The IS – LM / AD – AS Model:  
A General Framework for Macroeconomic Analysis,  
Part 2

Agenda
• Aggregate Demand and Aggregate Supply

Aggregate Demand and Aggregate Supply
• The AD-AS model is derived from the IS-LM model.
  ➢ The two models are equivalent.
  ➢ Depending on the particular issue, one model may prove more useful than the other model.
    • The IS-LM model relates the real interest rate to output.
    • The AD-AS model relates the price level to output.

The AD Curve
• The aggregate demand curve:
  ➢ The AD curve shows the relationship between the quantity of goods demanded and the price level when the goods market and the asset market are in equilibrium.
    • So the AD curve represents the price level and output level at which the IS and LM curves intersect.
The AD Curve

- The aggregate demand curve:
  - The AD curve is unlike other demand curves, which relate the quantity demanded of a good to its relative price.
  - The AD curve relates the total quantity of goods demanded to the general price level, not a relative price.

- The AD curve slopes downward because a higher price level is associated with:
  - A lower real money supply,
  - A leftward shift of the LM curve,
  - A higher real interest rate,
  - Lower interest-sensitive spending, and
  - Less output demanded.
The **AD Curve**

- Factors that shift the **AD** curve:
  - Both the **IS** and **AD** curves shift to the right with:
    - Increases in expected future output,
    - Increases in wealth,
    - Increases in government purchases,
An increase in the money supply

[Diagram showing the relationship between r, P, Y, and Y*]

The AS Curve

• The aggregate supply curve:

  ➢ The aggregate supply curve shows the relationship between the price level and the aggregate amount of output that firms supply.

The AS Curve

• The aggregate supply curve:

  ➢ In the short run, prices remain fixed, so firms supply whatever output is demanded.
    • The short-run aggregate supply curve is horizontal.
  
  ➢ This does NOT mean that P is exogenous.
    • Prices are pre-determined by events in prior time periods.
    • The assumption is based on the observation that in the short-run both prices and wages are sticky.

\[ P_t = P_{t-1} + f(Y_{t-1} - Y^*_{t-1}) \]

The AS Curve

• The aggregate supply curve:

  ➢ In the long run, firms supply the full-employment level of output, which is not affected by the price level.
    • The long-run aggregate supply curve is vertical.
The **SRAS** and **LRAS** Curves

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### The **SRAS** Curve

- Factors that shift the **SRAS** curve:
  - The **SRAS** curve shifts *up* (higher) with:
    - Excess demand in the prior time period, and/or
    - Increased costs of production (that cause higher prices).
      - Sharp changes in input costs:
        - Exogenous increases in wages,
        - Increases in commodity prices,
        - Increases in imported goods prices, especially oil, and/or
        - Decreases in productivity.

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### The **LRAS** Curve

- Factors that shift the **LRAS** curve:
  - The **LRAS** curve shifts *right* with:
    - Increases in productivity,
    - Increases in labor supply, and/or
    - Increases in the capital stock.
    - That increase the full-employment level of output.
An increase in productivity

The AD-AS Model
- Equilibrium in the AD-AS model:
  - Short-run equilibrium: $AD$ intersects $SRAS$.
  - Long-run equilibrium: $AD$ intersects $LRAS$.
  - General equilibrium: $AD$, $LRAS$, and $SRAS$ all intersect at same point.

Equilibrium in the AD-AS model

Aggregate Demand and Aggregate Supply
- Equilibrium in the AD-AS model:
  - If the economy is NOT in general equilibrium, economic forces work to restore general equilibrium in the both AD-AS diagram and IS-LM models.