- Aggregate Demand and Saving
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- Investment Multiplier and Its Mechanism
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Aggregate Demand and Saving

Concept Explanation: Aggregate Demand (AD) is the total demand for all goods and services in an economy at a given price level and time. It represents the total expenditure made in the economy and is composed of consumption, investment, government spending, and net exports.

Key Definitions / Features:

- **Aggregate Demand (AD):** AD = C + I + G + (X - M), where C is consumption expenditure, I is investment expenditure, G is government expenditure, and (X - M) is net exports.
- **Private Consumption Expenditure:** Total demand by households, determined by personal disposable income.
- **Private Investment Expenditure:** Expenditure by households and investors on capital goods, influenced by market interest rates.
- **Government Expenditure:** Total government spending on consumer goods and investments.
- **Autonomous Investment:** Investment independent of income or output changes, driven by factors like technology and policy.
- **Aggregate Supply (AS):** Total supply of goods and services by producers, expressed as national income or total income (consumption + savings).
- **Effective Demand:** The level where aggregate demand equals aggregate supply.
- **Consumption Function:** Relationship between consumption and income, expressed as $C = \bar{C} + bY$, where $\bar{C}$ is autonomous consumption, b is marginal propensity to

consume (MPC), and Y is income.

- **Propensity to Consume:** Average Propensity to Consume (APC) = C/Y; Marginal Propensity to Consume (MPC) = ΔC/ΔY.
- **Saving Function:** Relation between saving and income, S = -$\bar{S}$ + bY, where $\bar{S}$ is saving at zero income, b is marginal propensity to save (MPS).
- **Propensity to Save:** Average Propensity to Save (APS) = S/Y; Marginal Propensity to Save (MPS) = ΔS/ΔY.
- **Relationship:** MPC + MPS = 1 and APC + APS = 1.
- **Investment Expenditure:** Spending on producer durable equipment, construction, and inventory changes.
- **Induced Investment:** Investment dependent on income/output changes, influenced by marginal efficiency of capital and interest rates.

Illustrative Example:

Mnemonics for Aggregate Demand components: "Andhra Pradesh cannot import Good Nuts" representing Aggregate Demand = Consumption + Investment + Government + Net Exports.

Practice Set:

- Explain the components of aggregate demand with examples.
- Calculate APC and MPC given consumption and income data.
- Describe the difference between autonomous and induced investment.

Answer Key:

- Components of AD are explained as above with examples.
- APC = Consumption/Income; MPC = Change in Consumption/Change in Income.
- Autonomous investment is independent of income; induced investment varies with income.

Quick Reference: AD = C + I + G + (X - M); MPC + MPS = 1; APC + APS = 1.

Glossary:

- **Aggregate Demand:** Total demand for goods and services.
- **Marginal Propensity to Consume (MPC):** Change in consumption per unit change in income.
- **Marginal Propensity to Save (MPS):** Change in saving per unit change in income.
- **Autonomous Investment:** Investment independent of income.

Short Run Equilibrium Output

Concept Explanation: Short run equilibrium output is the level of output where aggregate demand equals aggregate supply in the short run, determining employment and income levels.

Key Definitions / Features:

- **Short Run:** Period during which output is determined by employment level.
- **Full Employment:** Situation where all willing and able workers are employed at prevailing wages.
- **Involuntary Unemployment:** Workers willing and able to work at current wages but unable to find jobs.
- **Equilibrium Condition:** AD = AS; income equilibrium Y = output equilibrium O = employment equilibrium N.
- **Income-Employment Equilibrium (Keynesian):** Equilibrium where saving equals investment (S = I).
- **Change in Equilibrium:** If AD > AS, employment rises; if AD < AS, employment falls.

Illustrative Example:

Given: National Income = ₹1000, Autonomous Consumption = ₹100, Investment = ₹120.

Calculate MPC:

$Y = \bar{C} + bY + I$

$1000 = 100 + b(1000) + 120$

$1000 = 220 + 1000b$

$1000b = 780$

$b = 0.78$ (MPC)

$MPS = 1 - MPC = 0.22$

Practice Set:

- Define full employment and involuntary unemployment.
- Explain the Keynesian equilibrium condition.
- Calculate MPC and MPS from given data.

Answer Key:

- Full employment means all willing workers employed; involuntary unemployment means willing workers unemployed.
- Equilibrium occurs where saving equals investment.
- MPC and MPS calculated as above.

Quick Reference: AD = AS; S = I; MPC + MPS = 1.

Glossary:

- **Full Employment:** Employment of all willing workers.
- **Involuntary Unemployment:** Unemployment despite willingness to work.
- **Equilibrium Output:** Output where AD equals AS.

Investment Multiplier and Its Mechanism

Concept Explanation: The investment multiplier measures the change in income resulting from a change in investment. It shows how initial investment leads to a multiplied increase in total income.

Key Definitions / Features:

- **Multiplier (K):** K = ΔY / ΔI, where ΔY is change in income and ΔI is change in investment.
- **Relation with MPC:** K = 1 / (1 - MPC).
- **Range:** K lies between 1 and infinity; higher MPC means higher multiplier.
- **Forward Action:** Additional investment creates multiple rounds of income increase.
- **Backward Action:** Withdrawal of investment causes multiplied decrease in income.
- **Full Employment:** All willing workers employed at prevailing wages.
- **Involuntary Unemployment:** Willing workers unable to find jobs.

Illustrative Numerical Example:

Given: ΔI = ₹100 crore, MPC = 0.8

Calculate multiplier:

K = 1 / (1 - 0.8) = 5

Change in income:

$\Delta Y = K \times \Delta I = 5 \times 100 = ₹500$ crore

Change in consumption:

$\Delta C = MPC \times \Delta Y = 0.8 \times 500 = ₹400$ crore

Change in saving:

$\Delta S = MPS \times \Delta Y = 0.2 \times 500 = ₹100$ crore

Practice Set:

- Define investment multiplier and explain its working.
- Calculate change in income given investment and MPC.
- Explain forward and backward action of multiplier.

Answer Key:

- Multiplier measures income change from investment change.
- Calculations as above.
- Forward action increases income; backward action decreases income.

Quick Reference: $K = 1 / (1 - MPC)$; $\Delta Y = K \times \Delta I$.

Glossary:

- **Investment Multiplier:** Ratio of change in income to change in investment.
- **Marginal Propensity to Consume (MPC):** Fraction of additional income consumed.

Problems and Measures of Excess and Deficient Demand

Concept Explanation: Excess demand occurs when aggregate demand exceeds aggregate supply at full employment, causing inflation. Deficient demand occurs when aggregate demand is less than aggregate supply, causing unemployment and recession.

Key Definitions / Features:

- **Deficient Demand:** AD < AS at full employment; leads to fall in production, price level, and rise in unemployment.
- **Reasons for Deficient Demand:** Decrease in investment, consumption, government spending; increase in taxes; decline in exports.
- **Excess Demand:** AD > AS at full employment; leads to increased production, price level, and decreased unemployment.
- **Reasons for Excess Demand:** Increase in government spending, investment, consumption; reduction in taxes; increase in exports.
- **Cyclical Fluctuations:** Economy cycles through depression, recovery, full employment, prosperity, recession.
- **Measures to Correct Demand Imbalances:** Fiscal policy, monetary policy, foreign trade policy, and other measures.
- **Fiscal Policy:** Government actions on public expenditure, taxation, and public debt.
- **Monetary Policy:** Central bank controls money supply, credit availability, and cost.
- **Monetary Instruments:** Quantitative (bank rate, open market operations, CRR, SLR) and qualitative (loan margin, credit rationing, moral suasion).

Illustrative Example:

In a graph showing income and aggregate demand, the gap between AD at full employment and AD at involuntary unemployment represents a deflationary gap (deficient demand).

Fiscal Measures to Correct Deficient Demand:

- Decrease taxes to increase disposable income and aggregate demand.
- Increase government expenditure to boost aggregate demand.

Practice Set:

- Define excess and deficient demand with examples.
- List reasons and effects of deficient demand.
- Explain fiscal and monetary measures to correct demand imbalances.

Answer Key:

- Excess demand causes inflation; deficient demand causes unemployment.
- Reasons and effects as above.
- Fiscal policy involves taxation and spending; monetary policy controls money supply.

Quick Reference: Excess demand: AD > AS; Deficient demand: AD < AS; Fiscal and monetary policies correct imbalances.

Glossary:

- **Excess Demand:** Aggregate demand exceeding supply at full employment.
- **Deficient Demand:** Aggregate demand less than supply at full employment.
- **Fiscal Policy:** Government policy on taxation and expenditure.
- **Monetary Policy:** Central bank policy on money supply and credit.