

Unit 1

1.1 Scarcity

Resources

What is scarcity

4 types of resource: Land labor capital enterprise

Resources are used to satisfy our wants

The fundamental economic problem **limited resources, unlimited wants**

Macroeconomics vs Microeconomics

Market Economy, Planned Economy, Mixed Economy

Incentives

Positive vs Normative economics

Positive = can be right or wrong eg. Dogs can fly = wrong. Dogs have 4 legs = right
Normative = opinion that can't be proven right or wrong. eg. Dogs are amazing.

Market Economy

- Decisions are made by private businesses.

Free market
Free enterprise
Capitalism

Planned

- Decisions are made by the government.

Command
State Run
Communism

Mixed

- This is a mix of the first two!
- Decisions are made by private businesses and the government.
- Almost all countries have this system.

1.2 Opportunity Cost, PPC

Opportunity cost definition **Next best opportunity foregone when we make a decision**

The PPC

Graphical Representation

Tradeoffs / Opportunity Cost

Why only two goods?

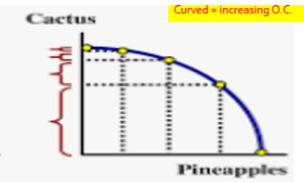
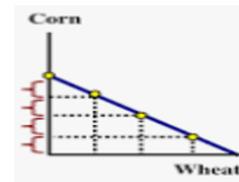
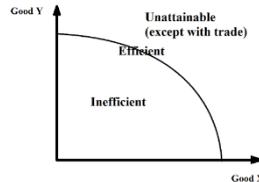
Efficient, inefficient, unattainable

Pareto Improvement

Efficient in production vs efficient in allocation

Increasing vs constant opportunity cost

Shifting the PPC



- Constant opportunity cost
 - Resources are equally suited for all production
 - EASILY ADAPTABLE
- Increasing opportunity cost
 - Resources are NOT equally suited for all production
 - NOT EASILY ADAPTABLE

1.3 Comparative Advantage and Gains from Trade

Adam Smith said that countries should specialize in what they have absolute advantage in.

Specialization and Adam Smith

Absolute Advantage

Comparative Advantage (David Ricardo)

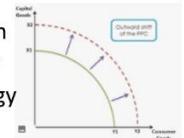
Gains from trade

Can consume outside of PPC, without changing the PPC at all.

Abs Adv: who can produce more

Compar Adv. = lower Opportunity Cost

Increase in Resources
Technology
Increase



David Ricardo said that they should really specialize in what they have comparative advantage in.

How to do these questions

Output based

Input based

Terms of trade

Output Based Questions:

OC, Opportunity Cost = what you give up / what you gain = the 'other good' / the good you are looking at.

Input Based Questions:

eg. labor hours, electricity used, resources used, capital used

Abs Adv: the smaller number

Comp adv: Reverse the OC calculation

1.4 Demand

The benefit that people receive from something.

Utility Higher Utility = You will pay a higher price (willingness to pay)

What is a market All buyers and sellers together.

A demand schedule Shows the relationship between price and quantity demanded by consumers.

Law of Demand **Negative relationship between price and quantity.**

Three reasons for slope of demand

Two ways to look at demand

Income effect, substitution effect, diminishing marginal utility

Shifters/Determinants of demand

1.5 Supply

Law of supply **Positive relationship between price and quantity.**

Two ways to look at supply

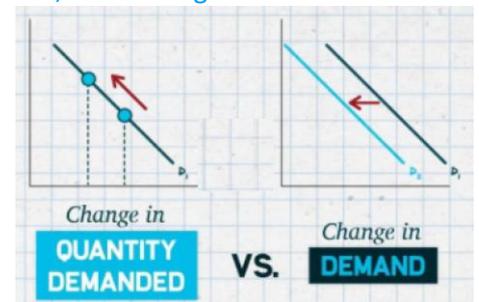
Shifters/Determinants of supply

1.6 Market Equilibrium, Disequilibrium and Changes in Equilibrium

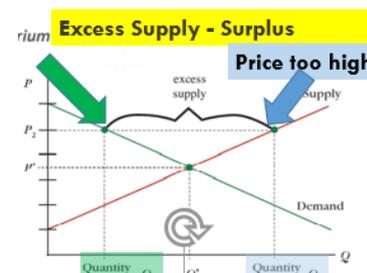
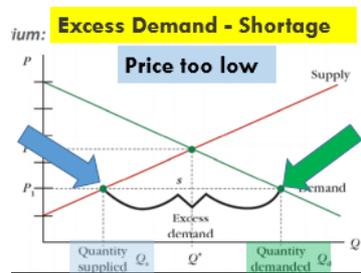
Shortage/Surplus

Change in Equilibrium

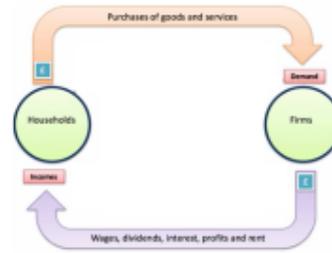
Double Shift Rule



Double Shift Rule: If both demand and supply shift, either price or quantity will be indeterminate.



Unit 2



2.1 Circular Flow and GDP

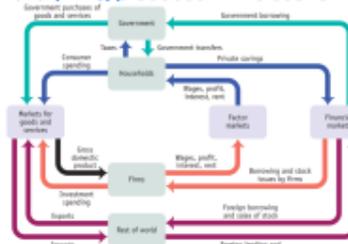
What is GDP? The total monetary value of everything produced in the economy in one year.

Circular flow

- Simple model
- More Complex Models
 - + government
 - + banks
 - + rest of world

Three ways of calculating GDP

Expenditure Method (C+I+G+(X-M)) Value added method Income Method



2.2 Limitations of GDP

What is counted and not counted not: 2nd hand goods, Intermediate goods, Non-market activities

- Non-market transactions
- Environmental effects



Recession: two or more quarters (6 months) of negative economic growth (fall in GDP).
 Expansion: Economic activity increases and will finish by reaching the highest point called a peak.

2.7 Business Cycles

Recession, Expansion etc.

2.3 Unemployment

Definition $Unemployment\ rate = \frac{unemployed}{labor\ force}$

Working age population, labor force, unemployed, employed

Limitations of Unemployment statistic

- Discouraged workers have left the labor force because they have lost hope.
- Underemployed workers have jobs but want to work more or in better jobs

Types of Unemployment

Frictional people moving between jobs. This unavoidable and not a particularly negative thing because it is not considered long term.

Structural

- Technological Involves the loss of jobs due to technology.
- Seasonal results from the change in demand due to seasonal factors.

Cyclical – connected to the business cycle
 •Increases in periods of economic contraction
 •Decreases in period of economic expansion

Natural Rate of Unemployment

= structural + frictional (when there is no cyclical unemployment)

Of working age – usually between 16 and 65

Labor force: People who are: Of working age – usually between 16 and 65; Willing – looking for a job; Able – capable of working

Unemployment Equations

Labor Force = employed + unemployed

Labor Force Participation Rate (LFPR)
 = labor force / working age population
 = (employed + unemployed) / Working age population

- **Unemployment Rate** = unemployed / labor force
- = unemployed / (employed + unemployed)

Unemployment Rate with more discouraged workers
 = (Unemployed - X) / (Labor force - X)

Natural unemployment = Frictional unemployment + Structural unemployment
 = (Frictionally unemployed + structurally unemployed) / labor force
 IT IS NOT EQUAL TO ZERO

2.4 Price Indices and Inflation

What is inflation? price level (price of all goods and services) increases, value of money decreases

CPI $\frac{\text{Market Basket}_{\text{new}}}{\text{Market Basket}_{\text{baseyear}}} \times 100$

Problems with CPI Changes to quality of goods (CPI overestimates inflation), Substituting for other goods (overstates), changes to basket (over/understates)

GDP Deflator

Shoe Leather: Having to change money to other assets – time and effort

2.5 Costs of Inflation

Menu Costs, Shoe Leather Costs

Menu: Having to change listed prices on menus, billboards etc. Unit of account – using money to

Wages lose value, savings lose value, loss of unit of account

measure the value of things

Borrowers gain, lenders lose

Fisher Equation: Real interest = Nominal interest - inflation

2.6 Real v. Nominal GDP

Real = adjusted for inflation

Real = Adjusted for Inflation, Old Prices x quantity

Nominal = not adjusted for inflation, New Prices x quantity

Equations Regarding Inflation

$$\text{Inflation} = \frac{\text{New} - \text{Old}}{\text{Old}} \times 100\%$$

Consumer Price Index Formula = $\frac{\text{Value of Market Basket in the Given Year}}{\text{Value of Market Basket in the Base Year}} \times 100$

GDP Deflator Formula = $\frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$

$$\frac{\text{Real GDP in Year 2}}{\text{Nominal GDP in Year 2}} = \frac{\text{Price index of base year } (Y_1)}{\text{Price index in the current year } (Y_2)}$$

$$\text{Real GDP in Year 2} = \text{Nominal GDP in Year 2} \times \frac{\text{Price index of base year } (Y_1)}{\text{Price index in the current year } (Y_2)}$$

$$\text{Real GDP in Year 2} = \text{Nominal GDP in Year 2} \div \text{GDP Deflator} \times 100$$

Fisher Equation (Explains real interest rate and inflation, named after economist Robert Fisher):
 Nominal Interest = Real Interest + Inflation
 Eg. The bank charges 5% interest for its mortgages and the inflation rate is 2%. The real interest rate is 5-2=3%.

$$i \approx r + \pi$$

i = nominal interest
 r = real interest
 π = inflation

Calculating GDP with Price and Quantity
 NGDP = Prices_{current} x Quantity_{current}
 RGDP = Prices_{base} x Quantity_{current}

Real Wage:

- Real Wages = Nominal Wages x $\text{PI}_{\text{base}} / \text{PI}_{\text{current}}$
- Note: As an approximation one can use: %Δ Real Wages = %Δ Nominal Wages – Inflation, but this is only an approximation
- Eg. Your boss gives you a raise of 5% from last year and inflation is 3%. Your real wages have increased by 5-3=2% approximately.

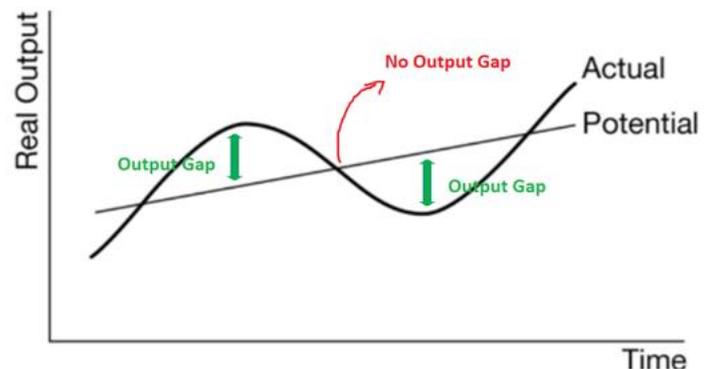
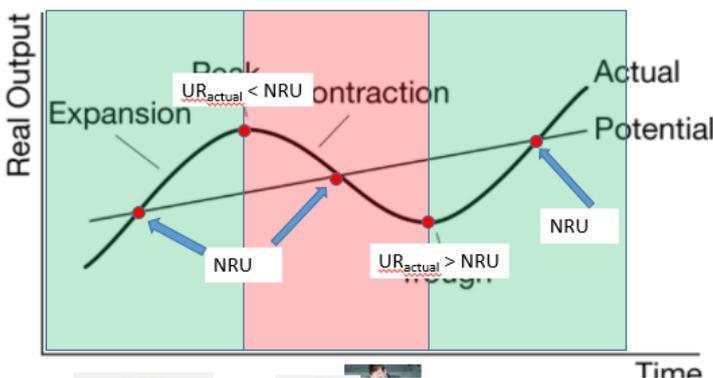
Actual Inflation = Expected Inflation + Unexpected Inflation
 (Unexpected Inflation – benefits borrowers, Unexpected deflation – benefits lenders)

2.7 Business Cycles

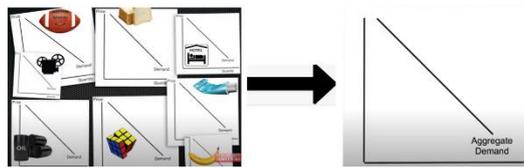
Recession, Expansion etc.

Output Gaps

Unemployment



Unit 3



3.1 Aggregate Demand (AD)

All market demand curves added together
Three reasons why it slopes down

Axes are different: P → PL, Aggregate Price Level
Q → Real GDP, Real Output, Y

1. Interest Rate Effect
2. Wealth Effect
3. Foreign Trade Effect

C+I+G+(X-M)

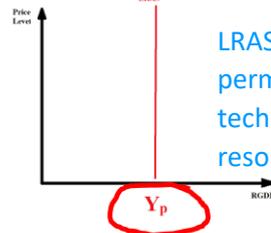
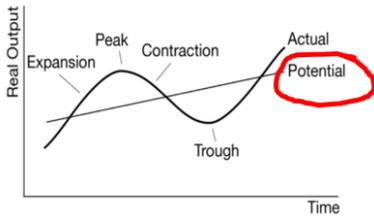
Sticky wages/resource costs – prices don't change because of contracts, mental resistance, efficiency wages
upward slope = +ve r'ship between PL and Output. Wages stay the same even when selling price of products changes, so profits/output increases/decreases

3.3 Short-Run Aggregate Supply (SRAS)

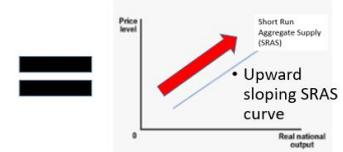
Shifters of SRAS / Short Run Supply Shocks
Sticky wages – causes upward slope

3.4 Long-Run Aggregate Supply (LRAS)

Shifters of LRAS / Long Run Supply Shocks
Connection to the Macroeconomy – PPC, Trend Line Growth



LRAS moves to right:
permanent increase in technology or productivity or resources



- Potential Output Y_p can be showed as the LRAS or on the business cycle.
- It represents the long run, sustainable level of output.
 - This level will increase as we have increases in technology, population, education etc.

3.5 Equilibrium in the Aggregate Demand–Aggregate Supply (AD–AS) Model

Long Run Macroeconomic Equilibrium $AD=SRAS=LRAS$

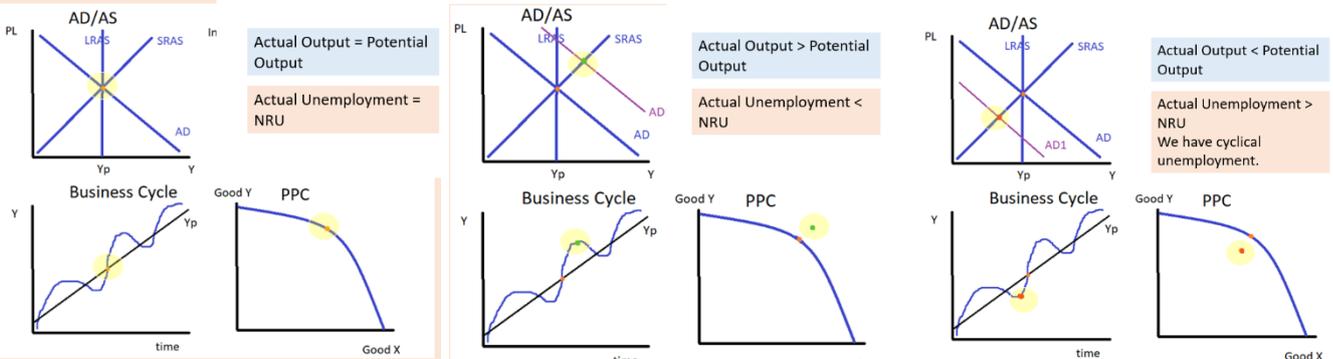
3.6 Changes in the AD–AS Model in the Short Run

Short Run Macroeconomic Equilibrium $AD=SRAS$

Output Gaps

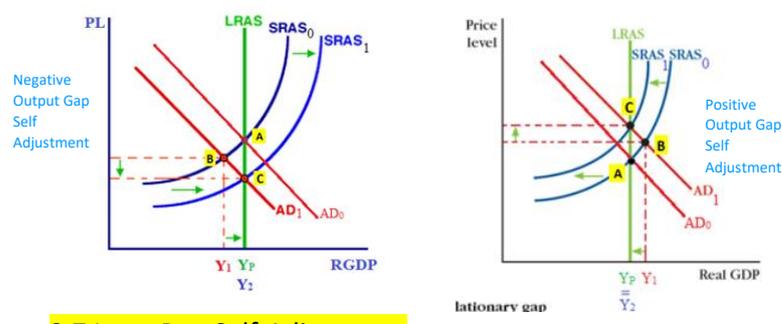
- Negative – Recessionary Gap, Deflationary Gap, Stagflation (SRAS decreases)
- Positive – Inflationary Gap

	Decreases	Increases
AD	<p>Negative Output Gap / Recessionary Gap, sometimes called a Deflationary Gap</p> <p>This is the 'classic' recession situation.</p>	<p>Positive Output Gap / Inflationary Gap</p> <p>While output is higher, there are concerns about inflation.</p>
SRAS	<p>Negative Output Gap / Recessionary Gap</p> <p>Stagflation</p> <p>This is arguably the worst situation of all because we have low output and inflation.</p>	<p>Positive Output Gap but NOT Inflationary Gap</p> <p>There isn't anything negative about this situation. Output is higher and inflation is under control.</p>



Factor	Increase	Decrease
Stock market stocks owned by households	↑AD – consumers are wealthier now	↓AD – consumers are poorer now
Government purchases	↑AD – increase government spending	↓AD – decrease gov spending
Consumer Confidence	↑AD – consumers will buy more in the future	↓AD – consumers will buy less in the future
Unemployment / Job Market Problems	↓AD – people have less income	↑AD – people have more income
Technology of Products	↑AD – consumers are attracted by new products	↓AD – consumers get less utility from products
Inventory levels and Capital Goods Levels	↓AD – businesses don't need to invest as much in new inventory	↑AD – businesses need to buy a lot of new inventory

Factor	Increase	Decrease
Technology	↑LRAS, Y_p	↓LRAS, Y_p
Education of Workers	↑LRAS, Y_p	↓LRAS, Y_p
Number of machines	↑LRAS, Y_p	↓LRAS, Y_p
Population increase	↑LRAS, Y_p	↓LRAS, Y_p
Discovery of new resources	↑LRAS, Y_p	↓LRAS, Y_p
Climate Change	↓LRAS, Y_p	↑LRAS, Y_p
Long term change to corporate tax	↓LRAS, Y_p	↑LRAS, Y_p
Aging Population	↓LRAS, Y_p	↑LRAS, Y_p



Factor	Increase	Decrease
Commodity Costs	SRAS shifts to the left	SRAS shifts to the right
Nominal Wages	SRAS shifts to the left	SRAS shifts to the right
Productivity	SRAS shifts to the right	SRAS shifts to the left
Price of imported raw materials	SRAS shifts to the left	SRAS shifts to the right
Negative weather events (drought, earthquakes etc.)	SRAS shifts to the left	SRAS shifts to the right
Corporate Taxes	SRAS shifts to the left	SRAS shifts to the right
Education Levels	SRAS shifts to the right	SRAS shifts to the left
Inflationary Expectations	SRAS shifts left (workers ask for higher wages)	SRAS shifts right (business owners will lower people's wages)

3.7 Long-Run Self-Adjustment

Long Run Self Adjustment – SRAS Shifts due to resource costs becoming flexible in long run, to return economy to Y_p

Classical Economic Thinking vs Keynesian Thinking

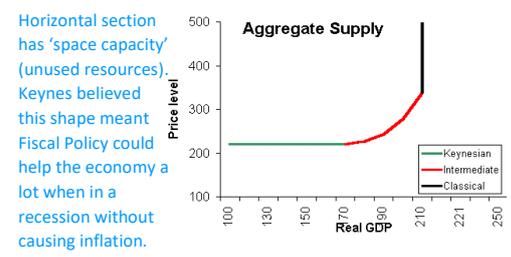
Classical – economy self adjusts naturally
Keynesian – economy self adjusts but often takes too long so gov should intervene

3.8 Fiscal Policy (FP)

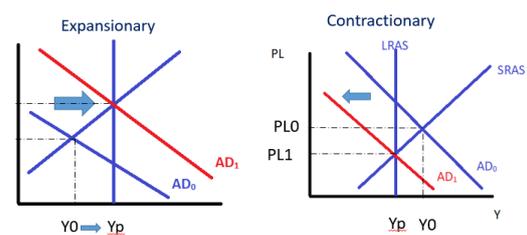
FP Tools
Gov spending
Gov transfers
Tax

Fiscal Policy – expansionary vs contractionary
Historical context: John Maynard Keynes
Fiscal Lag – Data Lags, Political Lags, Implementation Lags
Keynesian Aggregate Supply Curve

Expansionary – ↑AD, to fight a recession/negative output gap
↑Gov spending ↑Gov transfers ↓Tax
Contractionary - ↓AD, to fight inflation/positive output gap
↓Gov spending ↓Gov transfers ↑Tax



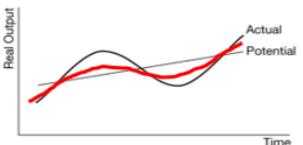
Fiscal Lag
Data lags – economic data takes time to collect and analyse, so information is not completely up to date
Political lags – political disagreement and decision making takes time
Implementation lags – fiscal spending projects such as building infrastructure, or military spending are not immediate



3.9 Automatic Stabilizers

Discretionary Fiscal Policy (human decision) vs. Non-discretionary fiscal policy (tax and social security)
Effect on the business cycle

The Automatic Stabilizers will 'smooth' the business cycle so that the recessions and expansions are less.



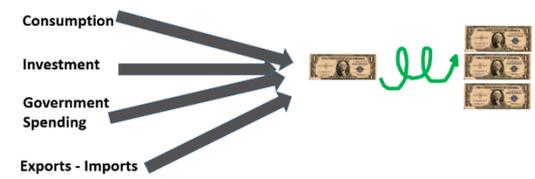
Discretionary Fiscal Policy/Automatic Stabilizers = tax, social security payments
Recession: ↓Tax ↑Social Security → ↑AD
Inflationary Gap: ↑Tax ↓Social Security → ↓AD
Reduces size of Output Gaps

Discretionary Fiscal Policy = human decisions are made to spend on things such as Infrastructure, Education, Military

3.2 Multipliers

MPC, MPS, Multiplier = $1/MPS = 1/(1-MPC)$ MPC = Marginal Propensity to Consume
Tax Multiplier = $-MPC/(1-MPC)$ MPS = Marginal Propensity to Save
Transfer Multiplier = $MPC/(1-MPC)$ $MPS+MPC = 1$
Full Multiplier: MPC + MPS + MPT (pay tax) + MPM (buy imports)

All spending in the economy has a multiplier effect.



Spending Multiplier > Tax Multiplier
Therefore, equal size change to tax vs gov spending creates an ↑AD

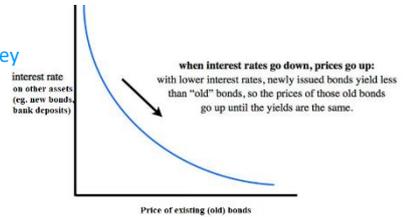
Most important Equations for Multipliers:
 $\Delta GDP = \Delta \text{Spending} \times \text{Multiplier}$
 $\Delta GDP = \Delta \text{Tax} \times \text{Tax Multiplier}$
 $\Delta GDP = \Delta \text{transfers} \times \text{transfer multiplier}$

Unit 4

4.1 Financial Assets

- Bonds** Debt asset – buyer of bond = lender. Paid back with interest.
- Stocks/shares** Stocks = part ownership of company. Can receive share of profit but is not called interest.
- Other financial assets** Mutual funds – you give money to professionals who invest it for you (eg. Pension fund)
- Opportunity Cost of Holding Liquid Money** OC = The interest rate you could have earned on less liquid assets.

When IR ↑, existing bonds become less attractive (because people can put their money elsewhere and earn better interest) and so $P_{bonds} \downarrow$



4.2 Nominal v. Real Interest Rates

- Fisher Equation** Real Interest = Nominal Interest - Inflation
- Unexpected inflation/deflation**
 - Unexpected inflation – benefits borrowers
 - Unexpected deflation = benefits lenders
 - (With Fixed NIR. With Variable NIR, no one wins/loses.)

4.3 Definition, Measurement, and Functions of Money

- Definition of Money** Definition: Money is a medium of exchange that is universally accepted.
- Barter Economy and Double Coincidence of Wants**
- Functions of Money**
 - Medium of Exchange – to buy goods and services
 - Unit of Account – you can measure the value of things eg. A \$1000 phone compared to a \$100 phone
 - Store of value – you can save money to buy something in the future
- M1 vs M2 Money**
 - M1 – liquid money
 - M2 – less liquid money + M1



4.4 Banking and the Expansion of the Money Supply

- The Federal Reserve** The Central Bank of the US, the Fed
- Balance Sheets / T Accounts**
 - Assets = things of value or will bring money in the future. Liabilities = things that will take away money in the future. Equity = Assets – Liabilities = total value of business.
 - Assets, Liabilities, Equity Assets = Liabilities + Equity (but we often assume Equity = 0)
 - How to balance assets and liabilities

UNITED BANK	
LIABILITIES	ASSETS
DEMAND DEPOSITS – \$6000	REQUIRED RESERVES – \$1500
	TREASURY BONDS – \$500
	LOANS – \$4000

- Why max ΔLoans and Money Supply may not occur:
- Consumers hold extra cash
 - Banks keep excess reserves
 - Low demand for Loans

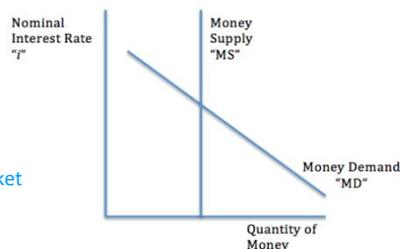
Money Multiplier
 $= 1/RRR$
 $\Delta \text{Loans} = \text{Loan}_{\text{original}} \times 1/RRR$
 $\Delta \text{Deposits} = \text{Deposit} + \text{Loan}_{\text{original}} \times 1/RRR$

- Fractional Reserve Banking System** Banks keep part of their deposits as required reserves but can lend out the rest (which will increase the money supply)
- Required Reserves, Excess Reserves** Excess Reserves – can be used to create new loans.
- Banking System Money Multiplier**
- Buying Bonds, Selling Bonds**

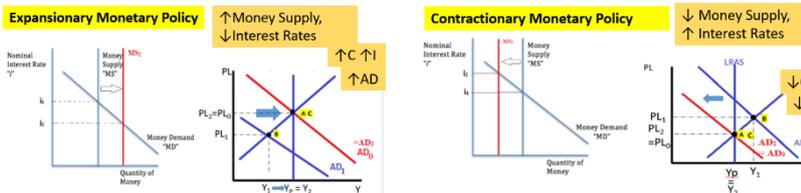
The Gov/Central Bank can buy/sell bonds to increase or decrease the MS. Buy Big, Sell Small

4.5 The Money Market

- Holding Liquid Money** People desire liquid money for: Transactions, Asset, Precaution
- Money Market Demand** Cost of holding liquid money = interest that you gave up
- Money market Supply** Nominal interest because a short term market and future price level is not considered.
- Nominal Interest Rates** Effect of increase/decrease money supply
 - Increase MS = expansionary monetary policy
 - Decrease MS = contractionary monetary policy



MD Shifters – price level, AD, Wealth, banking convenience
 MS = Vertical – set by the Fed, No relation between interest and quantity

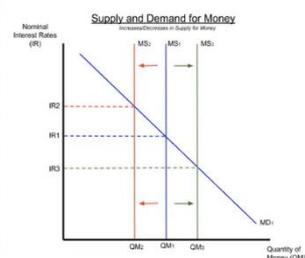


4.6 Monetary Policy

- Expansionary vs Contractionary**
- 3 tools of monetary policy**
 - Buy = big (increase MS)
 - Sell = small (decrease MS)
 - Open Market Operations (OMO)
 - Discount Rate/Federal Funds Rate
 - Required Reserves

Policies' Impact on Supply:

Policy Name	Changes in Policy	Impact on Money Supply
Discount Rate	Lower Discount Rate	MS: ↑ (MS ₁) IR: ↓ (IR ₁)
	Raise Discount Rate	MS: ↓ (MS ₂) IR: ↑ (IR ₂)
Reserve Ratio	Lower Reserve Ratio	MS: ↑ (MS ₁) IR: ↓ (IR ₁)
	Raise Reserve Ratio	MS: ↓ (MS ₂) IR: ↑ (IR ₂)
Open-Market Ops. (OMO)	Increase bond buying	MS: ↑ (MS ₁) IR: ↓ (IR ₁)
	Decrease Bond Buying (Increase Bond Selling)	MS: ↓ (MS ₂) IR: ↑ (IR ₂)



4.6 Ample Reserves Monetary Policy

Limited Reserves Economy

3 Tools of MP can be used
(OMO, RRR, Discount Rate)

Ample Reserves Economy

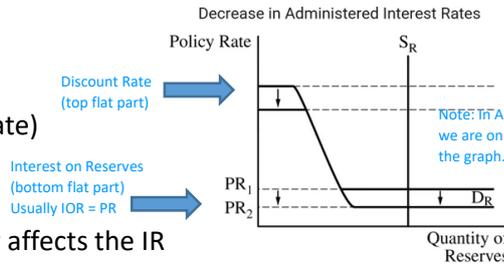
Conditions

Change of MS no longer affects the IR
Ample/Unlimited Reserves in Econom,
RRR is at zero

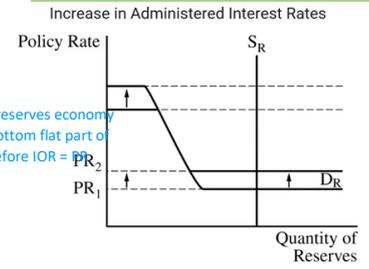
Monetary Policy

Fed can increase/decrease the administered rates
Discount Rate, Interest on Reserves
This affects the Policy Rate

Contractionary MP (increasing IR)



Expansionary MP (lowering IR)



Policy Rate (PR) – in the US, the Federal Funds Rate (FFR), the rate that banks pay when they lend to each other.

Discount Rate (DR) – rate that commercial banks pay to borrow from the Fed.

Interest on Reserves (IOR) – rate that the Fed pays to banks for keeping reserves.

4.7 The Loanable Funds Market

Loanable Funds Demand

Rate of Return/Return on Investment

Loanable Funds Supply

Supply of Loanable Funds = Public Savings + Private Savings + Foreign Lending

Real Interest Rates

Real Interest Rate used because it is a long term market where inflation matters.

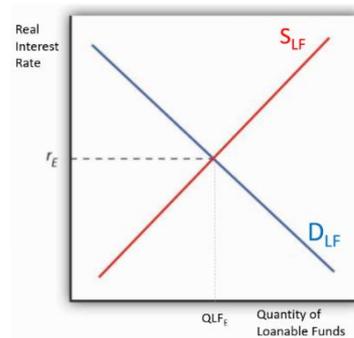
Government Budgets

Tax = Gov Expenditure Balanced Budget
Tax < Gov Expenditure Budget Surplus
Tax > Gov Expenditure Budget Deficit

Balanced Budget

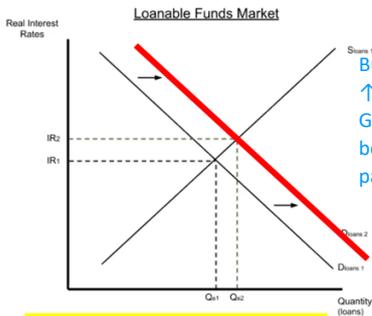
Budget Surplus

Budget Deficit



Supply of loanable funds = people wishing to lend and earn interest

Demand for loanable funds = people wishing to borrow



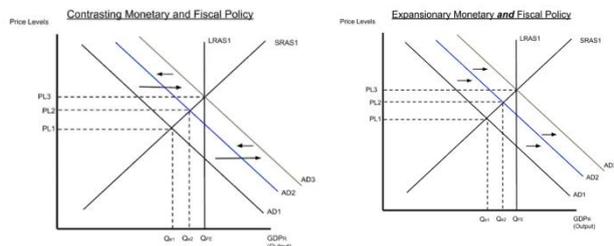
Factor	Effect on D_{LF}
Real Interest Rate	<ul style="list-style-type: none"> ↑ → Movement right on the same curve ↓ → Movement left on the same curve
Rate of Return/Rate of Return	<ul style="list-style-type: none"> ↑ → ↑ D_{LF} (investment is more worthwhile) ↓ → ↓ D_{LF}
Economic Confidence	<ul style="list-style-type: none"> ↑ → ↑ D_{LF} ↓ → ↓ D_{LF}

Factor	Effect on S_{LF}
Real Interest Rate	<ul style="list-style-type: none"> ↑ → Movement right on the same curve ↓ → Movement left on the same curve
Consumer Income	<ul style="list-style-type: none"> ↑ → ↑ S_{LF} (more money saved) ↓ → ↓ S_{LF}
Performance in other markets (eg. Stock market, property market)	<ul style="list-style-type: none"> ↑ → ↓ S_{LF} (people will invest in other markets) ↓ → ↑ S_{LF}

Unit 5

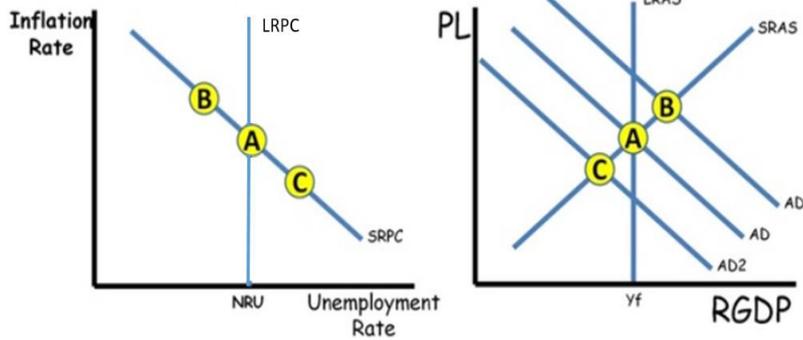
5.1 Fiscal and Monetary Policy Actions in the Short Run

FP and MP can move AD in the same direction or 'cancel each other out'



5.2 The Phillips Curve

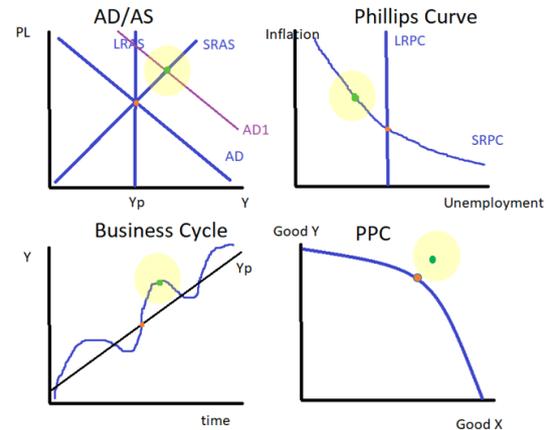
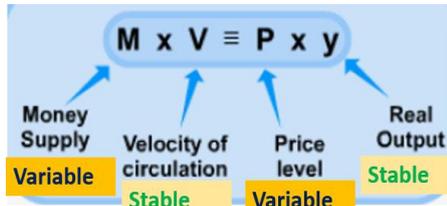
Relationship between inflation and unemployment
 SRPC
 LRPC
 Connection to other graphs



5.3 Money Growth and Inflation

Long Run
 Money Neutrality

In the long run, increasing money supply has no effect on Output, Y
 (However, in the short run expansionary MP can have an effect on Output, Y)



5.4 Government Deficits and the National Debt

Government Expenditure = Government Spending G + Government transfers (social security, unemployment benefits etc.)
 Budget Deficits, Balanced Budget, Budget Surplus
 Debt vs Deficit, Surplus vs Savings

Debt, Savings = over multiple periods of time
 Deficit, Surplus = for one period, a year

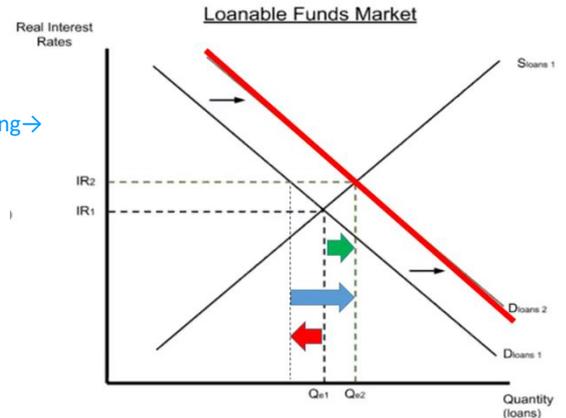
Balanced Budget: Tax = Government Expenditure → Neutral Fiscal Policy
 Budget Deficit: Tax < Government Expenditure → Expansionary Fiscal Policy
 Budget Surplus: Tax > Government Expenditure → Contractionary Fiscal Policy

5.5 Crowding Out

Effect of Government borrowing on private investment

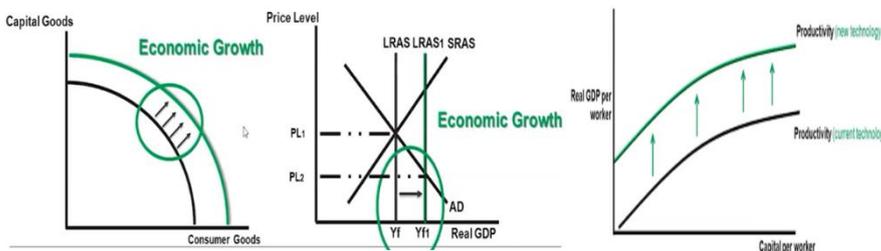
Macroeconomic consequences

Expansionary FP / Budget deficit → ↑ Government borrowing → ↑ IR → ↓ Private borrowing → ↓ Investment → ↓ capital formation and technology → ↓ economic growth rate



5.6 Economic Growth

Connecting all graphs that show economic Growth
 PPC, AD/AS, Aggregate Production Function



5.7 Public Policy and Economic Growth

Supply Side Policies Policies and Fiscal Policies designed to shift LRAS to the right.

Lower income tax Gives businesses and people more of an incentive to work hard and earn profit, increasing supply

Less regulation Businesses have lower costs to start up and operate, increasing supply

Investment and encouraging investment

Capital Increases the productivity of workers, leading to higher output per worker, increasing supply
 Technology
 Human Capital



Unit 6

6.1 Balance of Payments Accounts

The Balance of Payments

Remittances = sending money back home to family etc.

Balance of Payments Summary
 Balance of Payments = Current Account + Capital Account = 0
 In the long run the balance of money going in and out of the country is always equal!

Current Account

1. Net Imports and Exports
2. Net Factor Incomes (from ownership of land, capital and enterprise)
3. Net Transfers
 - Remittances
 - Foreign Aid

Surplus = positive
 Deficit = negative

Capital Account / Financial Account

1. Net Financial Investments
 - Stocks, Bonds, Other financial assets
2. Net Real Investments
 - Foreign Direct Investment (eg. factories, retail stores)
 - Property and Equipment



Foreign Direct Investment – companies investing in themselves in another country. Eg. Xiaomi opens a factory in Malaysia.

6.2 Exchange Rates

Exchange Rate – the value of Currency A in terms of Currency B. Eg. 1USD = 6.35 RMB, 0.15USD = 1 RMB

What is an exchange rate?

Appreciation, Depreciation

Appreciation – the value of the currency increases eg. 1USD = 1.3AUD → 1USD = 1.5AUD
Depreciation – the value of the currency decreases eg. 1USD = 1.5AUD → 1USD = 1.3AUD

Appreciation
 = ↑ Purchasing Power
 → ↑ Imports ↓ Exports
 Eg. Tourists travelling to other countries benefit.

Depreciation
 = ↓ Purchasing Power →
 ↓ Imports ↑ Exports
 Eg. Exporters selling to foreigners benefit because their goods are cheaper.

Floating vs Fixed Exchange Rate Regimes

Floating Exchange Rate Regime
 – the demand and supply in the market determines the exchange rate and so it often goes up and down.

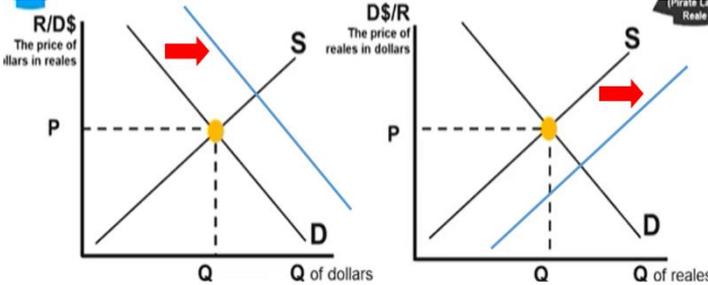
Fixed Exchange Rate Regime
 – the government wants to keep the exchange rate at a certain level and takes action to maintain this level.

6.3 The Foreign Exchange Market

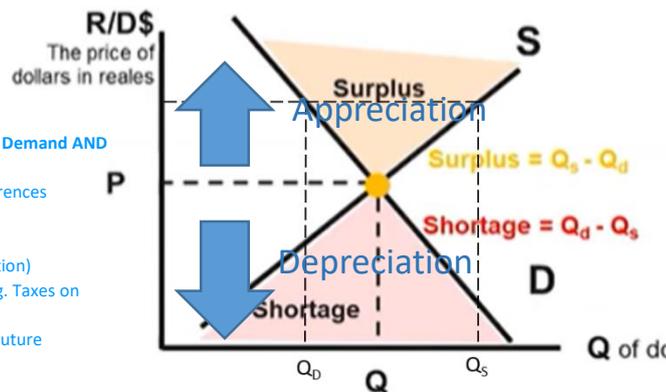
Exchange rate graph

Shifters of demand and supply of currency

Δ Demand of Currency A = Δ Supply of Currency B



Determinants of Demand AND Supply
 Tastes and Preferences
 Income Level
 Interest Rates
 Price Level (Inflation)
 Trade Policies (eg. Taxes on imports)
 Expectations of Future Exchange Rate



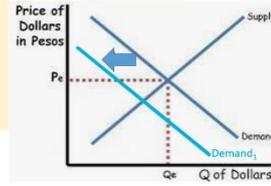
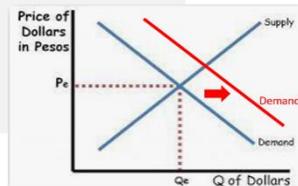
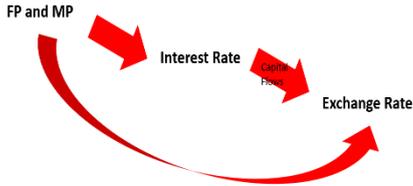
6.4 Effect of Changes in Policies and Economic Conditions on the Foreign Exchange Market

MP Effect on the Exchange Rate

FP Effect on the Exchange Rate

• **Expansionary fiscal policy** → ↑ Real Interest Rate (crowding out)
 → ↑ Capital Inflows → ↑ Exchange Rate

• **Expansionary MP**
 → ↑ MS → ↓ Interest Rate → ↓ Capital Flows → ↓ Demand for the currency
 → ↓ Exchange Rate

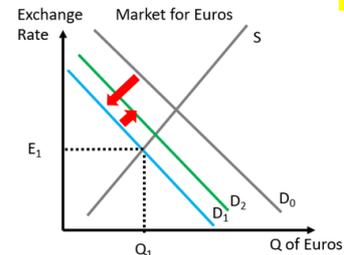


6.5 Changes in the Foreign Exchange Market and Net Exports

Effect of Exchange Rate on Net Exports and AD

↓ Exchange Rate → ↑ X-M (imports more expensive for locals, exports cheaper for foreigners)
 → ↑ D_{currency} → ↑ Exchange Rate?

In many of these questions we should remember that there are many variables affecting each other, however the 1st effect is stronger than the 2nd effect and so the movement in the original direction will still apply.



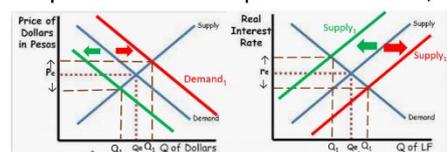
6.6 Real Interest Rates and International Capital Flows

Effect of Capital Inflows/Outflows on:

Net Exports and AD

Capital Formation

Two Consequences of Capital Inflows / Outflows



Consequence 1: Net Exports and AD

• Capital inflows → ↑ Demand for currency
 → ↑ Exchange Rate → ↓ Net Exports
 → ↓ AD
 • Capital outflows → ↓ Demand for currency
 → ↓ Exchange Rate → ↑ Net Exports
 → ↑ AD

Consequence 2: Capital Formation

• Capital inflows → ↑ Supply Loanable Funds → ↑ Private borrowing and investment → ↑ Capital Formation
 • Capital outflows → ↓ Supply Loanable Funds
 → ↓ Private borrowing and investment → ↓ Capital Formation