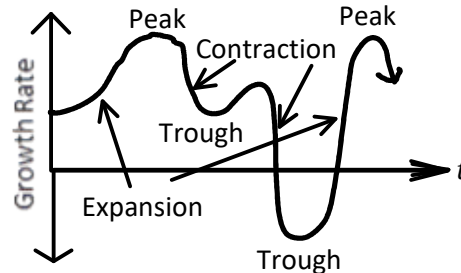


# E101 - 3.1 - Aggregate Demand and Supply

Potential GDP - The total amount that an economy is capable of producing when all of its resources are being fully utilized.

Long Run Aggregate Supply - The relationship between potential GDP and the price level; it is independent of the price level and graphically plots as a straight vertical line.

Business Cycles - The expansionary and contractionary phases is in the growth of real GDP.



Aggregate Supply - The total quantity of goods and services that sellers would be willing and able to produce at various price levels.

The higher the price levels, the greater will be the aggregate quantity supplied; The lower the price level, the smaller will be the aggregate quantity supplied.

Real Wage - The amount of goods and services an employee can buy for a given amount of nominal wage.  
Nominal Wage - The present day value of a current wage.

$$\text{Real Wage} = \frac{\text{Nominal Wage}}{\text{Price Level}}$$

Aggregate Demand - The total quantity of goods and services that consumers, businesses, government, and those living outside the country would buy at various price levels.

Real Balances Effect - The effect that a change in the value of real balances has on consumption spending.

Interest Rate Effect - The effect that a change in prices, and therefore interest rates, has on investment; for example higher prices causes higher interest rates, which leads to lower investment.

Foreign Trade Effect - The effect that a change in prices has on exports and imports.

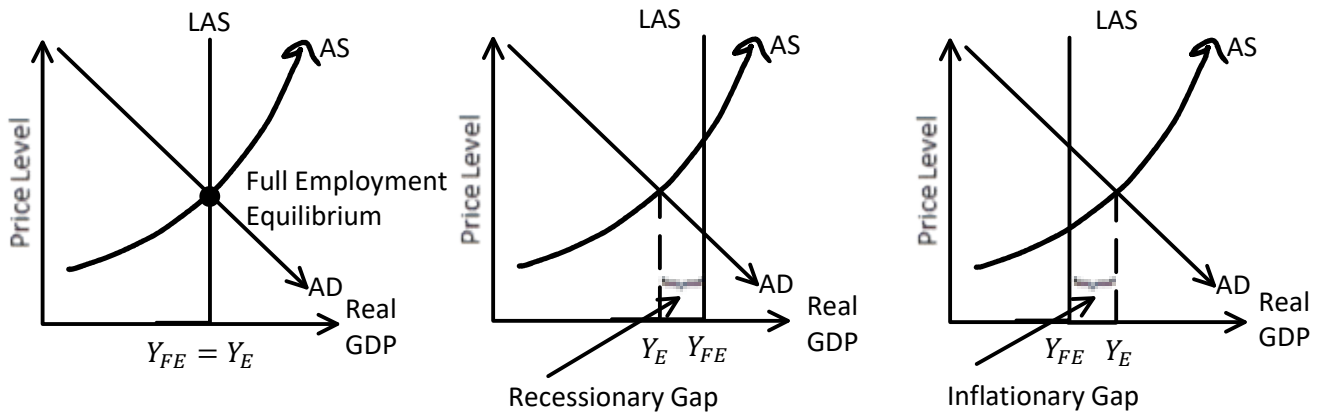
Macroeconomic Equilibrium - A situation in which aggregate demand equals aggregate supply.

Recession - A period when the economy is producing below its potential and has had two consecutive quarters of negative growth.

Recessionary Gap - The difference between actual real GDP and potential real GDP when the economy is producing below its potential.

Inflationary Gap - The difference between actual real GDP and potential real GDP when the economy is temporarily producing and output above full employment

# E101 - 3.2 - Aggregate Demand and Supply



A high interest rate will tend to low investment spending.  
 At low interest rate will lead to high investment spending.

## Determinants of Aggregate Demand -

### Consumption

- Individual consumer wealth
- Age of consumer durables
- Consumer expectations

### Investment

- Interest rates
- Purchase price, installation, and maintenance costs of capital goods
- Age of capital goods and amount of spare capacity
- Business expectations
- Government regulations

### Net exports

- Value of exchange rate
- Income levels abroad
- Price of competitive (foreign goods)
- tastes of foreigners
- Government Spending and Tax Rates
- Money Supply

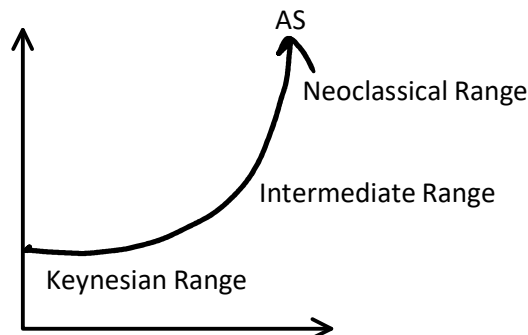
## Determinants of Aggregate Supply -

### Changes in :

- Human capital
- Amount of capital
- Technology
- Natural resources
- Factor Prices (No  $\Delta$  LAS)

Multiplier - The effect on income of a change in autonomous spending such as I, G, X or autonomous C.

Any change in the price of any of the factors of production will shift the aggregate supply curve.



## E101 - 3.3 - Aggregate Expenditures

Autonomous Spending (Expenditures) - The portion of total spending that is independent of the level of income.

$$\textit{Total Spending (Aggregate Expenditures)} = \textit{Autonomous Spending} + \textit{Induced Spending}$$

Induced Spending - The portion of spending that depends on the level of income.

Marginal Propensity to Consume - The ratio of the change in consumption to the corresponding change in income.

$$\textit{Marginal Propensity to Consume (MPC)} = \frac{\Delta \textit{Consumption}}{\Delta \textit{Income}}$$

Consumption Function - The relationship between income and consumption.

$$\textit{Total Consumption} = \textit{Autonomous Consumption} + \textit{Induced Consumption}$$

$$C = 5 + 0.6Y \quad MPC = \frac{65 - 5}{100 - 0} = 0.6$$

Dis-Savings - Spending on consumption in excess of income.

Marginal Propensity to Save - The ratio of the change in savings to the corresponding change in income.

$$\textit{Marginal Propensity to Save (MPS)} = \frac{\Delta \textit{Savings}}{\Delta \textit{Income}}$$

Savings Function - The relationship between income and savings.

$$\textit{Total Saving} = \textit{Autonomous DisSaving} + \textit{Induced Saving}$$

$$S = -65 + 0.2Y \quad MPS = \frac{-45 - (-65)}{100 - 0} = 0.2$$

$$I = 75$$

$$G = 160$$

$$\textit{Total AE} = \textit{Autonomous AE} + \textit{Induced AE}$$

Marginal Propensity to Expend - The ratio of change in expenditures that results from a change in income.

$$\textit{Marginal Propensity Expend (MPE)} = \frac{\Delta \textit{Aggregate Expenditures}}{\Delta \textit{Income}}$$

## E101 - 3.4 - Aggregate Expenditures

National Income (Y)	Tax (T)	Disposable Income ( $Y_D$ )	Consumption (C)	Saving (S)	Investment (I)	Government Spending (G)	Exports (X)	Imports (IM)	Net Exports ( $X_N$ )	Aggregate Expenditures (AE) ( $C + I + G + X_N$ )
0	60	-60	5	-65	75	160	100	40	60	300
100	80	20	65	-45	75	160	100	50	50	350
200	100	100	125	-25	75	160	100	60	40	400
300	120	180	185	-5	75	160	100	70	30	450
400	140	260	245	15	75	160	100	80	20	500
500	160	340	305	35	75	160	100	90	10	550
600	180	420	365	55	75	160	100	100	0	600
700	200	500	425	75	75	160	100	110	-10	650
800	220	580	485	95	75	160	100	120	-20	700

Marginal Leakage Rate - The ratio of change in leakages that results from a change in income.

$$\text{Marginal Leakage Rate (MLR)} = \frac{\Delta \text{Total Leakages}}{\Delta \text{Income}} = (1 - \text{MPE})$$

$$AE = 300 + 0.5Y \quad \text{MPE} = \frac{350 - 300}{100 - 0} = 0.5 \quad \text{Budget Surplus} = T - G$$

Expenditure Equilibrium - The income at which the values of production and aggregate expenditures are equal.

Unplanned Investment - The amount of unintended investment by firms in the form of buildup or rundown of inventories; that is, the difference between production (Y) and aggregate expenditures (AE).

Equilibrium Income is the level of income (and production) at which there is neither a surplus nor a shortage of goods.

Wealth Effect - The direct effect of a change in wealth on consumption spending.

Major determinants of autonomous consumption spending : (Changes in)

- Wealth
- Price Level
- Age of consumer durables
- Consumer Expectations

Major determinants of investment spending :

- Interest rates
- Purchase price, installation, maintenance, and operating costs of capital goods.
- Age of capital goods and amount of spare capacity
- Business expectations
- Government Regulations

# E101 - 3.5 - Aggregate Expenditures

$$\text{Multiplier} = \frac{\Delta \text{Income}}{\Delta \text{Autonomous Expenditures}} = \frac{1}{MLR} = \frac{1}{1 - MPE}$$

The higher the value of the *MPE*, (the smaller the value of the *MLR*), the bigger will be the multiplier.

$$\text{Total Taxes} = \text{Autonomous Taxes} + \text{Induced Taxes}$$

Marginal Tax Rate - The ratio of the change in taxation as a result of a change in income.

$$\text{Marginal Tax Rate (MTR)} = \frac{\Delta \text{Taxes}}{\Delta \text{Income}} \quad T = 60 + 0.2Y \quad MTR = \frac{80 - 60}{100 - 0} = 0.2$$

$$\text{Disposable Income} = \text{National Income Tax less Tax}$$

$$Y_D = Y - T$$

Marginal Propensity to Import - The ratio of the change in imports that's results from a change in income.

$$\text{Marginal Propensity to Import (MPM)} = \frac{\Delta \text{Imports}}{\Delta \text{Income}} \quad MPI = \frac{50 - 40}{100 - 0} = 0.1 \quad IM = 40 + 0.1Y$$

Balance of Trade - The value of a countries exports of goods less the value of imports.

$$X_N = X - IM \\ X_N = 100 - (40 + 0.1Y) \quad X_N = 60 - 0.1Y$$

$$AE = 300 + 0.5Y \\ Y = 300 + 0.5Y \quad Y = AE @ \text{Equilibrium} \\ 0.5Y = 300 \\ Y = 600$$

$$I + G + X = S + T + IM \quad \text{Injections} = \text{Leakages} @ \text{Equilibrium} \\ 75 + 160 + 100 = 35 + 180 + 100 \\ 355 = 355$$

$$\begin{array}{l} C = 5 + 0.6Y \\ I = 75 \\ G = 160 \\ X_N = 60 - 0.1Y \\ \hline AE = 300 + 0.5Y \end{array} \quad \begin{array}{l} MPE = MPC - MPM \\ = 0.6 - 0.1 \\ = 0.5 \end{array} \quad \begin{array}{l} MLR = MPS + MTR + MPM \\ = 0.2 + 0.2 + 0.1 \\ = 0.5 \end{array}$$