Responding to Economic Fluctuations
ECON 3133
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Answers

1.

a. In the year of the shock, the price level, being a predetermined variable, will stay at 1. Therefore, the real money supply will also stay constant and be

$$M/P = 900/1 = 900.$$

To calculate the new value of GDP and the new level of interest rates, derive the equations of the IS and LM curves, and then find the coordinates of the point where they intersect. Nothing has happened to shift the IS curve. Therefore, as before,

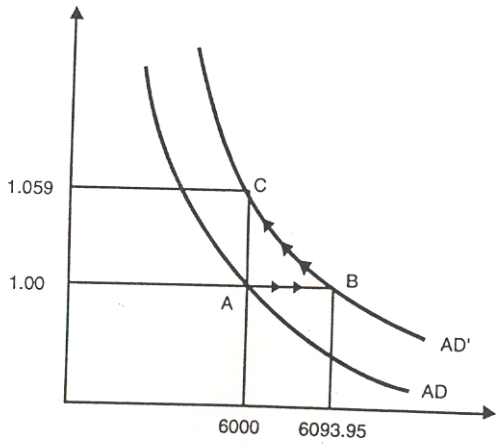
$$\text{IS: } R = 1.178 - 0.000188 \times Y.$$

Due to money demand shock, the equation of the LM curve changes. The new equation of the LM curve is

$$\text{LM: } R = 0.00007915 \times Y - 0.45.$$

Therefore, when $G = 1200$, $M = 900$, and $P = 1$, $Y = 6093.9547$ and $R = 0.0323$.

b.

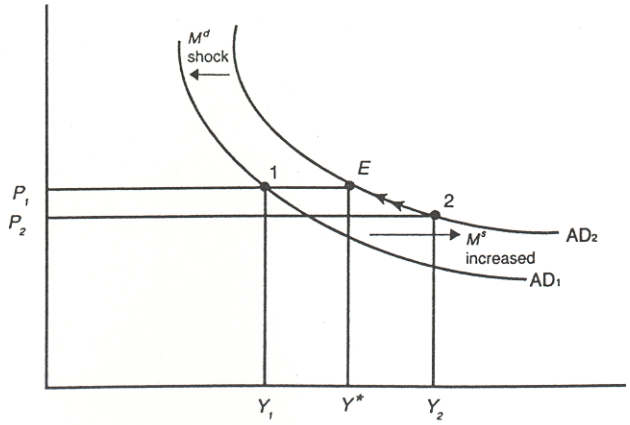


In the year of the shock the economy moves from point A to B, and then, in subsequent years, it moves from point B to C.

c. In the long run, GDP will return to its potential level, which is $Y^* = 6000$. That is, $Y = 6000$. Substituting $Y = 6000$ in the IS equation gives $R = 0.05$. $P = 1.0591$. Next, substituting $Y = 6000$ and $R = 0.05$, and in the (new) LM equation gives $P = 1.0591$.

2.

a.



b. In the year of the shock, the LM curve and the AD curve shift in. Interest rates rise and output falls below potential. Prices remain fixed. In the year following the shock prices fall due to the fact that output was below potential the previous year. Output rises and interest rates fall due both to lower prices and a higher nominal money supply; output is higher than potential, and interest rates are lower than their original level. From this point on, prices and interest rates will rise as the economy moves back up the new AD curve. Prices, output, and interest rates all return to their original level.

c. This illustrates the monetarist criticism of stabilization policy. By acting too late (the money supply should have increased in the same year as the money demand shock occurred), policymakers can add to instability.

3. Because policymakers cannot directly control the price level, they cannot simply lower prices when prices rise. They can only lower prices by lowering output. Thus, there must be a trade-off between output and price stability. By contrast, policymakers can directly control aggregate demand. Thus, if aggregate demand falls, policymakers can immediately increase it. Equilibrium is restored with no trade-offs.