Problem 1. Which of the following reasons can explain price stickiness?

(a) labor contracts

(b) minimum wage laws

(c) adjustment costs

(d) all of the above

(e) all of the above and none of the above and only some of the above and three of the below

Answer 1: d. Labor contracts mean firms can't cut wages even if the economic conditions warrant it. Minimum wage laws means firms can't cut wages below the minimum wage even if economic conditions warrant it. Since wages are a major component of the overall cost of doing business, wage stickiness results in output price stickiness.

There are also costs when businesses have to adjust to new prices—they have to renegotiate any elapsing contracts, print new menus, run new projections on revenue and profit. It's kind of a pain in the ass, so they're resistant to changing prices.

Problem 2. According to Keynes, which of the following is the trigger for recessions?

(a) supply shocks

(b) erratic monetary policy

(c) demand shocks

(d) wage and price rigidity

(e) none of the above

Answer 2: c. Here's the chain of logic for the Keynesian model.

- Suppose demand goes down, i.e. a negative demand shock.
- Then at the existing price level, firms are producing too much stuff.
- So to sell all of their stuff, they'd like to be able to cut some costs and thus reduce the price of their product.
- But if prices and wages are sticky, then firms can't cut the cost of labor—they can't reduce the wage (or generally other costs).
- Therefore their only choice is to reduce output and fire some workers.
- In the short run—for as long as prices remain sticky—output will be below potential output.

Problem 3. Which of the following is a reason some economists cite against using an expansionary fiscal policy during a recession?

(a) coordination failure

(b) fallacy of composition

(c) sticky wages and prices

(d) self-correcting mechanism

(e) none of the above

Answer 3: d. Classical economists believed that firms would be able to reduce their costs and cut wages in order for producers to not have to reduce output. Then the economy would remain at full employment. This is called a **self-correcting mechanism**. The point of Keynesian economics is that the self-correcting mechanism will only be able to carry out in the long run, and the economy would be functioning below potential for a long time waiting for the long run to actually come.

Problem 4. Which of the following is an example of an adverse supply shock?

(a) a sudden increase in the price level of lumber nationwide

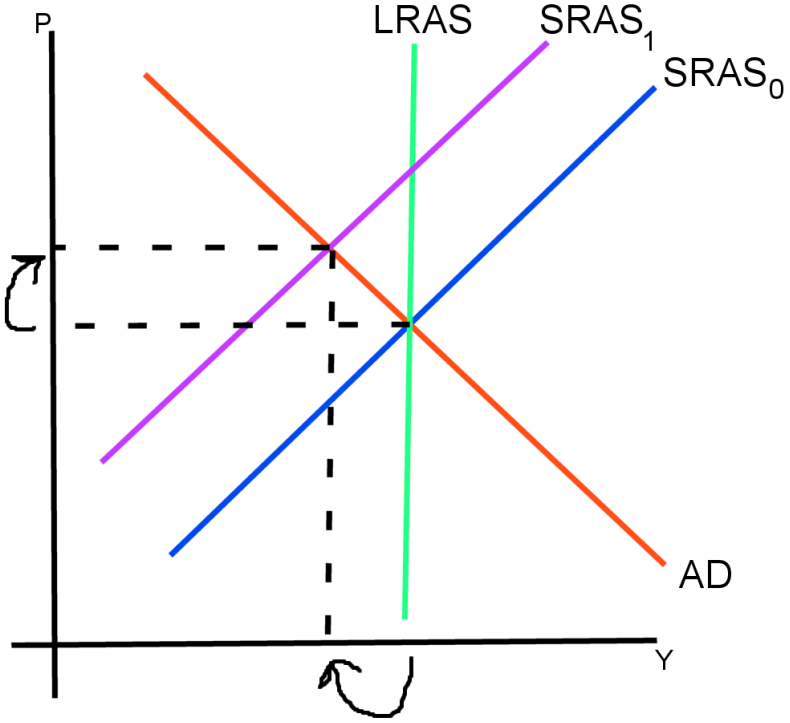
(b) an unexpected increase in nominal wages due to an effort by labor unions

(c) an unanticipated increase in the price of cement nationwide

(d) all of the above

(e) none of the above

Answer 4: d. An **adverse supply shock** is an event that causes an increase in the cost of production unrelated to the level of output produced. Increase in the price of lumber would increase the cost of production for carpenters; an increase in wages from labor unions would increase the cost of labor; an increase in the price of cement would increase the price of construction. These all shift the SRAS to the left.



Notice that there is an increase in the price level and a decrease in output. This is a **stagflation**.

Problem 5. What is the major **policy dilemma** of an adverse supply shock?

(a) the self-correcting mechanism does not work fast enough

(b) an expansionary demand management policy to cure unemployment will worsen the inflation problem

(c) long and variable policy lags

(d) crowding out of private spending

(e) none of the above

Answer 5: d. If the government or central bank try to increase output back to potential by increasing AD, then they will end up increasing the price level even more. High inflation is harmful. So it's not obvious what they should do.

Problem 6. Which of the following was/were the reason(s) Keynes preferred fiscal policy over monetary policy during a recession?

(a) the interest rate may be so low that the Fed cannot reduce it any further

(b) firms and households may be so pessimistic about the state of the economy that they may not want to increase spending even if the interest rate goes down

(c) fiscal policy has a more direct effect on aggregate demand

(d) all of the above

(e) none of the above

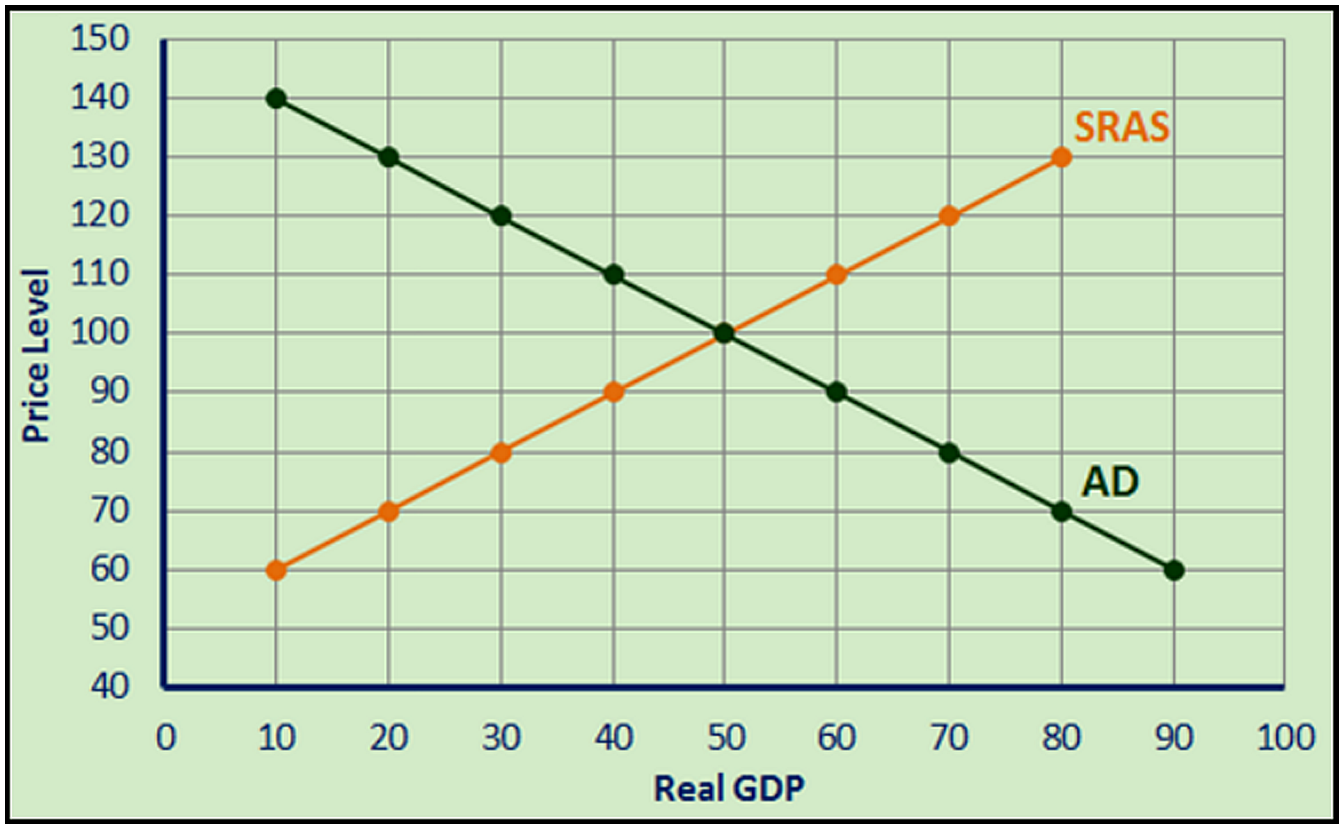
Answer 6: d.

(a) This is the liquidity trap argument. Increasing the money supply has no effect on i and therefore no effect on consumption or investment.

(b) If people are scared, then they're less likely to spend and more likely to save. A lower interest rate isn't really going to induce people to do the opposite, i.e. to borrow and spend.

(c) Keynes said that monetary policy affects aggregate demand through the intermediate channel of interest rates, which would in turn change C and I. Fiscal policy, on the other hand, can just straight-up change C and I without any intermediate channel.

Problem 7. Currently $Y = 50$, $Y_p = 50$, and $P = 100$. The expenditure multiplier equals 5. All else the same, transfer payments TR increase by 10 units through deficit financing. How does the AD/AS graph change? (Assume there is no crowding out.)

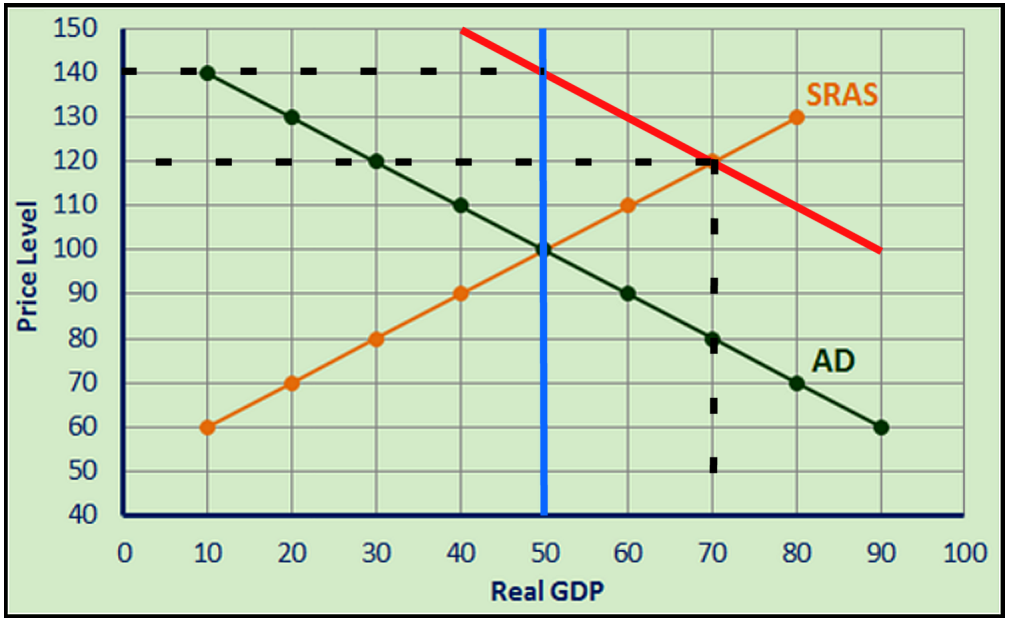


Answer 7. Since the expenditure multiplier is 5, it follows that

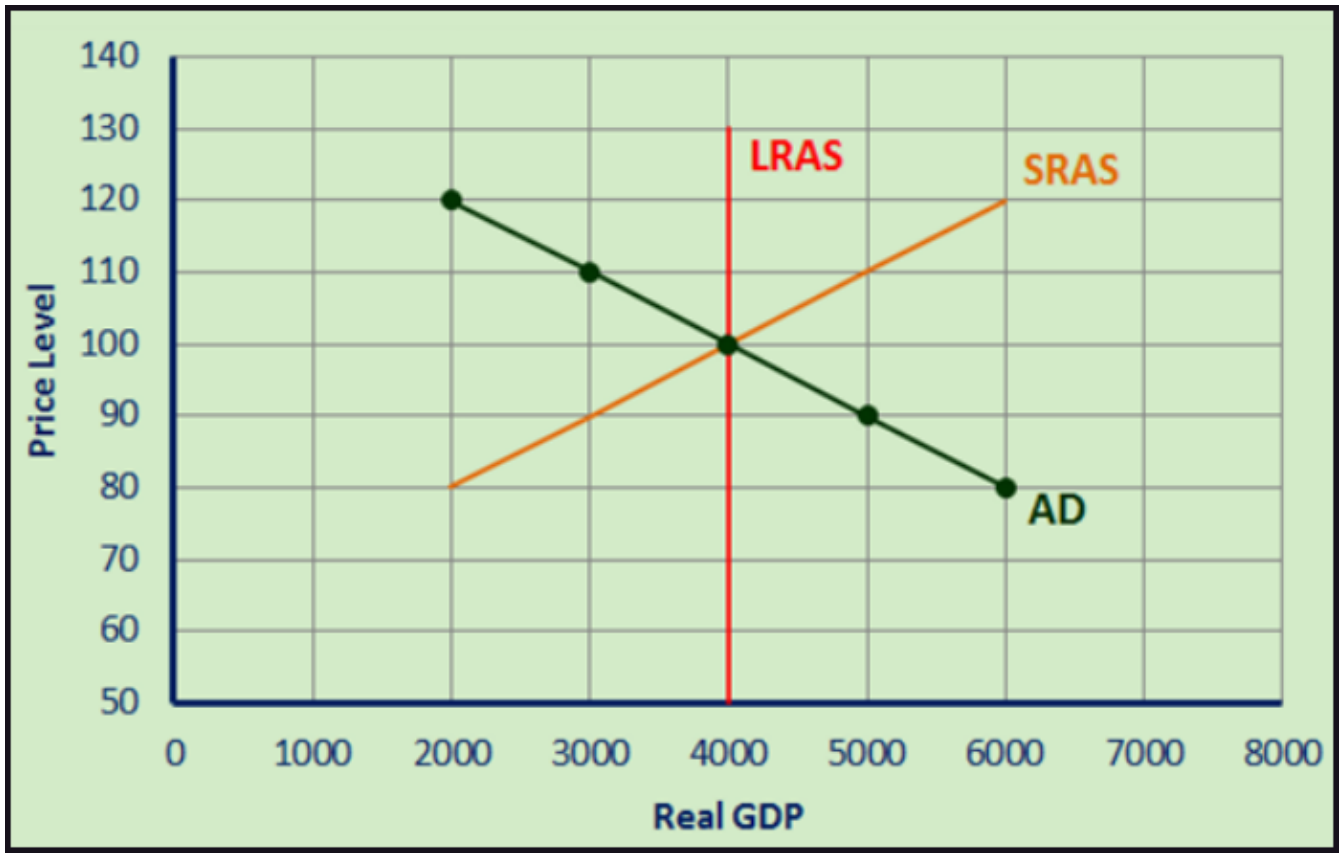
$$\frac{1}{1-MPC} = 5 \implies MPC = 0.80.$$

So when transfer payments increase by 10 units, it means consumption initially increases by 8 units. Then from the expenditure multiplier, the overall increase in consumption will be $8 \times 5 = 40$. So shift AD to the right by 40 units.

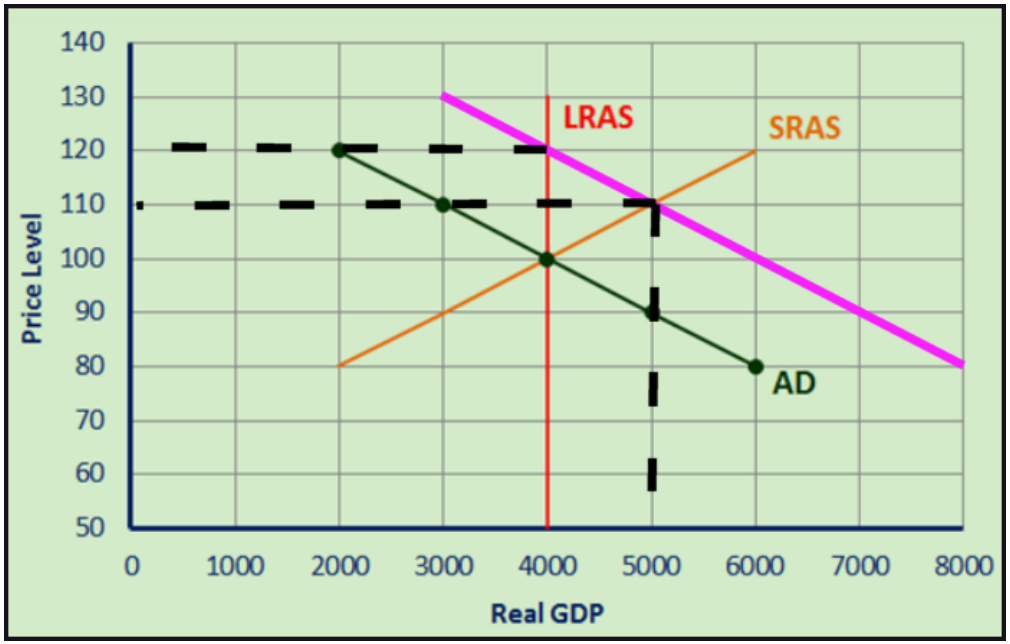
- Short run equilibrium: $Y = 70$, $P = 120$
- Long run equilibrium: $Y = 50$, $P = 140$



Problem 8. What happens in the short run and the long run if there is a balanced budget increase in government spending of 2000 units?

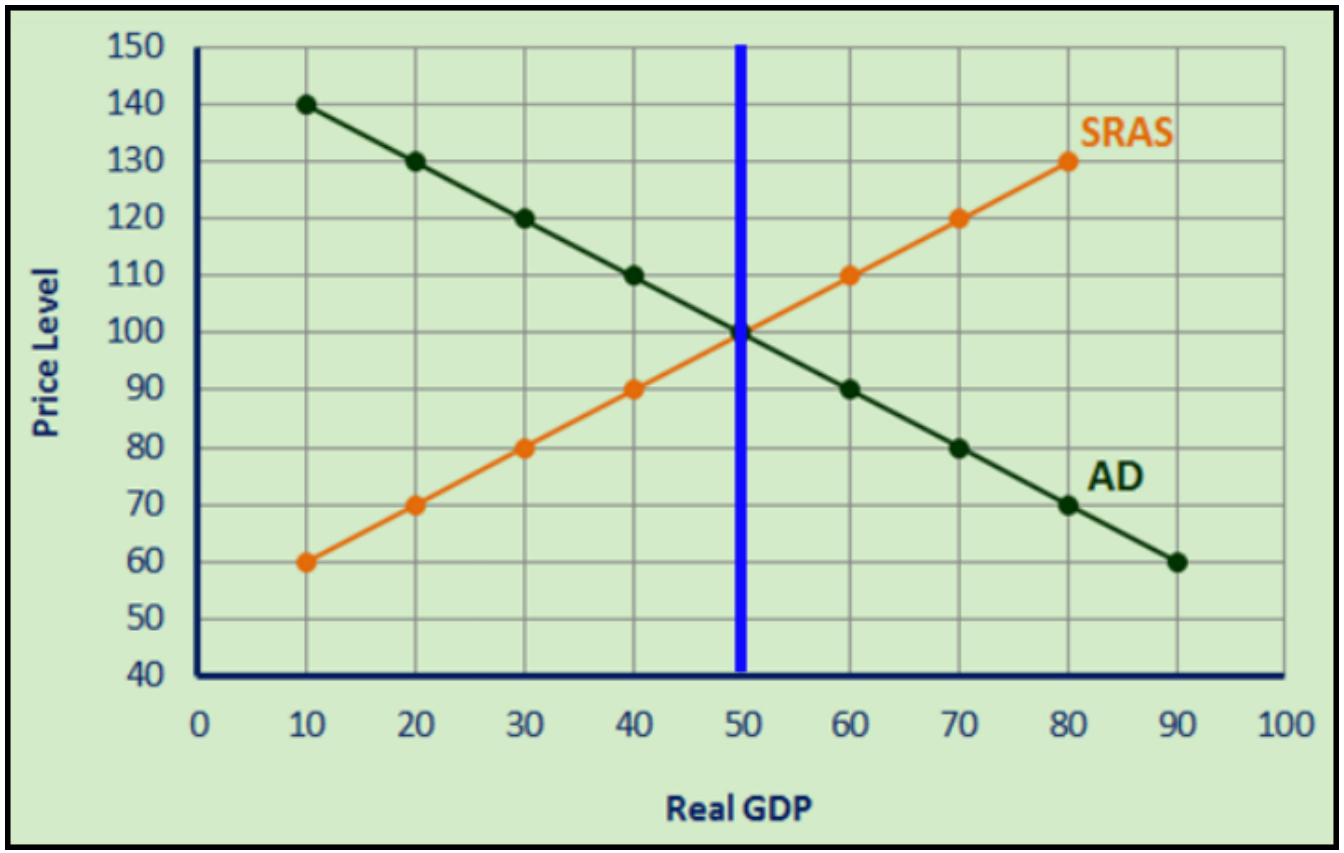


Answer 8. Recall that a balanced budget increase in government spending means that G increases by 2000, TX also increases by 2000, that the increases in taxes cancels out the multipiler effect of the increase in G, and therefore AD only shifts by whatever the change in G is, in this case 2000.



- Short run equilibrium: $Y = 5000$, $P = 110$
- Long run equilibrium: $Y = 4000$, $P = 120$

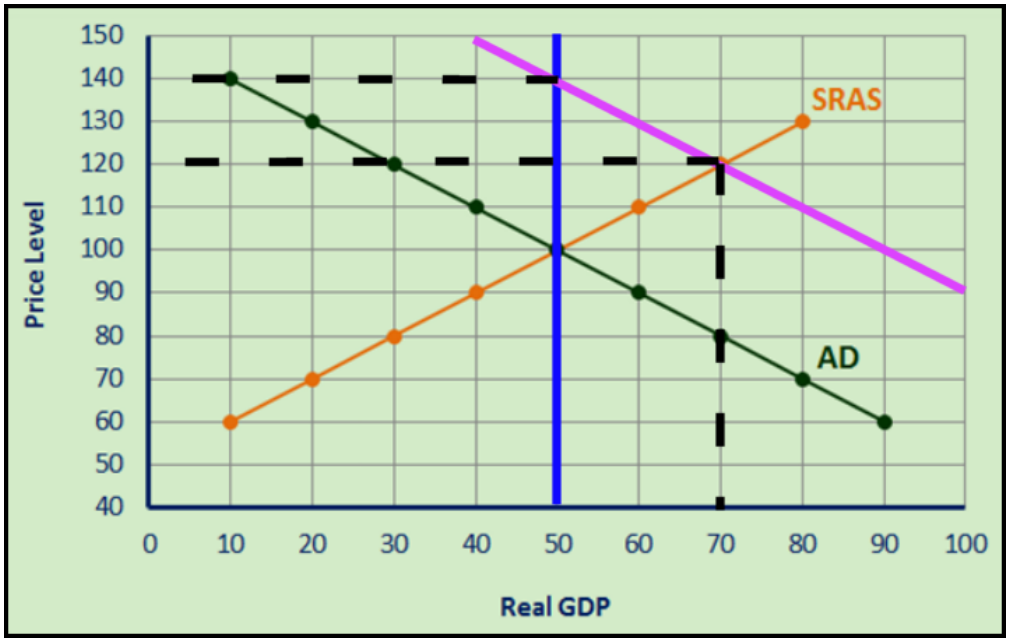
Problem 9. Suppose the expenditure multiplier equals 5. Show the effect of a decrease in taxes by 10 units in both the short run and long run.



Answer 9. First we should find out what MPC is.

$$\frac{1}{1-MPC} = 5 \implies MPC = 0.80.$$

Recall that $Y_d = Y - TX + TR$. So if TX decreases by 10, it means that Y_d increases by 10. This means that consumption increases by $0.80 \times 10 = 8$. Now use the multiplier effect on this increase in consumption; AD will shift to the right by $8 \times 5 = 40$.



- Short run equilibrium: $Y = 70$, $P = 120$
- Long run equilibrium: $Y = 50$, $P = 140$

Problem 10. Which of the following events would shift LRAS to the right?

(a) increases in population

(b) increases in physical capital

(c) increases in human capital

(d) technological progress

(e) all of the above

Answer 10: e. Anything that contributes to economic growth will shift LRAS to the right, i.e. increase potential output.