

ECON 3010

Intermediate Macroeconomics

Chapter 12

Aggregate Demand II:
Applying the IS-LM Model

Equilibrium in the *IS–LM* model

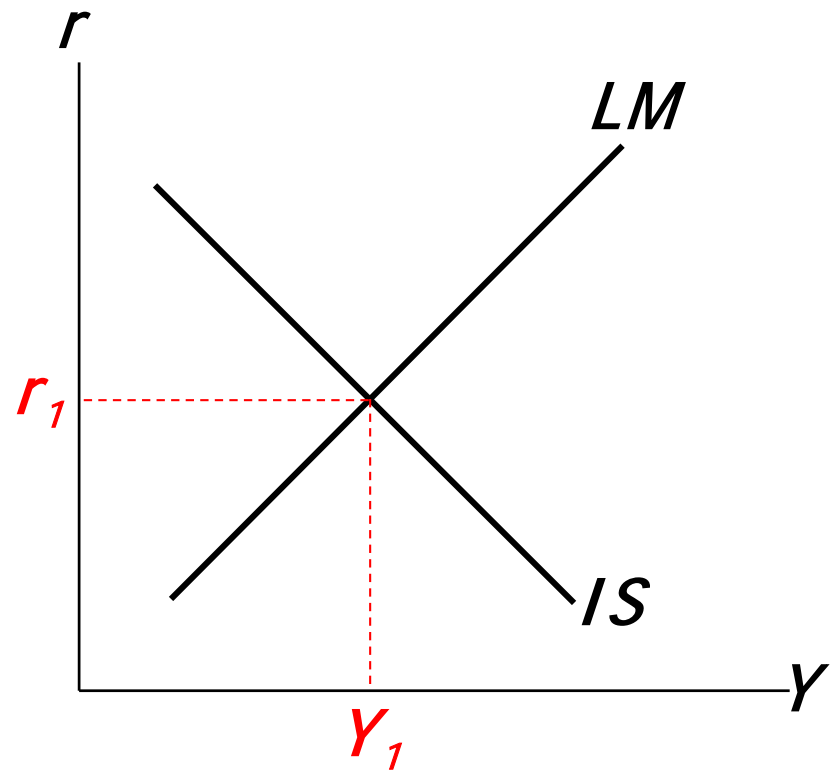
The *IS* curve represents equilibrium in the goods market.

$$Y = C(Y - \bar{T}) + I(r) + \bar{G}$$

The *LM* curve represents money market equilibrium.

$$\bar{M} / \bar{P} = L(r, Y)$$

The intersection determines the unique combination of Y and r that satisfies equilibrium in both markets.



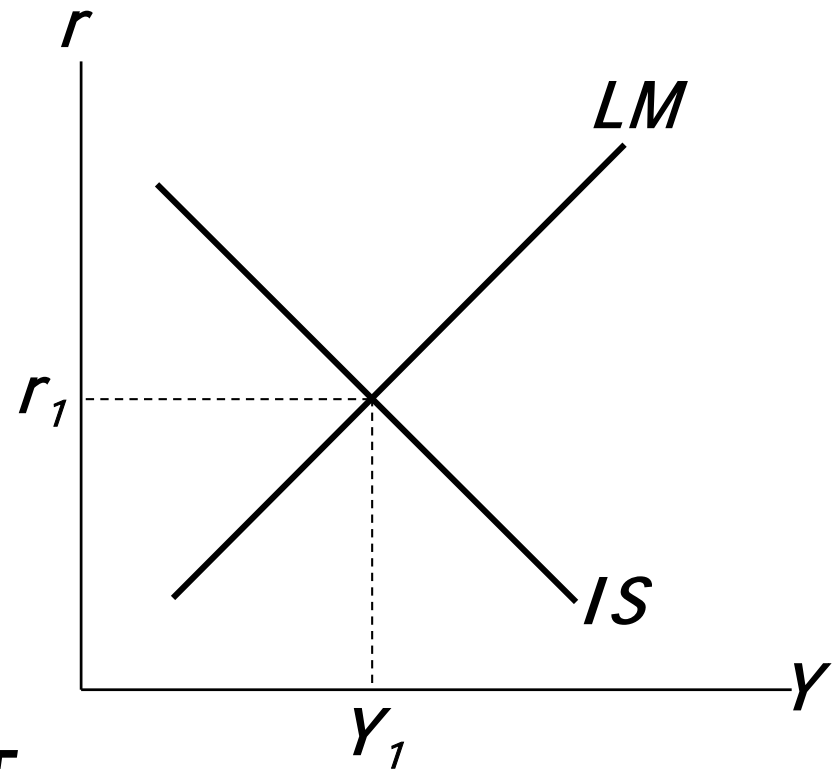
Policy analysis with the *IS-LM* model

$$Y = C(Y - \bar{T}) + I(r) + \bar{G}$$

$$\bar{M}/\bar{P} = L(r, Y)$$

We can use the *IS-LM* model to analyze the effects of

- fiscal policy: **G** and/or **T**
- monetary policy: **M**



An increase in government purchases

1. IS curve shifts right

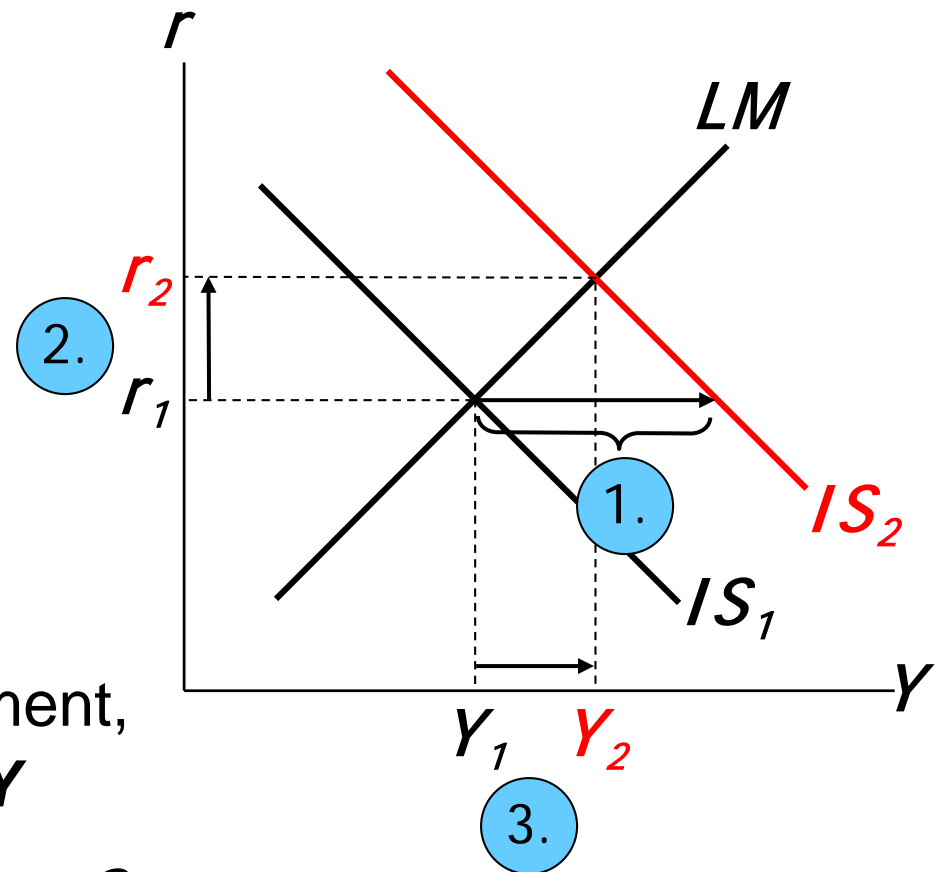
by $\frac{1}{1 - MPC} \Delta G$

causing output & income to rise.

2. This raises money demand, causing the interest rate to rise...

3. ...which reduces investment, so the final increase in Y

is smaller than $\frac{1}{1 - MPC} \Delta G$

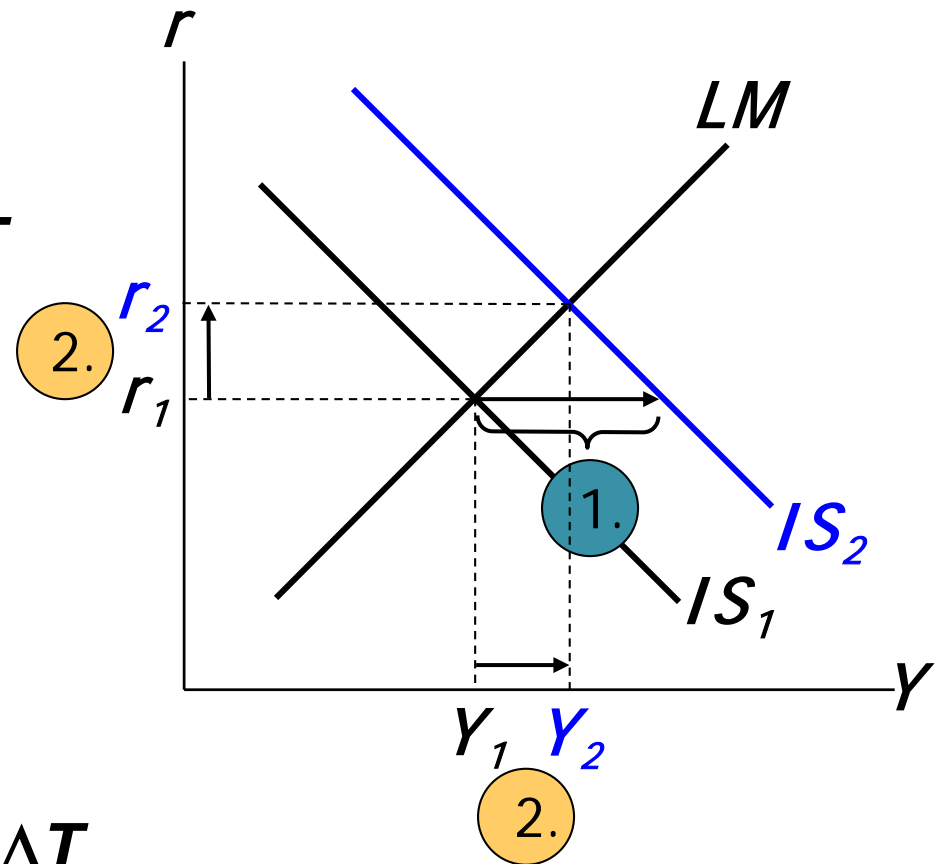


A tax cut

Consumers save $(1-MPC)$ of the tax cut, so the initial boost in spending is smaller for ΔT than for an equal ΔG ... and the IS curve shifts by

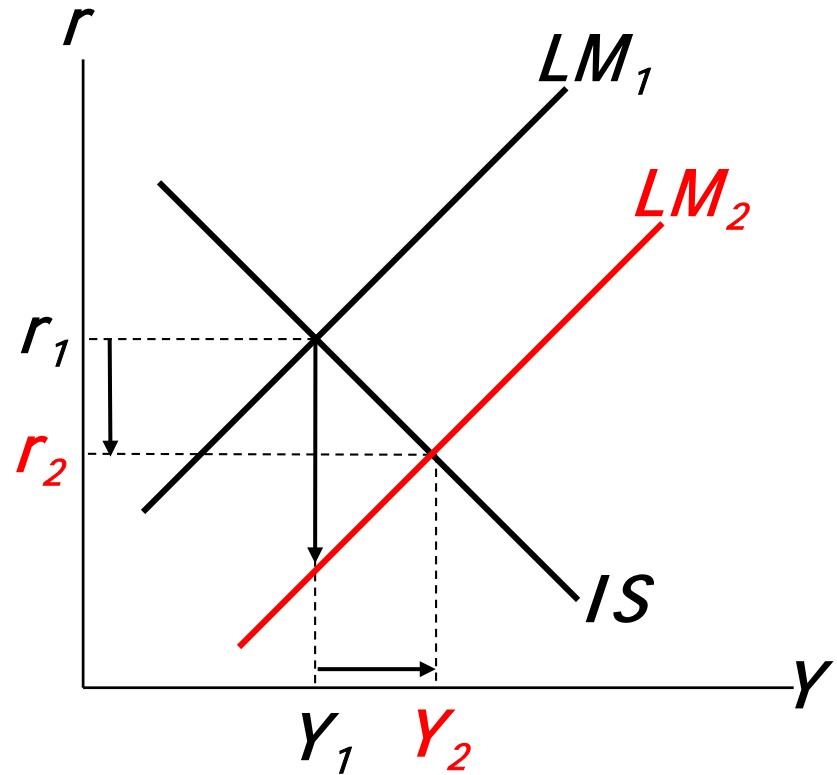
1.
$$\frac{-MPC}{1-MPC} \Delta T$$

2. ...so the effects on r and Y are smaller for ΔT than for an equal ΔG .



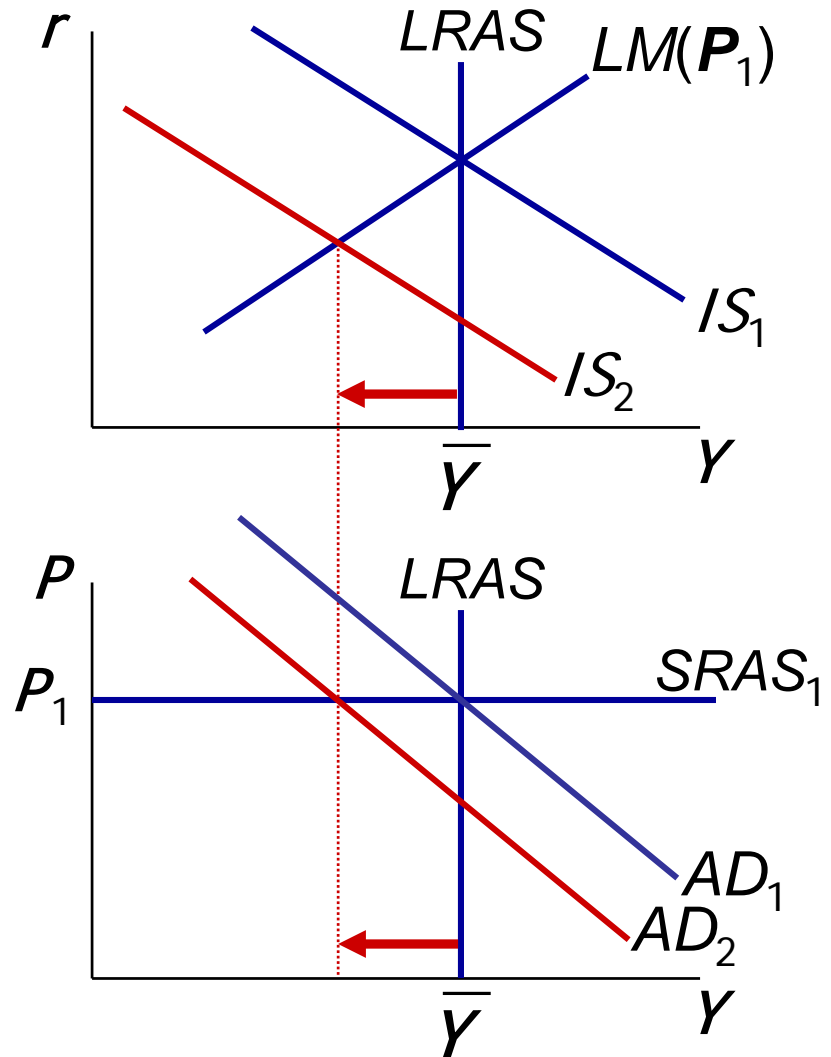
Monetary policy: An increase in M

1. $\Delta M > 0$ shifts the LM curve down (or to the right)
2. ...causing the interest rate to fall
3. ...which increases investment, causing output & income to rise.



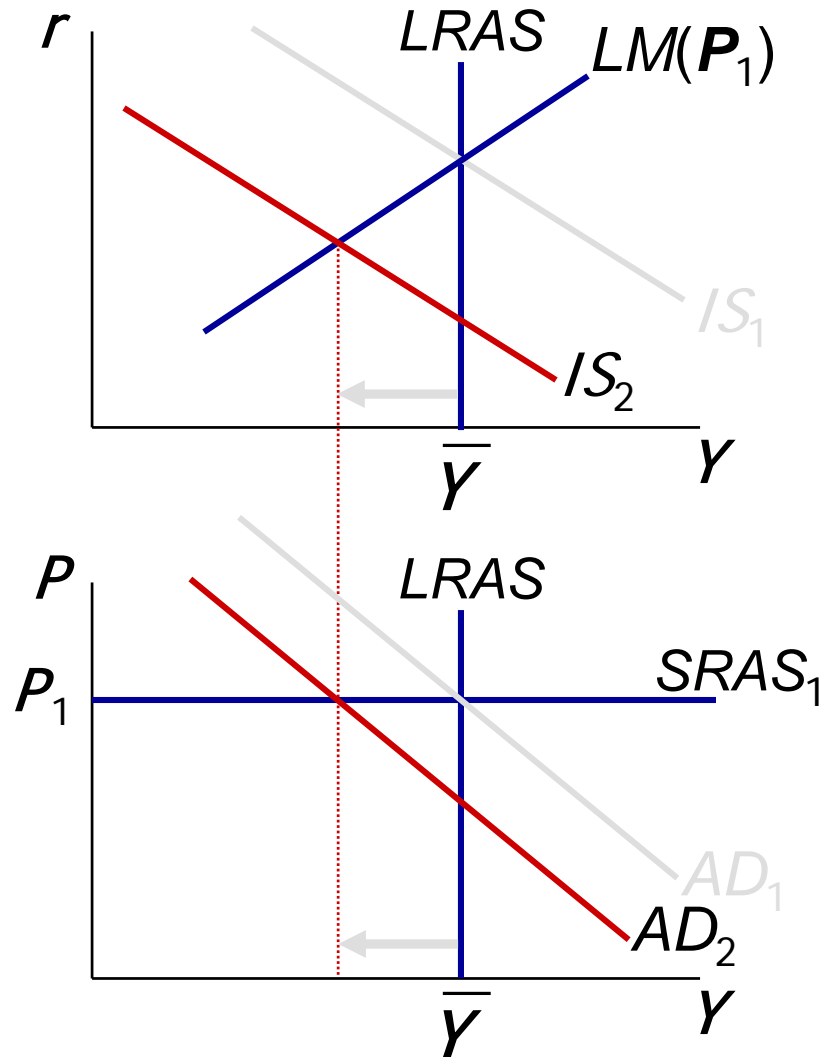
The SR and LR effects of an IS shock

A negative IS shock shifts IS and AD left, causing Y to fall.



The SR and LR effects of an IS shock

In the new short-run equilibrium, $Y < \bar{Y}$

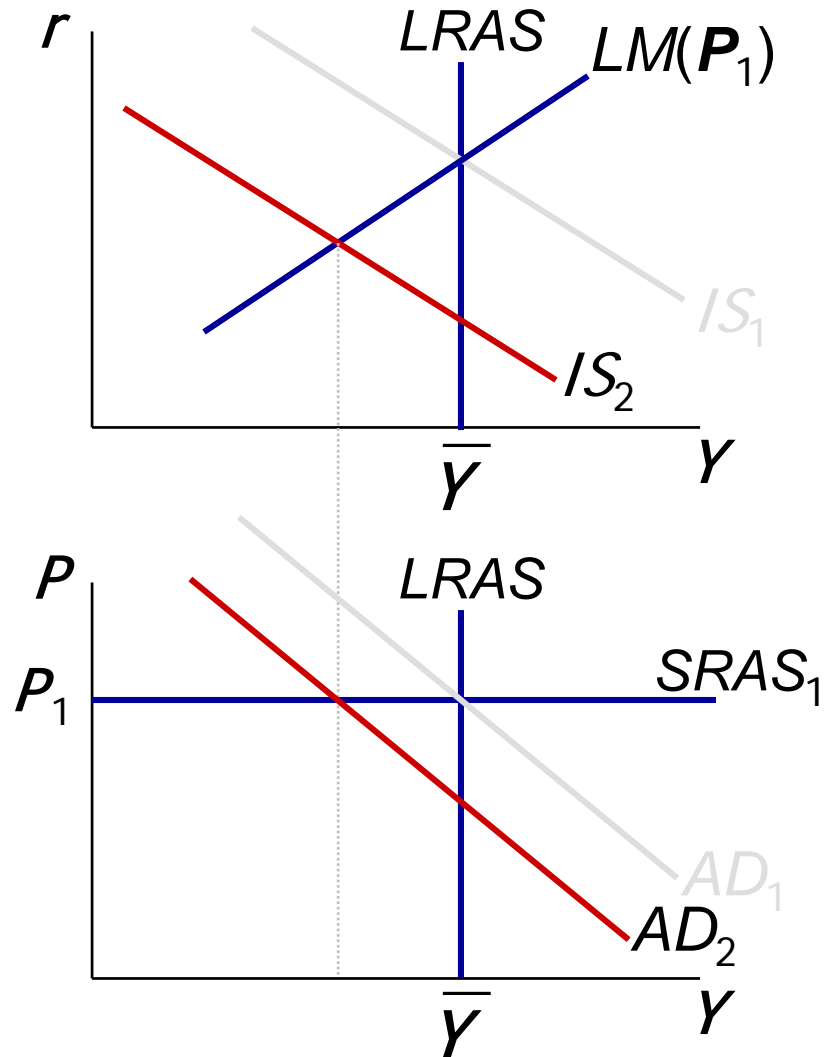


The SR and LR effects of an IS shock

In the new short-run equilibrium, $Y < \bar{Y}$

Over time, P gradually falls, causing:

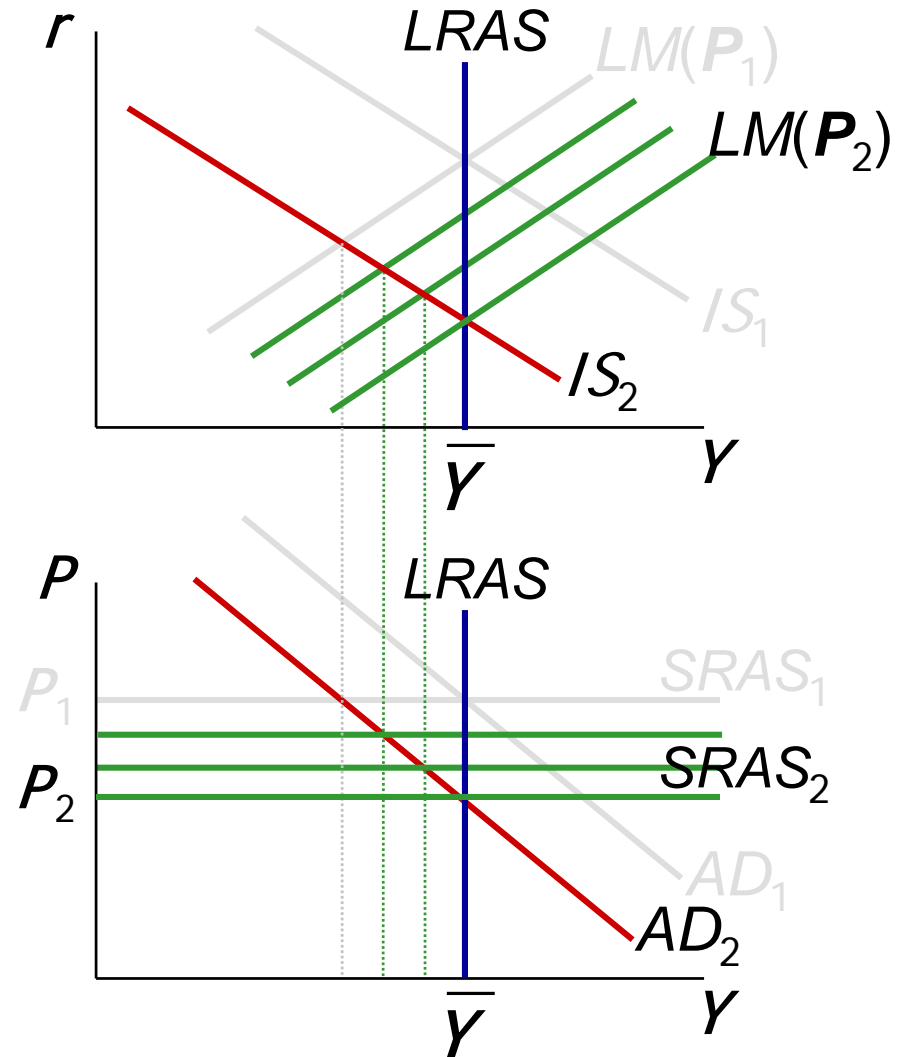
- $SRAS$ to move down
- M/P to increase, which causes LM to move down



The SR and LR effects of an IS shock

Over time, P gradually falls, causing:

- $SRAS$ to move down
- M/P to increase, which causes LM to move down



The SR and LR effects of an IS shock

This process continues until economy reaches a long-run equilibrium with $Y = \bar{Y}$

