

REVIEW OF THE IS-LM MODEL II

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Readings

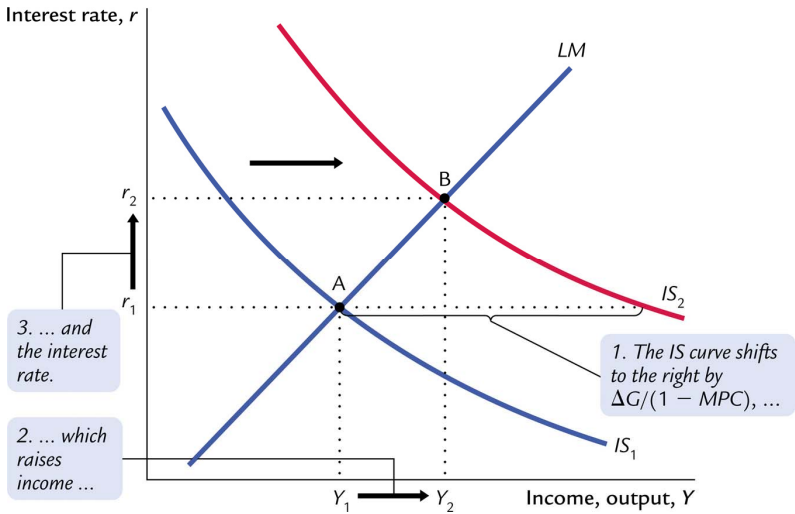
Mankiw and Scarth. Fifth Canadian Edition. Chapter 11.

PLAN

- 1 Fiscal and monetary policy within the *IS-LM* framework.
- 2 Shocks and the optimal choice of monetary policy instrument.

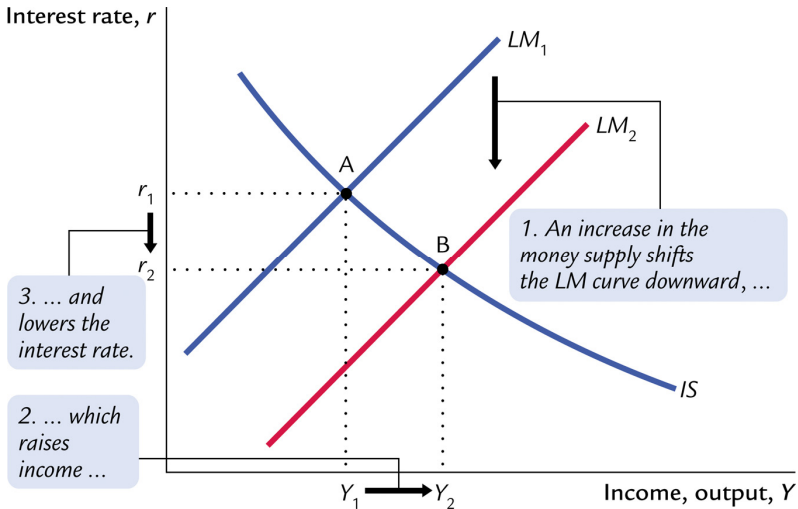
EXAMPLE. EXPANSIONARY FISCAL POLICY. AN INCREASE IN G

- From the Keynesian cross, for a given r , IS shifts to the right by $\frac{\Delta G}{1-MPC}$, and so the real income will increase.
- Since income have increased, this will have repercussions in the money market since $(M/P)^d = L(r, Y)$.
- The RHS—the money demand—increases but the LHS—the supply of real money balances—stays constant since $M = \bar{M}$, and $P = \bar{P}$.
- Thus, the interest rate r should increase, and planned I falls.
- The total increase in income, therefore, will be lower than $\frac{\Delta G}{1-MPC}$ —the **crowding out** effect of expansion in G . G is higher, I is lower, and Y is higher.



EXAMPLE. EXPANSIONARY MONETARY POLICY. AN INCREASE IN M

- An increase in M leads to an increase in M/P .
- For a given Y , demand for real money balances is lower than the supply, and so r should decrease to equilibrate the money market— LM shifts to the right.
- A story: when M increases, at a given r and P , demand for real money balances < supply of real money balances.
- People start converting excess money (loanable funds) into the interest bearing assets, and the real interest rate goes down until people want to hold exactly M/P —the new level of real money balances (with a higher M).
- $IS-LM$ offers an explanation for expansion of the demand for goods and services following an increase in M , called the **monetary transmission mechanism**. It is the fall in the real interest rate that is responsible for this expansion.



SHOCKS IN $IS-LM$ MODEL

Shocks are any exogenous changes that affect IS or LM model.

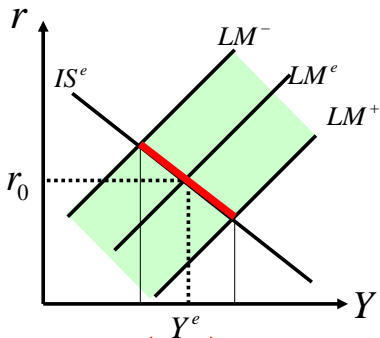
- Shocks to the IS curve are exogenous changes that affect the demand for goods, called **real shocks**. E.g., “animal spirits” (investors’ and consumers’ waves of pessimism/optimism about future economic conditions).
- Shocks to the LM curve are exogenous changes that affect the demand for money, called **nominal shocks**. E.g., introduction of credit cards.

The Choice of Policy Instrument. Poole 1970

- So far we have taken it for granted that the instrument of policy is the short term nominal interest rate.
- But in the textbook treatment of the IS-LM framework the stock of money is the instrument (as in the slide above).
- The central bank can either use a money target or an interest rate target.
- Which of these targets would cause the least fluctuations in output?
- The choice of instrument depends on the relative magnitude of shocks to the real and monetary sides of the economy.

Nominal demand shocks

Monetary control

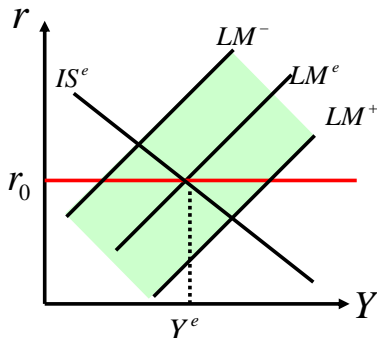


Income
fluctuation

$\Delta M_s = 0$ Transmission.

$r \downarrow \uparrow \Rightarrow I \uparrow \downarrow \Rightarrow Y \uparrow \downarrow$

Interest control



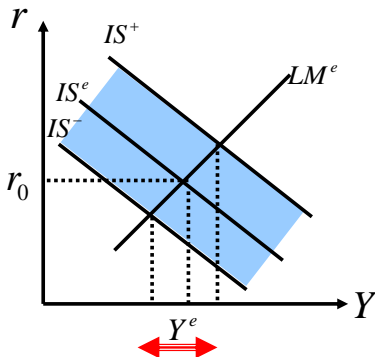
No income
fluctuation

$\Delta r = 0 \Rightarrow \Delta I = 0 \Rightarrow \Delta Y = 0$

$M_s \downarrow \uparrow$ No transmission.

Real demand shocks

Monetary control



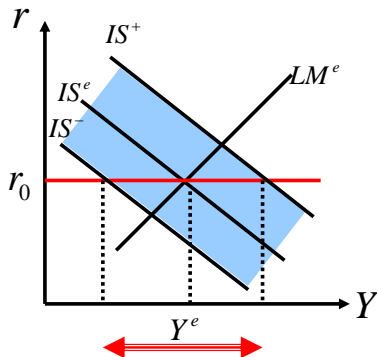
Small income
fluctuations

$$\Delta M_s = 0$$

$$r \downarrow \uparrow \Rightarrow I \uparrow \downarrow \Rightarrow Y \uparrow \downarrow$$

but counter cyclically!

Interest control



Large income
fluctuations

$$\Delta r = 0 \Rightarrow \Delta I = 0 \text{ but } Y \uparrow \downarrow$$

$M_s \downarrow \uparrow$ No counter cyclically
crowding out of I.

Summary

- The optimal choice of monetary policy rule depends on the source of business cycle fluctuations.
- If the business cycle is mainly driven by real demand shocks (IS), then money supply control is better at reducing fluctuations in output.
- If the business cycle is mainly driven by nominal demand shocks (LM), then interest rate control is better at reducing fluctuations.