- (1) ↑ Quantity of physical capital
- (2) ↑ Quantity of human capital
- (3) Development & use of appropriate tech
- (4) Institutional changes

Millennium Goals

- (1) Eradicate extreme poverty
- (2) Universal primary education
- (3) Promote gender equality
- (4) Reduce child mortality
- (5) Improve maternal health
- (6) Combat HIV/AIDS/malaria
- (7) Environmental sustainability
- (8) Global partnership

Diversity Among LDCs

- (1) Natural resource endowments
- (2) Human resource endowments
- (3) Capital resource endowments
- (4) Climate
- (5) History
- (6) Political System
- (7) Political Stability

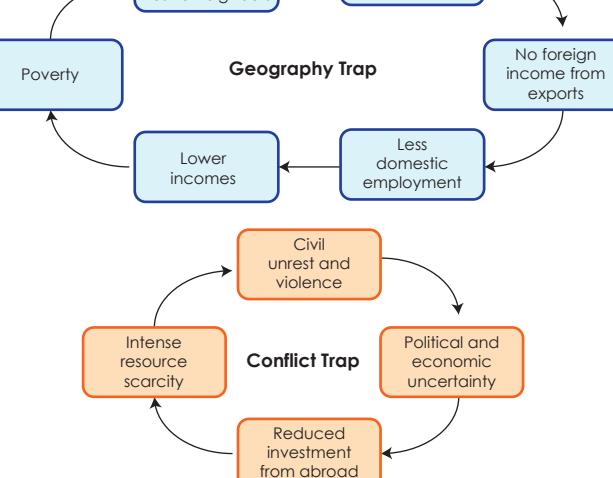
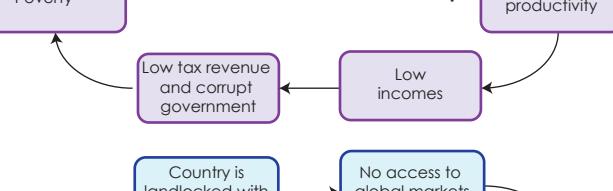
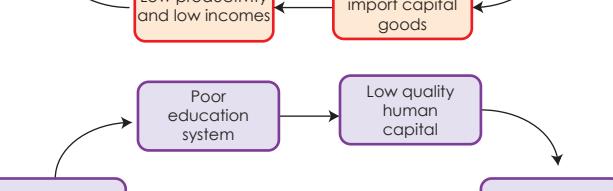
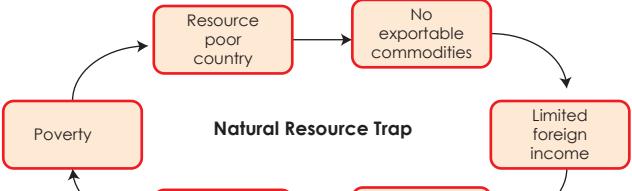


Economic Development

Economic Development: can be defined as a process where increases in real per capita output and incomes are accompanied by improvements in standards of living of the population and reductions in poverty

Economic development is characterized by,

- (1) ↑ Access to basic necessities
- (2) ↑ Employment opportunities
- (3) ↓ Unemployment
- (4) ↓ Wealth & income inequalities



Single Indicators

- (1) GNI per capita
- (2) Life expectancy at birth
- (3) Infant mortality
- (4) Maternal mortality
- (5) Literacy rate

Per Capita Income

GNI per capita is a better indicator of the standards of living, because it represents income per person received by the residents

GDP per capita is a better indicator of the level of output per person

Purchasing Power

Comparisons of GNI per capita requires measures of per capita output based on conversions of national currencies into US\$ by use of purchasing power parities (PPPs), to eliminate the influence of price differences on the value of output/income

Composite Indicators

Composite indicators are summary measures of more than one indicator used to measure economic development (HDI).

Human Development Index is a composite indicator of development which includes indicators that measure three dimensions of development

- (1) Income: GNI per capita
- (2) Health: Life expectancy
- (3) Education: Gross enrollment

Gross enrollment is measured by mean years of schooling

Institutional Barriers

(Domestic Barriers to Development)

- (1) Ineffective taxation structure
- (2) Lack of property rights
- (3) Political instability
- (4) Gender inequality
- (5) Unequal income distribution
- (6) Lack of infrastructure
- (7) Lack of access to credit
- (8) Underemployment

International Barriers

- (1) Dependence on primary goods
- (2) Over-specialization
- (3) Declining terms of trade (TOT)
- (4) Protectionist policies
- (5) International indebtedness

Developed countries impose higher tariffs on imports from developing countries than on imports from each other.

Developed countries use tariff barriers to discourage the development of manufacturing and diversification into higher value-added activities

Economic Development- Understanding the Solution

Domestic Policies

- (1) Supply-side policies
 - Investment in human capital
 - Investment in physical capital
 - Investment in infrastructure
- (2) Improving access to credit
- (3) Empowerment of women
- (4) Implementing rule of law
 - Strengthening institutions
 - Enforcing property rights

Supply-Side Policies

(Investment in Infrastructure)

Supply-side policies: involve improving the quality and quantity of the factors of production in order to promote increased productivity/efficiency

- (1) Problems of financing
- (2) Inadequate maintenance
- (3) Limited access by the poor
- (4) Misallocation of resources
- (5) Neglect of the environment

Micro-Credit

Micro-credit: provides loans in small amounts to people who do not ordinarily have access to credit.

- (1) Substitute anti-poverty policies
- (2) Growth of informal sector
- (3) Labour lacking necessary skills
- (4) Interest rates too high

Empowerment of Women

Empowerment: involves creating conditions of equality of opportunities by eliminating the deprivations

- (1) ↑ Child health and ↓ mortality
- (2) ↑ Education levels of children
- (3) ↓ Fertility rates

Foreign Sources of Finance & Aid

- (1) Foreign Aid (ODA- Bilateral/Unofficial)
- (2) Multilateral development assistance
- (3) Private investment (MNCs)
- (4) Remittances

Foreign Aid

Foreign aid: is the transfer of funds or goods and services to developing countries with the main objective to bring about improvements in their economic, social or political conditions

Official development assistance (ODA): is aid provided by public bodies such as government agencies.

Unofficial aid: is aid provided by Non-Government organizations (NGOs) such as Oxfam and the Red Cross.

Who offers foreign aid?

Public Private

Official Development Assistance (ODA) Non-Governmental Organizations (NGOs)

Types of foreign aid

Humanitarian aid: is aid extended in regions where there are emergencies caused by violent conflicts or disasters.

Development aid: is intended to help developing countries achieve their economic growth & development objectives.

- Food aid
- Medical aid
- Emergency aid

- Project aid
- Programme aid
- Technical assistance
- Debt relief

- Grants
- Goods in kind

- Grants
- Concessional loans
- Debt forgiveness

International Policies

(Internal Policies- LDCs)

- (1) Protectionist policies
- (2) Trade liberalization
- (3) Control population growth
- (4) Encourage FDI
- (5) Resolve external conflict
- (6) Restructure financial sector
 - Independent central bank
- (7) ↑ Flexibility of exchange rate
- (8) Diversification of output
- (9) Privatization of state industries

Import Substitution

(Increased Protectionist Policies)

Import Substitution: involve using protectionist policies to reduce dependence on imported goods for which they substitute domestic goods and services

- (1) Inefficiency & misallocation
- (2) Overvalued exchange rates
- (3) Deterioration of BOP

Export Promotion

Export Promotion: are policies aimed at increasing the competitiveness of domestic producers in foreign markets

- (1) Expansion into foreign market
- (2) Diversification of production
- (3) Investment in human capital
- (4) Increased employment

Diversification

Diversification: involves a reallocation of resources into new activities that broaden the range of goods produced

- (1) Sustained ↑ exports
- (2) ↑ Technological capabilities
- (3) ↓ Price volatility of exports

International Policies

(External Policies- HDCs)

- (1) Foreign aid
- (2) Reducing protectionist policies
- (3) Debt forgiveness
- (4) Admitting temporary workers
- (5) Discouraging arms sales

World Bank: is a development assistance organisation, that extends long-term credit (loans) to developing country governments for the purpose of promoting economic development and structural change.

International Monetary Fund (IMF): is an international financial institution whose purpose is to make short-term loans to in order to stabilise exchange rates, alleviate balance of payments difficulties and help countries meet their foreign debt obligations

