

ECO 209Y MACROECONOMIC THEORY Problem Set 12

1. Consider the following model of a closed economy:

$$\begin{aligned} C &= 60 + 0.8 Y_D & L &= 0.2 Y - 10 i \\ I &= 200 - 20 i + 0.2 Y & M/P &= 300/P \\ G &= 300 \\ TA &= 0.25 Y \\ TR &= 50 \end{aligned}$$

- What is the equation for the IS curve in this model?
- What is the equation for the LM curve in this model? What is the equation for the LM curve if $P = 1$?
- What is the equation for the AD curve in this model?
- Suppose that the government increases its expenditure on goods and services. Explain in words what would happen to the AD curve.
- Suppose now that the central bank increases the nominal supply of money. Explain in words what would happen to the AD curve.
- Sketch the AD curve of part c) in one diagram. Sketch the IS curve and the LM curve corresponding to $P = 1$ in another diagram.

2. Suppose the following equations describe a closed economy:

$$\begin{aligned} C &= 10 + 0.75 Y_D & L &= 0.5 Y - 500 i \\ I &= 20 - 100 i & M/P &= 90/P \\ G &= 70 \\ TA &= 0.2 Y \\ TR &= 0 \end{aligned}$$

- What is the equation for the IS curve in this model? Sketch the IS curve in a diagram.
- What is the equation for the LM curve in this model? What is the equation for the LM curve if $P = 1$? What is the equation for the LM curve if $P = 2$? Sketch the LM curves corresponding to $P = 1$ and $P = 2$ in your diagram.
- What is the equilibrium in the IS-LM model when $P = 1$? And when $P = 2$? Show these equilibriums in your diagram.
- What is the equation for the AD curve in this model? Sketch the AD curve in another diagram and identify the points corresponding to the IS-LM equilibriums of part c) above.
- What happens to your AD curve of part d) above if G increases to 80? What is the equation for the new AD curve?
- What happens to your AD curve of part d) above if the nominal supply of money increases to 100? What is the equation for the new AD curve?