SV151, Principles of Economics
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Key terms / chapter 23:
Aggregate demand
Wealth effects
Interest rate effects
Exchange rate effects
Aggregate supply – short run
Sticky wages
Sticky prices
Misperceptions theory
Aggregate supply – long run
Natural rate of output (“Potential” output)
Aggregate demand shocks
Aggregate supply shocks
Classical adjustment process

The AD/AS Model
U.S. Annual Percent Change in Real GDP

Understanding What Goes on in the Macro Economy

**DETERMINANTS**
- Internal Market Forces
- External Shocks
- Policy: Fiscal Monetary

**OUTCOMES**
- Output
- Jobs
- Prices
- Growth
- International Balances

**THE MODEL**
- Price Level (Average Prices)
- Aggregate Real Output
- Determinants: Internal Market Forces, External Shocks, Policy (Fiscal, Monetary)
- Outcomes: Output, Jobs, Prices, Growth, International Balances

Diagram showing the relationship between price level, aggregate real output, and the determinants and outcomes of macroeconomic policy.
Interpretation of aggregate fluctuations using the AS/AD model

A modified AS/AD model

“Time path” of aggregate output – trend and cyclical fluctuations
Interpretation of aggregate fluctuations using the AS/AD model

Case 1: Positive AD Shock

Positive Output Gap
- $Y_1 > Y_{FE}$
- $P_1 > P_{FE}$
- Falling unemployment
- Upward price pressure
Interpretation of aggregate fluctuations using the AS/AD model

Case 2: Negative AD Shock

- $Y_1 < Y_{FE}$
- $P_1 < P_{FE}$
- Rising unemployment
- No price pressure
Interpretation of aggregate fluctuations using the AS/AD model

**Case 3: Negative AS Shock**

Negative Output Gap with Inflation ("Stagflation")

- \( Y_1 < Y_{FE} \)
- \( P_1 > P_{FE} \)
- Rising unemployment
- Upward price pressure
Interpretation of aggregate fluctuations using the AS/AD model

Case 4: Positive AS Shock

Positive Output Gap
- \( Y_1 > Y_{FE} \)
- \( P_1 < P_{FE} \)
- Falling unemployment
- Falling prices
The “classical” view and the classical adjustment process

- The “classical” view of macroeconomics is summarized by the classical dichotomy and incorporates the concept of monetary neutrality.

- The classical view also assumes that economic systems are self-equilibrating – that although they are subject to shocks, they automatically revert to full-employment equilibrium. Within the context of the AD/AS model:

<table>
<thead>
<tr>
<th>Case 1: Positive AD Shock</th>
<th>Case 2: Negative AD Shock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Output Gap</td>
<td>Negative Output Gap</td>
</tr>
<tr>
<td>Upward price pressure</td>
<td>Downward price movements</td>
</tr>
<tr>
<td>(wages and input prices)</td>
<td>(wages and input prices)</td>
</tr>
<tr>
<td>prompt a decrease in</td>
<td>prompt an increase in</td>
</tr>
<tr>
<td>short run aggregate</td>
<td>short run aggregate</td>
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<tr>
<td>supply (upward shift of</td>
<td>supply</td>
</tr>
<tr>
<td>SRAS)</td>
<td>(outward shift of SRAS)</td>
</tr>
</tbody>
</table>

- Most economists believe that classical theory describes the world in the long run but not in the short run.

- Thus most economists believe in long run neutrality of money, but not short-run neutrality of money.
Macroeconomic policy options

- Fiscal policy
  - Spending and financing decisions of the federal government
  - Implemented by Congress in conjunction with the President
  - Subject to noticeable lags in implementation

- Monetary policy
  - Money supply, credit and interest rate decisions by the central bank
  - Implemented by the Federal Reserve, subject to oversight by Congress
  - Rapid implementation
Key terms / chapter 24:
Stabilization policy
Expansionary monetary policy
Contractionary monetary policy

Monetary Policy
Expansionary Monetary Policy

Money Market

- **Incomes Demand & Supply**
- **Average Prices**
- **Aggregate Real Output**

Aggregate Economy

- **Price Level**
- **Aggregate Real Output**
- **LRAS & SSAS**

Graphs showing the adjustment of interest rates and the aggregate economy in response to expansionary monetary policy.
Contractionary Monetary Policy

Money Market

Money Demand & Supply

\[ M_s^1 \quad M_s^0 \]

\[ M_d(Y,i) \]

\[ i_1 \quad i_0 \]

Aggregate Economy

Price Level (Average Prices)

\[ LRAS \quad SRAS \]

\[ P_0 \quad P_{FE} \]

\[ Y_{FE} \quad Y_0 \]

\[ AD_0 \quad AD_1 \]
Recent Federal Reserve Monetary Policy

U.S. Federal Reserve Monetary Policy: Target for Federal Funds Rate, 2001 - Present

September 18, 2007
October 8, 2008
Recent Federal Reserve Monetary Policy
FOMC Statements, September 2007 and October 2008

September 18, 2007

The Federal Open Market Committee decided today to lower its target for the federal funds rate 50 basis points to 4-3/4 percent.

Economic growth was moderate during the first half of the year, but the tightening of credit conditions has the potential to intensify the housing correction and to restrain economic growth more generally. Today’s action is intended to help forestall some of the adverse effects on the broader economy that might otherwise arise from the disruptions in financial markets and to promote moderate growth over time.

Readings on core inflation have improved modestly this year. However, the Committee judges that some inflation risks remain, and it will continue to monitor inflation developments carefully.

October 8, 2008

Inflationary pressures have started to moderate in a number of countries, partly reflecting a marked decline in energy and other commodity prices. Inflation expectations are diminishing and remain anchored to price stability. The recent intensification of the financial crisis has augmented the downside risks to growth and thus has diminished further the upside risks to price stability.

Some easing of global monetary conditions is therefore warranted. Accordingly, the Bank of Canada, the Bank of England, the European Central Bank, the Federal Reserve, Sveriges Riksbank, and the Swiss National Bank are today announcing reductions in policy interest rates. The Bank of Japan expresses its strong support of these policy actions.

Key terms / chapter 24:
Marginal propensity to consume
(Spending) multipliers
Automatic stabilizers
Activist stabilization policy
Recognition lags
Implementation lags
Expansionary Fiscal Policy

Spending increases (\( G \uparrow \)) and / or
Tax cuts (\( T \))

\[ AD \uparrow \]
Contractionary Fiscal Policy

Budget cuts ($G \downarrow$) and / or Tax increases ($T \uparrow$) \( \implies AD \downarrow \)

Aggregate Economy

Budget cuts ($G \downarrow$) and / or Tax increases ($T \uparrow$) cause a decrease in aggregate demand ($AD)$, which shifts the AD curve to the left from $AD_0$ to $AD_1$. This results in a decrease in both the price level ($P_0$ to $P_{FE}$) and aggregate real output ($Y_FE$ to $Y_0$).
Fiscal policy: Some additional considerations

- Timing and lags
  1. Recognition
  2. Implementation
  3. Effectiveness

- “Crowding out” effects
  If government debt-financed spending contributes to rising interest rates, then there may be detrimental effects on private investment.

- Perfect foresight (“forward looking behavior”)
  If consumers understand that recessions and booms are temporary, their consumption spending will be less sensitive to changes in current income. (This observation calls into question the assumption implicit in the typical Keynesian consumption function).

- Central bank accommodation of fiscal policy
Fiscal policy: Can policy makers stabilize the economy?

- Spending and financing decisions of the federal government
- Implemented by Congress in conjunction with the President
- Subject to noticeable lags in implementation
- Multiplier effects (where $b = MPC$):
  
  **Investment Spending Multiplier:** \[
  \frac{\Delta Y}{\Delta I} = \frac{1}{1-b}
  \]

  **Government Spending Multiplier:** \[
  \frac{\Delta Y}{\Delta G} = \frac{1}{1-b}
  \]

  **Tax Multiplier:** \[
  \frac{\Delta Y}{\Delta T} = -\frac{b}{1-b}
  \]
The Consumption Function and Spending Multipliers

\[ Y = C + I + G + NX \]

**“Keynesian” Consumption Function**

\[ C = a + bY^d \]

where \( Y^d = Y - T \)

“Autonomous” consumption

Marginal Propensity to Consume

Disposable (After-Tax) Income

By assumption…

\[ 0 < b < 1 \]

Spending Multipliers

**Important Caveat:**

The concept of spending multipliers within fiscal policy analysis is much more controversial than the similar concept of money multipliers with monetary policy analysis.