

Course in Macroeconomics and Global Economics
University of Rome 'Tor Vergata'
Academic year 2015/2016

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10/13/2016

Practice 3

Exercise 1

Consider the following IS-LM model:

$$\begin{aligned}C &= 400 + 0.25Y_D \\I &= 300 + 0.25Y - 1500i \\G &= 600 \\T &= 400 \\(M/P)^d &= 2Y - 12000i \\M/P &= 3000\end{aligned}$$

where $Y_D = Y - T$ (i.e. disposable income).

1. Derive the IS and the LM relations.
2. Solve for the equilibrium interest rate.
3. Solve for equilibrium real output.
4. Now suppose that the money supply increases to $M/P = 4320$. Solve for Y , i , C and I , and describe in words the effects of an expansionary monetary policy.
5. Set M/P equal to its initial value of 3000. Now suppose that government spending increases to $G = 840$. Find the effects of such an expansionary fiscal policy on Y , i and C .

Exercise 2

Consider the following IS-LM model:

$$C = 40 + 0.25Y_D$$

$$I = 30 + 0.25Y - 300i$$

$$G = 60$$

$$T = 40$$

$$(M/P)^d = Y - 300i$$

$$M/P = 150$$

where $Y_D = Y - T$ (i.e. disposable income).

1. Derive the IS and the LM relations.
2. Solve for the equilibrium interest rate.
3. Solve for equilibrium real output.
4. Now suppose that the money supply increases to $M/P = 195$. Solve for Y , i , C and I .
5. Set M/P equal to its initial value of 150. Now suppose that government spending increases to $G = 105$. Find the effects of such an expansionary fiscal policy on Y , i , C and I . Is the variation of output Y larger, smaller or equal to the initial variation of government spending ? Why? Compare the effects obtained on Y in this experiment with those obtained in 4). What do you observe?
6. Now suppose that government spending increases to $G = 105$ and that taxes are increased by the same amount so that $T = 85$. Find the effects of such an expansionary fiscal policy on Y . Is the variation of output Y larger, smaller or equal to the initial variation of government spending ? Why? Compare the effects obtained on Y in this experiment with those obtained in 5). What do you observe?