Problem 1. In general, if the Fed increases the supply of money by 5%, which of the following statements can we claim to be true with certainty? (In general means, do not make *any* assumptions about *anything.*)

(a) The price level will increase by 5%, but the real GDP will remain the same.
(b) The real GDP will increase by 5%, but the price level will remain the same.
(c) The Nominal GDP will increase by 5%.
(d) We cannot claim any of the above to be true with certainty.

Hint 1. We usually make a certain assumption about V in $MV = PY$, and we also usually assume that money is neutral. Drop those assumptions when thinking about each choice.

Problem 2. Suppose the velocity of circulation of money is constant and equal to 5. If the Fed increases the supply of money by 5%, which of the following statements can we claim to be true with certainty?

(a) P will increase by 5%, Y will remain the same.
(b) Y will increase by 5%, P will remain the same.
(c) The nominal GDP will increase by 5%.
(d) None of the above.

Hint 2. $M \times 5 = PY$. And I guess we're still not assuming money neutrality holds.

Problem 3. $M = \$100,000$ and $V = 5.00$. Suppose that, after the Fed increases the supply of money by 5%, the velocity drops to $V = 4.90$. What will be the rate of increase in nominal GDP?

Hint 3. $MV = PY$ where PY is the nominal GDP. Calculate MV before and after.

Problem 4. *True or False.* If the velocity of circulation of money is constant, and if the Fed increases the supply of money year after year, ultimately (in the long run) we will experience high inflation rates but the real GDP may not be affected at all. This is because, in the long run, the real GDP is determined in the labor market and increases in prices will result in nominal wages to rise in such a way as to leave the employment and real GDP unchanged. So this policy will only cause inflation.

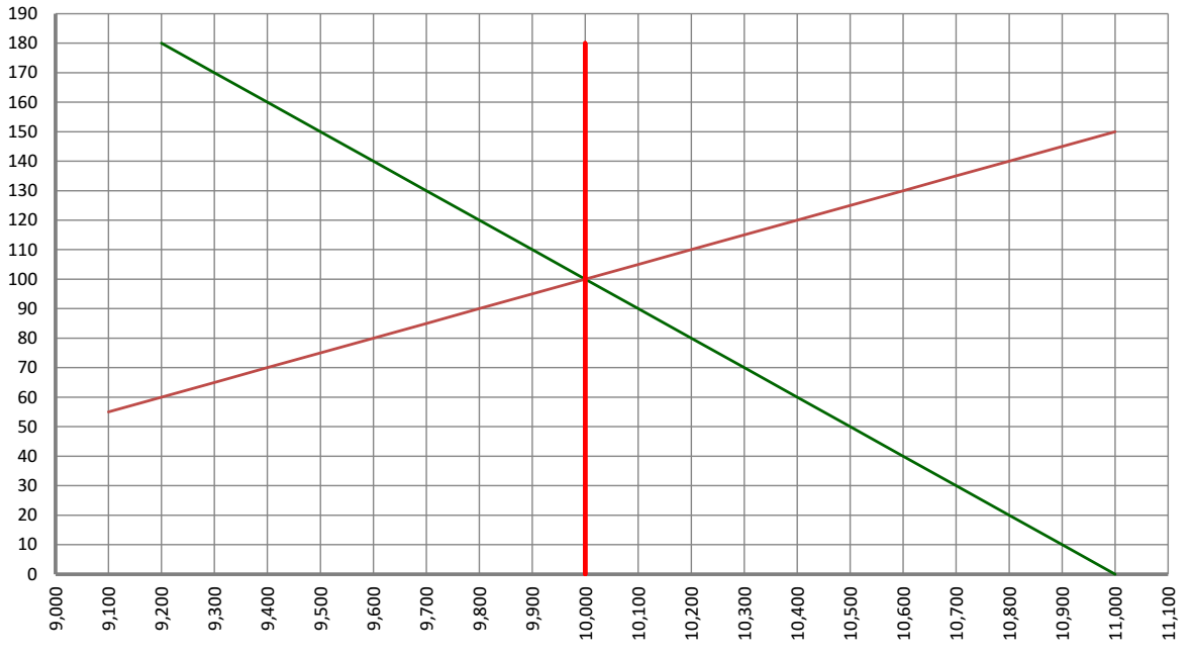
Hint 4. See the *Money and Inflation in the Long Run* section in module 2 of chapter 13.

Problem 5. If the velocity of circulation of money is constant and if wages and prices are fully flexible, then a 5% increase in money supply will result in 5% inflation in the long run with no change in real GDP.

Hint 5. See the *Monetary Policy* section in module 2 of chapter 13.

Problem 6.

- Prices are sticky in the short run, flexible in the long run.
- $MPC = 0.75$ and Okun's coefficient is $\alpha = 2$.
- We start in equilibrium where $G = 1000$ and $NX = 0$.

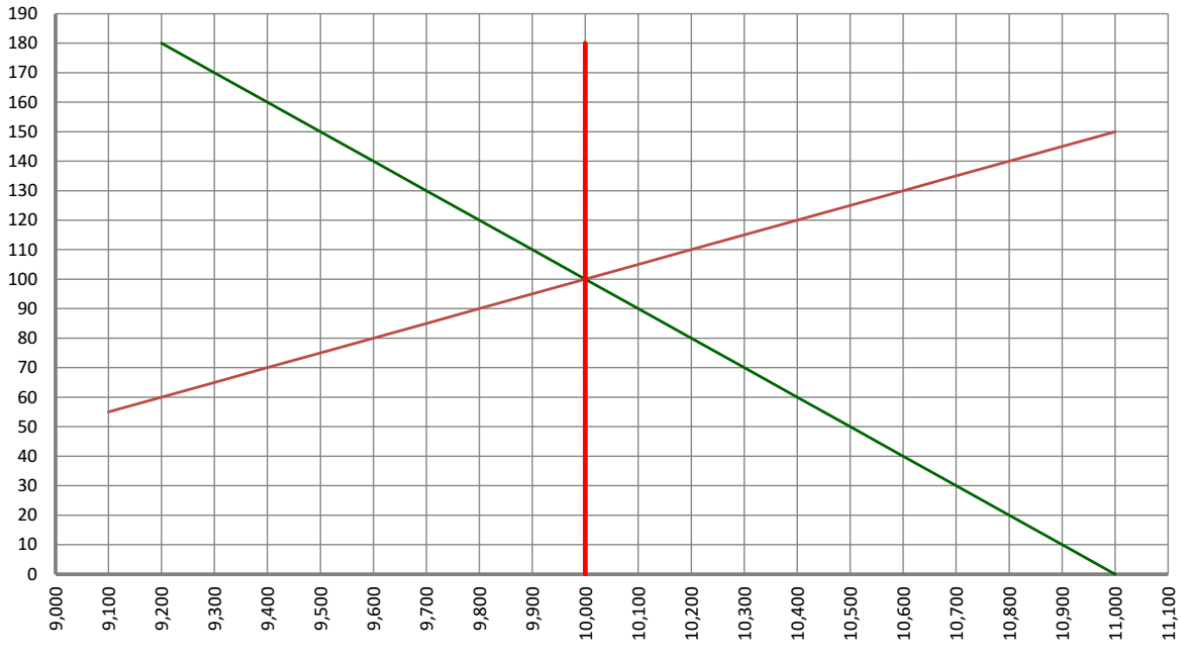


The government increases its purchase of goods and services by 150 units and borrows from the public to pay for it. The short-run effect of this policy on the real GDP and the general price level will be...?

Hint 6. Calculate the multiplier and shift the AD curve accordingly. Then look at where the new AD curve intersects the SRAS. That's your short-run equilibrium.

Problem 7.

- Prices are sticky in the short run, flexible in the long run.
- $MPC = 0.75$ and Okun's coefficient is $\alpha = 2$.
- We start in equilibrium where $G = 1000$ and $NX = 0$.

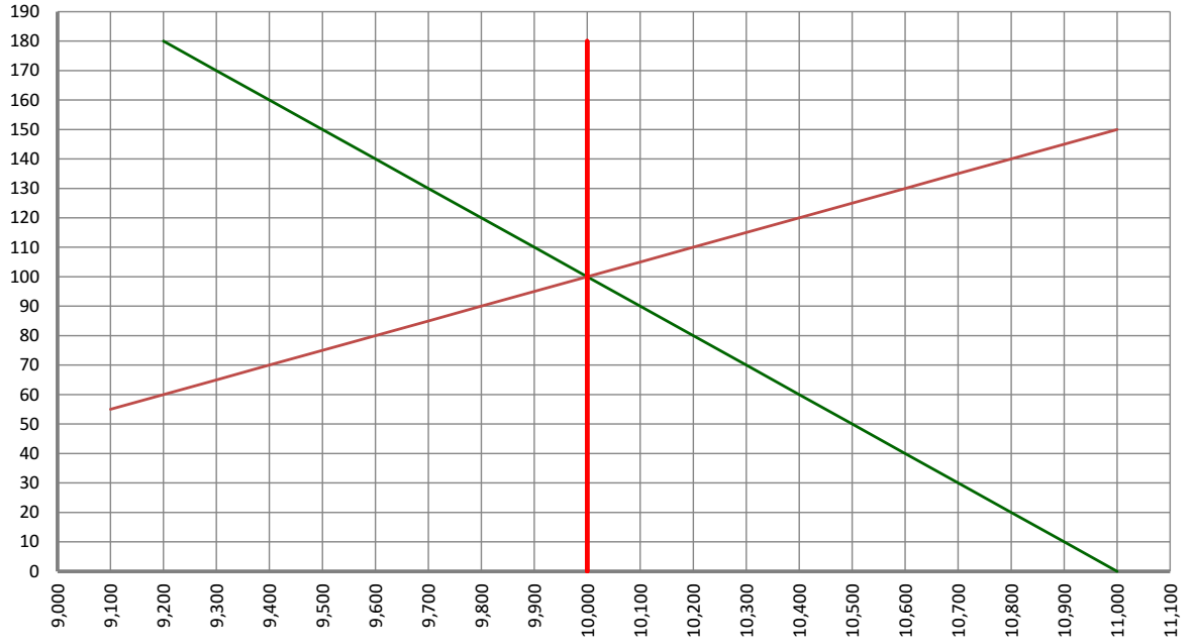


The government conducts a balanced-budget increase in its purchase of goods and services equal to 300 units. The short-run effect of this policy on the real GDP and the general price level will be...?

Hint 7. Remember that a balanced-budget increase in G has different implications apropos the multiplier effect.

Problem 8.

- Prices are sticky in the short run, flexible in the long run.
- $MPC = 0.75$ and Okun's coefficient is $\alpha = 2$.
- We start in equilibrium where $G = 1000$ and $NX = 0$.

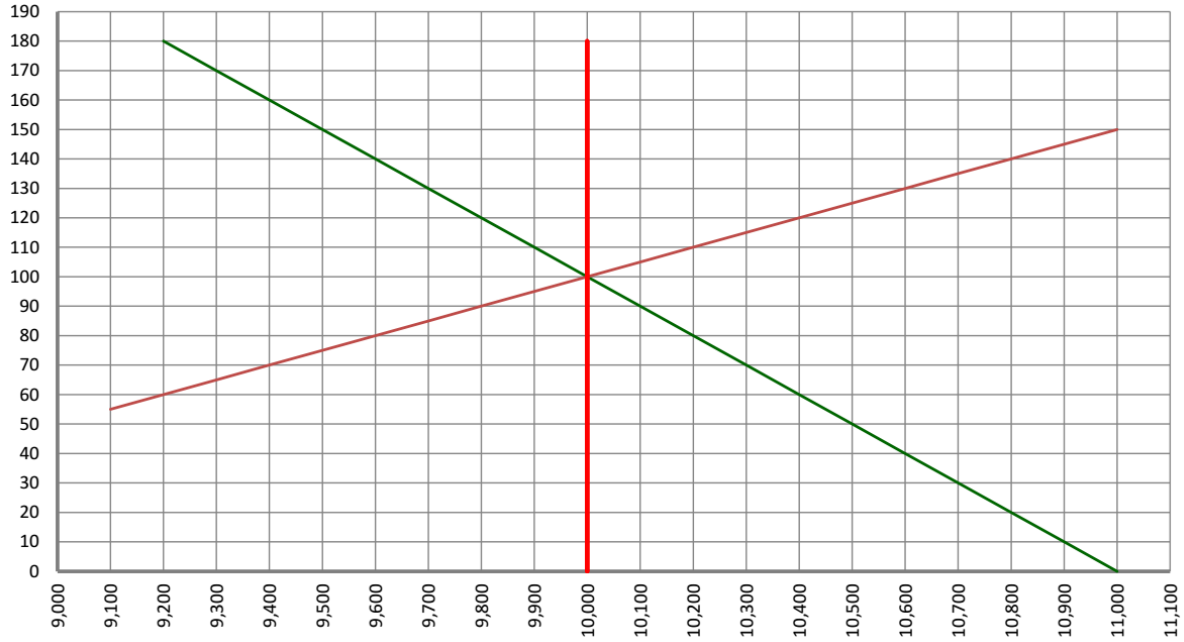


The government conducts a balanced-budget increase in its purchase of goods and services equal to 300 units. As the result of this policy the cyclical unemployment in the short run will equal _____ percent. (By short run I mean after the AD shifts but before the SRAS starts shifting)

Hint 8. After the shift in AD, you'll have some new short run level of output. Use this to calculate the output gap. Which equation was it that relates u_c and the output gap...?

Problem 9.

- Prices are sticky in the short run, flexible in the long run.
- $MPC = 0.75$ and Okun's coefficient is $\alpha = 2$.
- We start in equilibrium where $G = 1000$ and $NX = 0$.



Business firms become pessimistic about the future state of the economy and, therefore, reduce their investment spending by 225 units. The short-run effect of this event on the real GDP and the general price level will be...?

Hint 9. A drop in investment shifts AD in a certain direction by a certain (multiplied) amount. See where the new AD curve intersects the SRAS.

Problem 10. To fight the ongoing inflation the central bank reduces the supply of money by 30%. The long-run effect of this policy on the real GDP and the general price level will be...?

Hint 10. It is within the realm of possibility that I am losing my mind, but um, wasn't this exact same question in the previous homework?