Chapter 21

Monetary and Fiscal Policy in the ISLM Model
Factors that Shift the IS Curve

- A change in autonomous factors that is unrelated to the interest rate
  - Changes in autonomous consumer expenditure
  - Changes in planned investment spending unrelated to the interest rate
  - Changes in government spending
  - Changes in taxes
  - Changes in net exports unrelated to the interest rate
FIGURE 1 Shift in the IS Curve

(b) Effect on goods market equilibrium when the interest rate is $i_A$
(b) Effect on goods market equilibrium when the interest rate is $i_A$

**Figure 1** Shift in the IS Curve (continued)
FIGURE 1
Shift in the IS Curve

(a) Shift of the IS curve

(b) Effect on goods market equilibrium when the interest rate is $i_A$
Factors that Shift the LM Curve

• Changes in the money supply
• Autonomous changes in money demand
(a) Shift of the LM curve

(b) Effect on the market for money when aggregate output is constant at $Y_A$

**Figure 2** Shift in the *LM* Curve from an Increase in the Money Supply
Figure 3: Shift in the LM Curve When Money Demand Increases

(a) Shift in the LM curve

(b) Effect on the market for money when aggregate output is constant at $Y_A$
Response to a Change in Monetary Policy

- An increase in the money supply creates an excess supply of money
- The interest rate declines
- Investment spending and net exports rise
- Aggregate demand rises
- Aggregate output rises
- The excess supply of money is eliminated
- Aggregate output is positively related to the money supply
**Figure 4** Response of Aggregate Output and the Interest Rate to an Increase in the Money Supply
Response to a Change in Fiscal Policy

- An increase in government spending raises aggregate demand directly; a decrease in taxes makes more income available for spending.
- The increase in aggregate demand cause aggregate output to rise.
- A higher level of aggregate output increases the demand for money.
Response to a Change in Fiscal Policy (cont’d)

• The excess demand for money pushes the interest rate higher
• The rise in the interest rate eliminates the excess demand for money
• Aggregate output and the interest rate are positively related to government spending and negatively related to taxes
**FIGURE 5** Response of Aggregate Output and the Interest Rate to an Expansionary Fiscal Policy
Monetary versus Fiscal Policy

- Complete crowding out
  - Expansionary fiscal policy does not lead to a rise in output
  - Increased government spending increases the interest rate and ‘crowds out’ investment spending and net exports

- The less interest-sensitive money demand is, the more effective monetary policy is relative to fiscal policy
### Table 1: Effects from Factors That Shift the IS and LM Curves

<table>
<thead>
<tr>
<th>Factor</th>
<th>Autonomous Change in Factor</th>
<th>Response</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer expenditure, $C$</td>
<td>$\uparrow$</td>
<td>$Y \uparrow, i \uparrow$</td>
<td>$C \uparrow \Rightarrow Y^{ad} \uparrow \Rightarrow IS$ shifts right</td>
</tr>
<tr>
<td>Investment, $I$</td>
<td>$\uparrow$</td>
<td>$Y \uparrow, i \uparrow$</td>
<td>$I \uparrow \Rightarrow Y^{ad} \uparrow \Rightarrow IS$ shifts right</td>
</tr>
<tr>
<td>Government spending, $G$</td>
<td>$\uparrow$</td>
<td>$Y \uparrow, i \uparrow$</td>
<td>$G \uparrow \Rightarrow Y^{ad} \uparrow \Rightarrow IS$ shifts right</td>
</tr>
<tr>
<td>Taxes, $T$</td>
<td>$\uparrow$</td>
<td>$Y \downarrow, i \downarrow$</td>
<td>$T \uparrow \Rightarrow C \downarrow \Rightarrow Y^{ad} \downarrow \Rightarrow IS$ shifts left</td>
</tr>
</tbody>
</table>

(continued)
Table 1: Effects from Factors That Shift the IS and LM Curves (continued)

<table>
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<tr>
<th>Factor</th>
<th>Autonomous Change in Factor</th>
<th>Response</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net exports, NX</td>
<td>$\uparrow$</td>
<td>$Y \uparrow$, $i \uparrow$</td>
<td>$\text{NX} \uparrow \Rightarrow Y^{ad} \uparrow \Rightarrow$ IS shifts right</td>
</tr>
<tr>
<td>Money supply, $M^c$</td>
<td>$\uparrow$</td>
<td>$Y \uparrow$, $i \downarrow$</td>
<td>$M^c \uparrow \Rightarrow i \downarrow \Rightarrow$ LM shifts right</td>
</tr>
<tr>
<td>Money demand, $M^d$</td>
<td>$\uparrow$</td>
<td>$Y \downarrow$, $i \uparrow$</td>
<td>$M^d \uparrow \Rightarrow i \uparrow \Rightarrow$ LM shifts left</td>
</tr>
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Note: Only increases ($\uparrow$) in the factors are shown. The effect of decreases in the factors would be the opposite of those indicated in the "Response" column.
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<td>Investment, I</td>
<td>↑</td>
<td>Y ↑, i ↑</td>
<td>I ↑ ⇒ Y ↑; Y ↑ ⇒ IS shifts right</td>
</tr>
<tr>
<td>Government spending, G</td>
<td>↑</td>
<td>Y ↑, i ↑</td>
<td>G ↑ ⇒ Y ↑; Y ↑ ⇒ IS shifts right</td>
</tr>
<tr>
<td>Taxes, T</td>
<td>↑</td>
<td>Y ↓, i ↓</td>
<td>T ↑ ⇒ C ↓; Y ↓; IS shifts left</td>
</tr>
<tr>
<td>Net exports, NX</td>
<td>↑</td>
<td>Y ↑, i ↑</td>
<td>NX ↑ ⇒ Y ↑; Y ↑ ⇒ IS shifts right</td>
</tr>
<tr>
<td>Money supply, M</td>
<td>↑</td>
<td>Y ↑, i ↓</td>
<td>M ↑ ⇒ i ↓ ⇒ LM shifts right</td>
</tr>
<tr>
<td>Money demand, M</td>
<td>↑</td>
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FIGURE 6
Effectiveness of Monetary and Fiscal Policy When Money Demand Is Unaffected by the Interest Rate

(a) Response to expansionary fiscal policy

(b) Response to expansionary monetary policy
Targeting $M^s$ versus Interest Rates

- If the IS curve is more unstable (uncertain) than the LM curve, a $M^s$ target is preferable.
- If the LM curve is more unstable than the IS curve, an interest-rate target is preferred.
**Figure 7** Money Supply and Interest-Rate Targets When the IS Curve Is Unstable and the LM Curve Is Stable
**Figure 8** Money Supply and Interest-Rate Targets When the LM Curve Is Unstable and the IS Curve Is Stable
ISLM Model in the Long Run

• Natural rate level of output ($Y_n$)
  - Rate of output at which the price level has no tendency to change

• Using real values, so when the price level changes, the IS curve does not change

• The LM curve is affected by the price level
  - As the price level rises, the quantity of money in real terms falls, and the LM curve shifts to the left until it reaches $Y_n$ (long-run monetary neutrality)

• Neither monetary or fiscal policy affects output in the long run
(a) Response to a rise in the money supply, $M$

(b) Response to a rise in government spending, $G$

**Figure 9** The ISLM Model in the Long Run
FIGURE 10 Deriving the Aggregate Demand Curve
Shifts in the Aggregate Demand Curve

• ISLM analysis shows how the equilibrium level of aggregate output changes for a given price level

• A change in any factor except the price level, that causes the IS or LM curve to shift, causes the aggregate demand curve to shift
\textbf{FIGURE 11} \hspace{0.5cm} \textit{Shift in the Aggregate Demand Curve Caused by a Shift in the IS Curve}
Figure 12: Shift in the Aggregate Demand Curve Caused by a Shift in the LM Curve