The AD – AS Model

Agenda

• Aggregate Demand
• Aggregate Supply
• The AD-AS Model

AD-AS Model

• Allows us to endogenize P, the price level.
• The rate of change in P is inflation so, indirectly, we are also endogenizing:
  ➢ Inflation
  ➢ Disinflation

Aggregate Demand

• Deriving the Aggregate Demand Curve
  ➢ In the IS-LM Model
    • Change P, shift LM, generate a new Ye
    • Plot the pairs of P, Ye to generate an AD curve

Aggregate Demand Curve, 1

Aggregate Demand Curve, 2

Aggregate Demand Curve, 3
Aggregate Demand Curve

- Aggregate Demand Curve
  - Slopes downward to the right
  - Combinations of $Y$, $r$, and $P$ that generate equilibrium the both the goods and services market and the money market.
  - Low $P$ boosts $AD$; high $P$ reduces $AD$
    - Through changes in real $M_s$ and $r$

Aggregate Demand

- Shifting the AD Curve
  - Changes in $\Delta P$
  - Changes in $G$
  - Changes in $t$
  - Changes in $M_s$
  - Changes in the exogenous component of $Md$

Expansionary Fiscal Policy

-通过 $G$ 升高
- 通过 $t$ 下降
- 通过 $M_s$ 升高
- 通过外生部分的货币需求

Expansionary Monetary Policy

- 通过 $M_s$ 升高
- 通过 $t$ 下降
- 通过 $G$ 升高
- 通过外生部分的货币需求

Aggregate Demand and the IS-LM Model

- Results from shifting the AD curve MUST be fully consistent with movements in the IS-LM model
Aggregate Supply

• Aggregate Supply Curve
  ➢ What businesses are willing to produce at various P and Y levels.
  • Shows how a change in AD will be divided between Y and P
  ➢ Fundamentally dependent upon
    • Aggregate labor market
    • Economy’s production function
      – Technology and productivity

• Key factors in determining the shape of the AS curve are:
  • Time
  • Degree of wage and price stickiness

➢ Three possibilities
  • Horizontal
  • Rising
  • Vertical

Horizontal Aggregate Supply, 1

Rising Aggregate Supply, 1

Horizontal Aggregate Supply, 2

Rising Aggregate Supply, 2
Aggregate Supply

- Aggregate Supply Curve
  - Short-run Aggregate Supply (SAS) can be represented by a horizontal line.

Key Assumption: Prices are pre-determined in the current time period
- This does NOT mean P is exogenous
- Prices are determined by events in prior time periods
- Assumption is based on the observation that in the short-run
  - Prices are sticky
  - Wages are sticky
AD-SAS Model

- AD-SAS Model
  - Changes in AD lead to changes in Y but not in P
    - In the current time period
    - Therefore, \( Y >, =, < Y_n \)
      - Just like in the IS-LM model

AD-SAS Model

<table>
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<tr>
<th>P</th>
<th>AD2</th>
<th>AD0</th>
<th>AD1</th>
</tr>
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<tbody>
<tr>
<td>Y2</td>
<td>Y0</td>
<td>Y1</td>
<td>Y</td>
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</tbody>
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AD-LAS Model

- However, in the long-run \( Y = Y_n \).
  - Long-run aggregate supply (LAS) curve is vertical at \( Y_n \).
  - So eventually, prices must adjust.

AD-LAS Model

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<thead>
<tr>
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<tbody>
<tr>
<td>P1</td>
<td>P0</td>
<td>P2</td>
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<tr>
<td>Yn</td>
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