Econ 311  
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IS/MP

Suppose that the economy’s output is equal to its long run level of potential GDP with no aggregate demand shocks and that the following parameters are given:  
\( \bar{a} = 0, \ bar{b} = 0.1, \bar{x} = 0.2, \bar{r} = 0.05 \).

1. What is the real interest rate, \( R_t \)?

Since we short run output \( \bar{Y} = 0 \) and \( \bar{a} = 0 \) then \( R_t = 0.05 \) or the same as the MPK.

2. Draw the IS-MP diagram and label the long run starting point.

Start at real interest rate of 5% and short run output at 0.

3. Suppose the Fed lowers the real interest rate to 3 percent in order to stimulate the economy. By how much does short run output increase?

Use \( \Delta \bar{Y} = \Delta R_t \left( \frac{\bar{b}}{\bar{x} - 1} \right) \)

The real interest rate falls by 2 percentage points (5% to 3%) and we plug in the parameter values to get  
\( \Delta \bar{Y} = -0.02 \left( \frac{0.1}{0.2 - 1} \right) = 0.0025 = 0.25\% \) increase.
4. Indicate on the IS-MP diagram above what happens.

MP shifts down, so end at real interest rate 3% and short run output 0.25%