

Midterm 2 Solution Key
Economics 105 (Fall 2003)

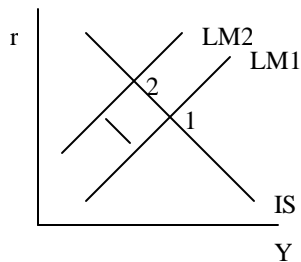
Regrade policy: If you would like your test regraded, please submit a written statement within 1 week after exams are handed back to explain why. Your entire test will be regraded, so there is a possibility that points could be lost rather than gained.

Multiple Choice:

- 1) c 2) b 3) a 4) a 5) d 6) b 7) c 8) c 9) a 10) c

Problem 2: IS-LM

a)



b) r rises, Y falls, I falls, C falls.

Given the fall in money supply, people in the money market will bid up the interest rate. This makes loans more expensive and discourages investment expenditure, which lowers overall planned expenditure. This lowers output by a multiplier. Since consumption is a positive function of income, the fall in Y lowers consumption. (This is the multiplier at work.)

- c) If investment is less responsive to the interest rate, the IS curve would be steeper. A given rise in the interest rate would lower investment less, hence it would lower Y and C by less. But r would rise by more: given that money demand is not being lowered as much by the smaller fall in output, interest rates will be bid up further before money demand falls to equal money supply.
- d) If money demand is less sensitive to changes in income, then the interest rate needs to rise further to lower money demand to equal the new lower money supply. This is the case of a low value for f from topic 10, slide 33, where changes in money supply have a bigger effect on the economy. If the interest rate rises more, this makes investment fall more, which makes expenditure and output fall more, which makes consumption fall more.

Problem 1: Keynesian Cross

- a) Equilibrium is where $Y = C + I + G$ (actual expenditure equals planned expenditure)
 $Y = C = 1000 + 0.5(Y-800) + 1000 + 1000 = 2600 + 0.5Y$. So $Y = 5200$.
 The budget deficit = $G - T = 1000 - 800 = 200$ (neg of gov saving).
 This differs from the Neoclassical model because the supply side (production function) does not determine the level of output.
- b) The tax multiplier is $-mpc/(1-mpc) = -0.5/(1-.5) = -1$. So a cut in taxes by 100 will raise output by 100. The budget deficit worsens by the amount of the tax cut, it rises by 100.
- c) The change in output depends on the two multipliers: $\Delta Y = 1/(1-mpc) \Delta G - mpc/(1-mpc) \Delta T = 1/(1-0.5) \Delta G - 0.5/(1-0.5) \Delta T = 2 \Delta G - 1 \Delta T$. This must equal 100, so $2 \Delta G - \Delta T = 100$.
 We want to lower the budget deficit by 200. So we know that $\Delta(G-T) = \Delta G - \Delta T = -200$,
 so $\Delta T = \Delta G + 200$.
 Put these two requirements together: $2 \Delta G - \Delta G - 200 = 100$, $\Delta G = 300$.
 This means that $\Delta T = \Delta G + 200 = 300 + 200 = 500$.
 So to achieve the objectives, the government should set $G = 1000 + 300 = 1300$, $T = 800 + 500 = 1300$.