

Unit 2: Aggregate Demand and Aggregate Supply
Analysis
Grade 12 Economics - Advanced Notes (Detailed)

Wednesday 3rd April, 2025

Contents

2 Aggregate Demand and Aggregate Supply Analysis	3
Unit 2: Aggregate Demand and Aggregate Supply Analysis	3
2.1 Aggregate Demand	3
2.1 Aggregate Demand	3
2.1.1 The Aggregate Demand Curve	4
2.1.2 The Aggregate Demand Curve	4
2.1.2 Shifts in the Aggregate Demand Curve	5
2.1.3 Shifts in the Aggregate Demand Curve	5
2.2 Aggregate Supply	5
2.2 Aggregate Supply	5
2.2.1 The Upward Sloping Aggregate Supply Curve: The Short Run (SRAS)	6
2.2.2 The Upward Sloping Aggregate Supply Curve: The Short Run (SRAS)	6
2.2.2 The Vertical Aggregate Supply Curve: The Long Run (LRAS)	7
2.2.3 The Vertical Aggregate Supply Curve: The Long Run (LRAS)	7
2.3 Equilibrium of Aggregate Demand and Aggregate Supply	7
2.3 Equilibrium of Aggregate Demand and Aggregate Supply	7
2.3.1 Shocks to Aggregate Demand	7
2.3.1 Shocks to Aggregate Demand	7
2.3.2 Shocks to Aggregate Supply	7
2.3.2 Shocks to Aggregate Supply	7
Unit 2 Summary	8



Join telegram channel
<https://t.me/grade9to12ethiopia>

Unit 2: Aggregate Demand and Aggregate Supply Analysis

- **Unit Introduction:** This unit introduces the basic macroeconomic model: Aggregate Demand (AD) and Aggregate Supply (AS), representing an aggregation of the microeconomic model for the entire economy (national production). It examines the demand and supply sides of the macroeconomy, key tools explaining major economic trends. We will determine the overall level of economic activity (output and prices) through the interaction of AD and AS, studying equilibrium and the effects of economic shocks.
- **Learning Outcomes:** At the end of this unit, you will be able to:
 - Distinguish the difference between a change in the quantity demanded and a change in aggregate demand.
 - Discuss various explanations for wage and price stickiness.
 - Demonstrate graphically the short run and long run equilibrium in relation to potential output.
 - Explain how the AS–AD model is used to analyse economic fluctuations.
- **Key Concepts:** Aggregate Demand (AD), Aggregate Supply (AS), Short-Run Aggregate Supply (SRAS), Long-Run Aggregate Supply (LRAS), Consumption (C), Investment (I), Government Purchases (G), Net Exports (X-M or NE), Real Balance Effect (Wealth Effect), Interest Rate Effect, International Trade Effect, Sticky Wages, Worker Misperceptions, Potential GDP (Natural Real GDP, Q_N), Equilibrium (Short-Run, Long-Run), Demand Shocks, Supply Shocks (Negative, Positive), Stagflation.

2.1 Aggregate Demand

- **Learning Outcomes:** define concept of aggregate demand; describe the basic determinants of aggregate demand; distinguish the difference between a change in the quantity demanded and a change in demand.
- **Concept of Aggregate Demand (AD):**
 - **Definition:** Refers to the total amount of final goods and services (real GDP) that different sectors in the economy (households, firms, governments, foreigners) willingly spend in a given period. Measured by total expenditure. Alternatively, it's the total spending by all entities, dependent on price levels, monetary/fiscal policy, etc.
 - **Components:** The four major components are:
 1. Household Consumption demand (**C**)
 2. Private Investment demand (**I**)
 3. Government demand for goods and services (**G**)
 4. Net Export demand (**X-M**)
 - **Equation:**

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

– **Determinants of Components:**

- **Consumption (C):** Primarily determined by disposable income, household wealth, long-term income trends, aggregate price level, interest rates, expectations.
- **Investment (I):** Includes private purchases of structures, equipment, inventory changes. Major determinants: level of output, cost of capital (interest rates), expectations about the future.
- **Government Purchases (G):** Determined directly by government spending decisions.
- **Net Exports (X-M):** Value of exports minus imports. Determined by domestic/foreign incomes, relative prices, exchange rates, trade policies, preferences, technology.

2.1.1 The Aggregate Demand Curve

- **Definition:** A schedule (or curve) showing the amount of real output (real GDP) buyers collectively desire to purchase at each possible overall price level, ceteris paribus.
- **Slope: Downward sloping**, indicating an **inverse relationship** between the price level and the quantity of real GDP demanded. As price level falls, quantity demanded rises, and vice versa. (See Figure 2.1).
- **Reasons for Downward Slope:** Explained by three effects:

– **Real Balance Effect (Wealth Effect):**

- $\uparrow \text{Price Level} \implies \downarrow \text{Real value of monetary wealth (money holdings)} \implies \downarrow \text{Perceived wealth} \implies \downarrow \text{Consumption (C)} \implies \downarrow \text{Quantity Real GDP Demanded.}$

– **Interest Rate Effect:**

- $\uparrow \text{Price Level} \implies \uparrow \text{Demand for money for transactions.}$
- Given fixed money supply, $\uparrow \text{Money Demand} \implies \uparrow \text{Interest Rate (price of borrowing money).}$
- $\uparrow \text{Interest Rate} \implies \downarrow \text{Investment spending (I) and interest-sensitive Consumption spending (C).}$
- $\implies \downarrow \text{Quantity Real GDP Demanded.}$

– **International Trade Effect:**

- $\uparrow \text{Domestic Price Level (e.g., Ethiopia)} \implies \text{Domestic goods relatively more expensive than foreign goods.}$
- $\implies \downarrow \text{Exports (X) (foreigners buy less).}$
- $\implies \uparrow \text{Imports (M) (domestic residents buy more foreign goods).}$
- $\implies \downarrow \text{Net Exports (X-M).}$
- $\implies \downarrow \text{Quantity Real GDP Demanded.}$

2.1.2 Shifts in the Aggregate Demand Curve

- **Distinction from Movement Along Curve:**
 - **Change in Quantity Demanded:** Movement along the AD curve caused by a change in the overall price level.
 - **Change in Aggregate Demand:** Shift of the entire AD curve (right or left) caused by changes in non-price level determinants of C, I, G, or X-M. Occurs even if price level is constant. (See Figure 2.2).
- **General Principle:** A positive change (increase) in C, I, G, or X-M at a given price level shifts AD curve rightward. A negative change (decrease) shifts AD curve leftward.
- **Factors Affecting AD Components and Shifting the Curve:**
 - **Consumption (C) Factors:**
 - *Wealth:* $\uparrow \text{Wealth} \Rightarrow \uparrow C \Rightarrow AD \rightarrow \text{Right}$. $\downarrow \text{Wealth} \Rightarrow \downarrow C \Rightarrow AD \rightarrow \text{Left}$.
 - *Expectations:* Optimism about future income/prices $\Rightarrow \uparrow C \Rightarrow AD \rightarrow \text{Right}$. Pessimism $\Rightarrow \downarrow C \Rightarrow AD \rightarrow \text{Left}$.
 - *Interest Rates:* $\downarrow \text{Interest Rates} \Rightarrow \uparrow C$ (esp. durables) $\Rightarrow AD \rightarrow \text{Right}$.
 - *Income Taxes:* $\downarrow \text{Income Taxes} \Rightarrow \uparrow C \Rightarrow AD \rightarrow \text{Right}$.
 - **Investment (I) Factors:**
 - *Interest Rates:* $\downarrow \text{Interest Rates} \Rightarrow \uparrow I \Rightarrow AD \rightarrow \text{Right}$.
 - *Expectations (Future Sales):* Optimism $\Rightarrow \uparrow I \Rightarrow AD \rightarrow \text{Right}$.
 - *Business Taxes:* $\downarrow \text{Business Taxes} \Rightarrow \uparrow I \Rightarrow AD \rightarrow \text{Right}$.
 - **Government Purchases (G) Factor:** Fiscal Policy: $\uparrow G \Rightarrow AD \rightarrow \text{Right}$. $\downarrow G \Rightarrow AD \rightarrow \text{Left}$.
 - **Net Exports (X-M) Factors:**
 - *Foreign Income:* $\uparrow \text{Foreign Income} \Rightarrow \uparrow \text{Exports} \Rightarrow AD \rightarrow \text{Right}$.
 - *Exchange Rate:* ETB Depreciates $\Rightarrow \uparrow \text{Exports}, \downarrow \text{Imports} \Rightarrow \uparrow (X - M) \Rightarrow AD \rightarrow \text{Right}$. ETB Appreciates $\Rightarrow \downarrow (X - M) \Rightarrow AD \rightarrow \text{Left}$.

2.2 Aggregate Supply

- **Learning Outcomes:** Define concept aggregate supply; construct and interpret supply curve; describe basic determinants aggregate supply.
- **Concept of Aggregate Supply (AS):** Total quantity supplied all goods/services (real GDP) at various price levels, ceteris paribus. Direct relationship between price level and amount real output firms offer for sale. Includes short-run (SRAS) and long-run (LRAS). Depends on prices firms receive for goods vs costs labor/other inputs. Reflects conditions factor markets and goods markets.
- **School Views on AS Curve Shape:**

- Keynesian: Horizontal SRAS (firms supply any demand at existing price below full employment).
- Classical: Vertical LRAS (always equilibrium full employment labour force). Also vertical SRAS if prices/wages perfectly flexible.

2.2.1 The Upward Sloping Aggregate Supply Curve: The Short Run (SRAS)

- **Time Horizon:** Short run is period where at least one input price (esp. nominal wages) fixed or slow adjust. Long run: period long enough all inputs varied/prices adjust.
- **Definition SRAS Curve:** Shows quantity supplied real GDP different price levels, ceteris paribus, in the short run.
- **Slope:** Upward sloping: $\uparrow$ Price Level $\implies \uparrow$ Quantity Supplied; $\downarrow$ Price Level $\implies \downarrow$ Quantity Supplied.
- **Explanations for Upward Slope:**
 - **Sticky Wages:** Labour contracts fix nominal wages (W) short term. If overall Price Level (P) falls, the Real Wage (W/P) increases. Since firms' demand for labor is inversely related to the real wage, they hire fewer workers and produce less output. Thus, $\downarrow P \implies \downarrow Q_S$.
 - Example: Nominal wage set \$30/hr based on expected Price Index 1.50 (Real Wage \$20). If Price Index falls unexpectedly 1.25, Real Wage rises \$24. Firm expected pay \$20, now pays \$24 $\implies$ hires fewer workers (e.g., 800 instead 1000) $\implies$ output falls.
 - **Worker Misperceptions:** Workers know nominal wage, may not immediately know change overall price level. If P falls and nominal wage falls such real wage is constant, workers may perceive real wage has fallen $\implies$ reduce quantity labor supplied $\implies$ firms produce less output. Thus, $\downarrow P \implies \downarrow Q_S$ due misperception.
- **Shifts in the SRAS Curve:** Caused by changes factors affecting production costs or resource availability, independent current price level.
 - *Wage Rates:* $\uparrow$ Wages $\implies \uparrow$ Costs $\implies \downarrow$ Profits at given P $\implies$ SRAS shifts Left. (Figure 2.4). $\downarrow$ Wages $\implies$ SRAS shifts Right.
 - *Input Costs:* Changes other input prices (e.g., energy).
 - *Resource Availability:* Increase/improvement land, labor, capital, managerial ability $\implies$ SRAS shifts Right.
 - *Productivity:* $\uparrow$ Productivity $\implies$ SRAS shifts Right.
 - *Technology:* Improvements $\implies$ SRAS shifts Right.
 - *Government Policy:* Business taxes/subsidies.
 - *Weather:* Impacts agricultural output.

2.2.2 The Vertical Aggregate Supply Curve: The Long Run (LRAS)

- **Context:** Long run = wages flexible, misperceptions corrected.
- **Definition:** Identifies output economy produces long run when all prices fully adjust = **Potential GDP (Q_N)** or **Natural Real GDP**.
- **Shape:** **Vertical** at Q_N . Indicates long-run output independent overall price level.
- **Determinants of Q_N (Position of LRAS):** Determined by economy's resources (labor quantity/quality, capital stock, natural resources) and technology level. Changes these factors shift LRAS. (Figure 2.5 illustrates vertical LRAS).

2.3 Equilibrium of Aggregate Demand and Aggregate Supply

- **Learning Outcomes:** define market equilibrium; identify concepts short-run/long-run equilibrium; analyse how market reaches equilibrium, possible factors change; differentiate demand shock/supply shock.
- **Short-Run Equilibrium:** Where AD curve intersects SRAS curve. Determines equilibrium price level (P_E) and equilibrium real GDP (Q_E). If Price Level $< P_E \Rightarrow$ Surplus $\Rightarrow$ Price falls. If Price Level $> P_E \Rightarrow$ Shortage $\Rightarrow$ Price rises. Market forces push towards equilibrium. (Figure 2.6).
- **Long-Run Equilibrium:** Where AD curve intersects LRAS curve. At this point, SRAS must also pass through intersection. Economy produces potential output ($Q_E = Q_N$). All prices/wages flexible. (Figure 2.7 combines AD, SRAS, LRAS at LR equilibrium). If no changes, economy stays at Q_N indefinitely.
- **Shocks** (Changes in AD or AS): Cause fluctuations price level/real GDP.

2.3.1 Shocks to Aggregate Demand

- **Positive (Expansionary) Shock:** AD curve shifts right (e.g., expansionary policy, increased spending C/I/G/X-M). Effect: $\uparrow P$ and $\uparrow Q$ in short run. (Figure 2.8).
- **Negative (Contractionary) Shock:** AD curve shifts left. Effect: $\downarrow P$ and $\downarrow Q$ in short run.

2.3.2 Shocks to Aggregate Supply

- Changes shift SRAS curve. Affect P and Q oppositely.
- **Positive Supply Shock:** SRAS curve shifts right (e.g., tech improvement, fall input prices). Effect: $\downarrow P$, $\uparrow Q$.
- **Negative Supply Shock:** SRAS curve shifts left (e.g., rise oil prices, destroyed crops). Effect: $\uparrow P$, $\downarrow Q$. Creates **Stagflation** (stagnation + inflation). (Figure 2.9).

Unit 2 Summary

- Aggregate demand (AD) is the total amount of money all sections (households, firms, government) prepare to spend on goods/services produced in an economy during a given period ($AD = C + I + G + (X - M)$).
- The AD curve is downward sloping due to the real balance effect, interest rate effect, and international trade effect. Shifts occur due to changes in its determinants (wealth, expectations, interest rates, taxes, gov spending, foreign income, exchange rates).
- Aggregate supply (AS) is the quantity supplied of all goods/services (real GDP) at various price levels. SRAS curve is upward sloping (sticky wages/misperceptions); LRAS curve is vertical at potential GDP (Q_N). SRAS shifts due to input costs, resources, technology; LRAS shifts due to changes in potential output capacity.
- Short-run equilibrium is determined by the intersection of AD and SRAS. Long-run equilibrium occurs where AD, SRAS, and LRAS intersect at potential output Q_N .
- Demand shocks shift AD, affecting price and output in the same direction (short-run). Supply shocks shift SRAS, affecting price and output in opposite directions (short-run); negative supply shocks cause stagflation.