• Explain How the Fed influences interest rates

• Explain how interest rates influence the economy

\[ \Delta \%m \times \Delta \%nb \times \Delta r \times \Delta \%ono \]

\( \Delta \%ono > 0 \): Fed is a net buyer of Govt. Sec.
\( \Delta \%ono < 0 \): Fed is a net seller of Govt. Sec.
• Explain how interest rates influence the economy
nominal rate of interest

real cash balance

\( \frac{1}{\phi} \cdot \frac{s}{s_0} \)

\( \frac{1}{\phi} \cdot \frac{1}{s_0} \)

\( \frac{1}{\phi} \cdot \frac{s}{s_0} \)

\( \frac{1}{\phi} \cdot \frac{1}{s_0} \)

\( 0 < \eta < 0 \)
nominal rate of interest

\[ \frac{\hat{H}_0}{\hat{p}_0} \]

\[ \frac{\hat{H}_1}{\hat{p}_1} \]

\[ \frac{\hat{M}_0}{\hat{p}_0} \]

\[ \left( \frac{\hat{M}_0}{\hat{p}_0} \right)^\theta \]

real cash balance \( (\frac{\hat{M}_0}{\hat{p}}) \)

\[ \frac{\partial \bar{C}}{\partial \bar{M}} \leq 0 \]

(initial rate of interest)

\[ \bar{C}_0 \]

(subsequent rate of interest)

\[ \bar{C}_1 \]

(final rate of interest)

\( \bar{M}_1 \)

(given that \( P \) is fixed)
TRANSMISSION MECHANISM

"the mechanism through which monetary policy + fiscal policy affects the equilibrium level of nominal national income"

\[
\Delta M^S \uparrow \rightarrow \Delta i \downarrow \rightarrow \Delta I \uparrow \rightarrow \Delta Y \uparrow \rightarrow \Delta M^D \uparrow
\]

\[
\Delta i \uparrow \rightarrow \text{feedback}
\]

\[
\Delta G \uparrow \rightarrow \Delta Y \uparrow \rightarrow \Delta M^D \uparrow \rightarrow \Delta i \uparrow \rightarrow \Delta I \downarrow
\]

\[
\Delta Y \rightarrow \text{feedback}
\]

\[
\Delta T \uparrow \rightarrow \Delta Y \downarrow \rightarrow \Delta M^D \downarrow \rightarrow \Delta i \downarrow \rightarrow \Delta I \uparrow
\]

\[
\Delta Y \uparrow \rightarrow \text{feedback}
\]
QUESTIONS RAISED BY TRANSMISSION MECHANISM (i.e. interdependence of financial and commodity markets)

\[ \Delta M^S \uparrow \rightarrow \Delta i \downarrow \]
\[ \Delta i \uparrow \]
\[ \rightarrow \text{if sum of effects equals zero then} \]
\[ \Delta i^{eq} = 0; \Delta Y^{eq} = 0 \]

\[ \rightarrow \text{monetary policy does not influence national income;} \]
\[ \text{neutrality of money} \]

\[ \Delta G \uparrow \rightarrow \Delta Y \uparrow \]
\[ \Delta Y \downarrow \]
\[ \rightarrow \text{if sum of effects equals zero then} \]
\[ \Delta Y^{eq} = 0 \]

\[ \rightarrow \text{Fiscal policy does not influence national income;} \]
\[ \text{neutrality of fiscal policy} \]
• Policy effectiveness

• crucial assumptions as to interest rate sensitivity

<table>
<thead>
<tr>
<th></th>
<th>Keynes</th>
<th>Monetarists</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>not sensitive</td>
<td>very sensitive</td>
</tr>
<tr>
<td>$M^D$</td>
<td>sensitive</td>
<td>not sensitive</td>
</tr>
</tbody>
</table>

• practical conclusions

<table>
<thead>
<tr>
<th>Keynes (extreme)</th>
<th>Monetarists (SR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\Delta G$</td>
<td>$\Delta G$</td>
</tr>
<tr>
<td>$\Delta M$</td>
<td>$\Delta M$</td>
</tr>
<tr>
<td>$\Delta Y_{eq}^*$</td>
<td>$\Delta Y_{eq}^*$</td>
</tr>
<tr>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td>$\Delta i_{eq}^*$</td>
<td>$\Delta i_{eq}^*$</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Does Money Matter?

bottom line: Yes

Can we calculate the appropriate change in the quantity supplied of money?

bottom line: No

- practical result
- the Federal Reserve will be slow to change its policies
Monetary Policy

- Does money (M1, M2, M3) matter?

\[ \frac{\Delta Y}{\Delta N} > 0 ? \]

- Instant effect

- Delayed effect

- Can monetary policy stabilize the economy?

\[ \Delta N_e = f \left( \frac{\Delta Y_{t+1}}{\Delta N_e} \right) \]

Today's action | Tomorrow's need
Chap. 11  

Fiscal policy 

\[ \frac{\Delta \text{GDP}}{\Delta t} > 0 \] guaranteed to work 

\[ \frac{\Delta \text{GDP}}{\Delta t} < 0 \] maintain as to do affect 

Chap. 13  

Monetary policy 

\[ \frac{\Delta \text{GDP}}{\Delta y} > 0 \] very maintain to work 

Current Preference  

- Monetary policy 
- Not a smart choice