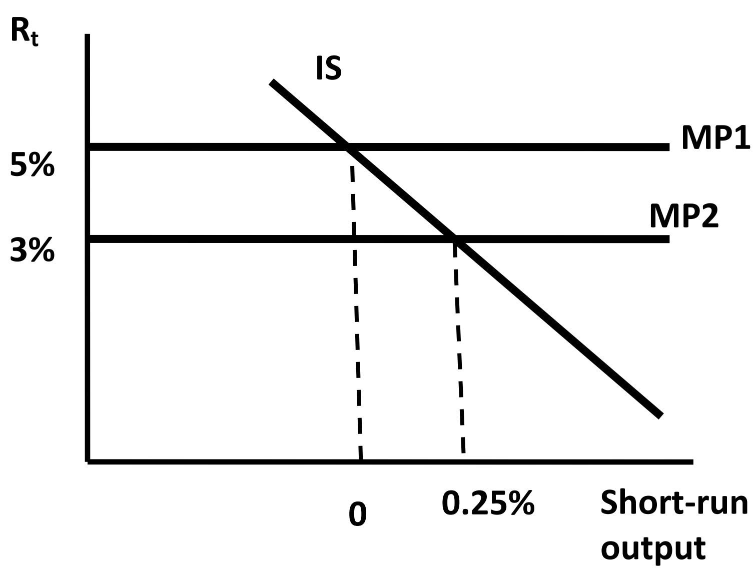
Econ 311
Professor Eschker
IS/MP

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 $\tilde{Y}_t = 0$ 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 $\Delta\tilde{Y}_t = \Delta R_t\left(\frac{\bar{b}}{\bar{x}-1}\right)$

The real interest rate falls by 2 percentage points (5% to 3%) and we plug in the parameter values to get

$\Delta\tilde{Y}_t = -0.02\left(\frac{0.1}{0.2-1}\right)$=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%