Problem 1. If the Fed conducts an open market purchase, it will constitute

(a) an expansionary fiscal policy

(b) a contractionary fiscal policy

(c) an expansionary monetary policy

(d) a contractionary monetary policy

Answer 1: c. When the Fed makes an open market purchase, it is giving someone money in exchange for a bond. This means there's more money circulating in the economy than there was before. This in turn increases aggregate demand, so it is expansionary monetary policy.

A policy to boost aggregate demand is called **expansionary**; one that aims to reduce it is called **contractionary**.

Fiscal policy refers to changes in government purchases, taxes, or transfer payments.

Problem 2. The government increases its spending by an amount greater than the increase in its tax revenue. It sells bonds to the public to raise the needed money. Subsequently, the Fed buys back some of these bonds through an open market purchase. The Fed's action is called

(a) monetizing the debt

(b) deficit spending

(c) surplus spending

(d) automatic stabilize

(e) none of the above

Answer 2: a. This essentially amounts to the government printing money to finance its expenditure if it does not want to (or cannot) raise taxes or borrow from the public.

Problem 3. The government revenues and expenditures that move against the real GDP making it deviate from the potential GDP by an amount less than it would otherwise have in their absence are called

(a) fiscal policy measures

(b) automatic stabilizers

(c) self correction variables

(d) balanced budget variables

(e) none of the above

Answer 3: b. In other words, in a recession **automatic stabilizers** cause aggregate demand to decrease less than otherwise, and in an expansion they cause aggregate demand to increase less than otherwise.

Personal taxes are an example. When times are bad, people make less money on average and thus people are taxes less on average. A reduction in taxes prevents GDP from falling as much as it would have otherwise.

When times are good, people make more money on average and thus people pay more taxes on average. An increase in taxes prevents GDP from increasing as much as it would have otherwise.

Problem 4. In a country the general level of prices is $P = 100$, real GDP is $Y = 1000$, the supply of money is $M = 20000$. What is the velocity of circulation of money?

(a) $V = 4$

(b) $V = 5$

(c) $V = 10$

(d) $V = 15$

(e) none of the above

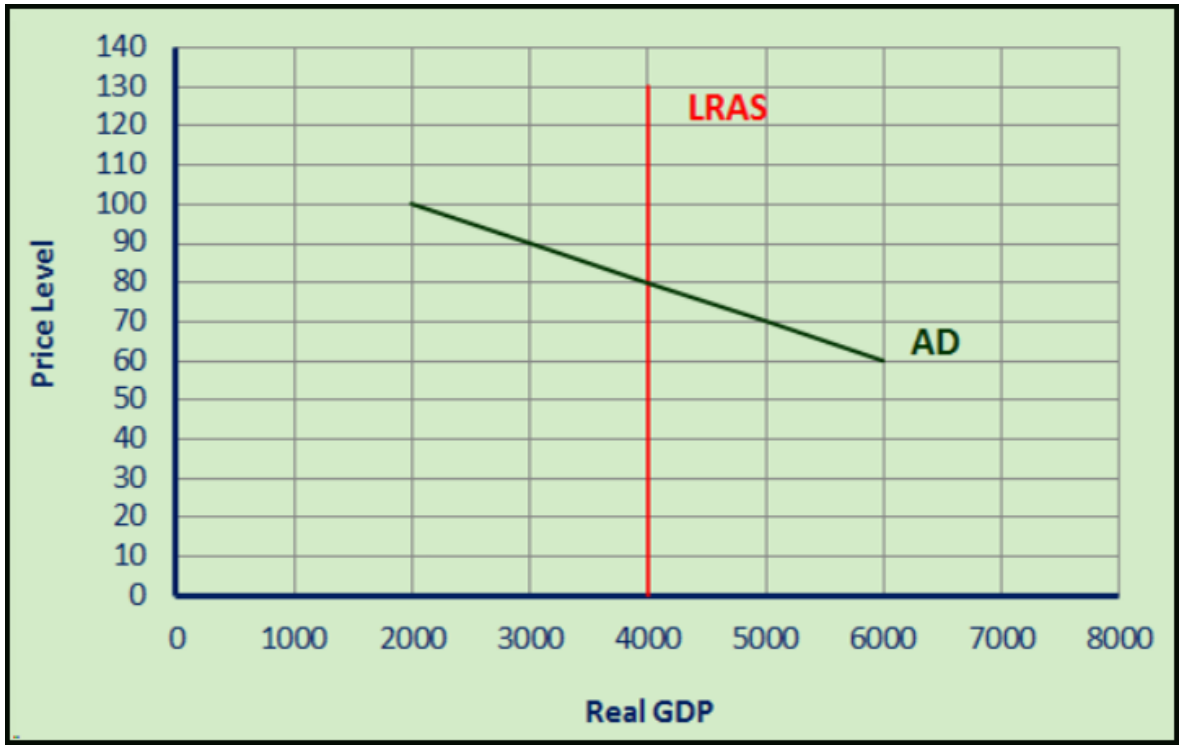
Answer 4. Use the equation of exchange.

$$MV = PY \quad \Longrightarrow \quad V = \frac{PY}{M} = \frac{100 \times 1000}{20000} = 5.$$

Problem 5. Between two years the supply of money increases by 5%, the velocity by 1%, and the real GDP by 2%. What is the rate of price inflation between those two years?

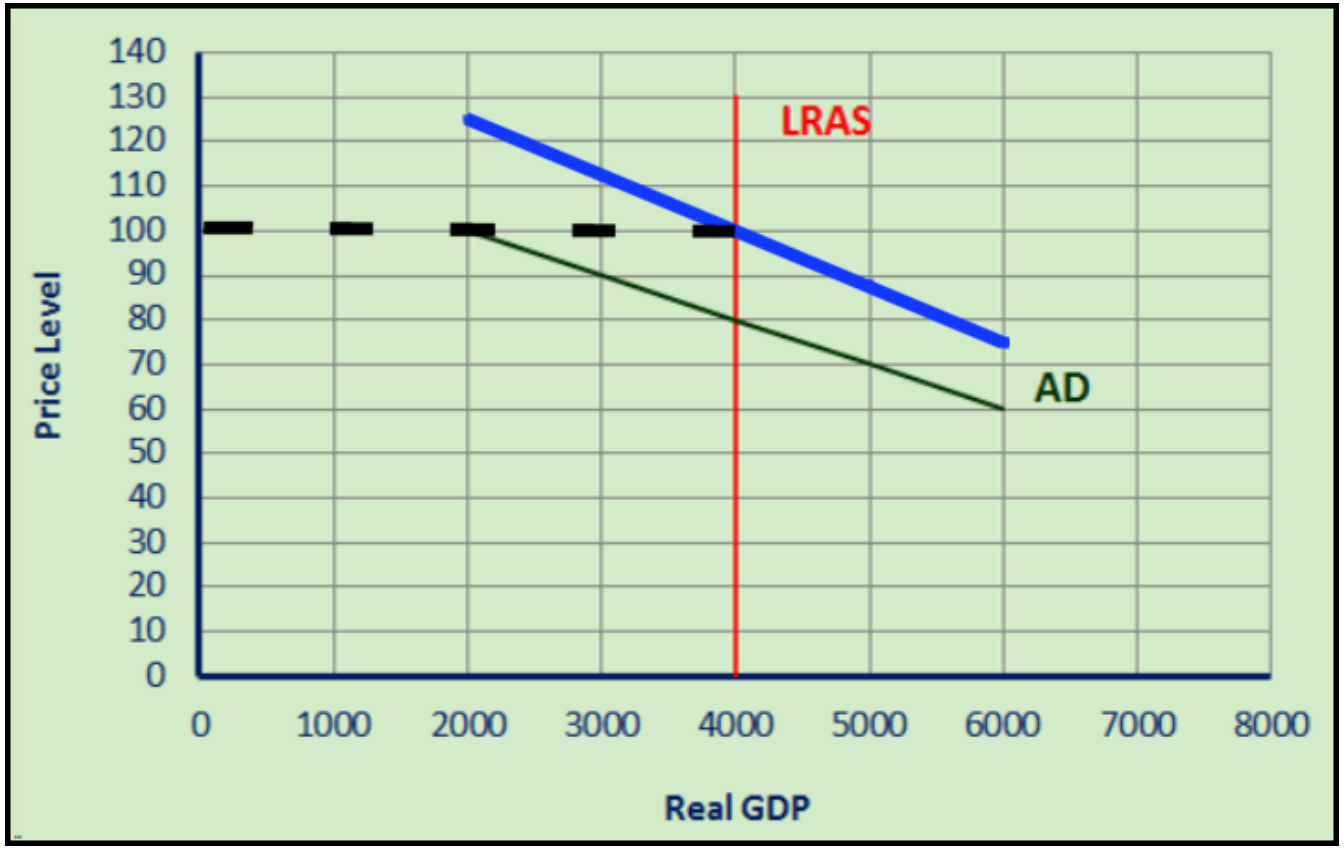
Answer 5: d. Use the equation of exchange again. We are told that M and V increase by 6% in total. We know that Y changes by 2%. Therefore it must be the case that P increases by 4% so that the percentage change is the same on both sides of the equation.

Problem 6.



The marginal propensity to consume is $MPC = 0.75$. Suppose that all else the same, the Fed increases the supply of money by 25%. What will be the new long-run equilibrium price and real GDP?

Answer 6. We assume that velocity is constant and that money is neutral, which means that is the money supply is increased by 25%, then the price level will increase by 25%. This means that for every level of GDP, the demand curve will increase by 25%. For example, the point $(4000, 80)$ turns into $(4000, 100)$; the price coordinate has increased by 25%.



Problem 7. If wages and prices were fully flexible downward and upward, which of the following statements would be true?

(a) Only cyclical unemployment would exist in the economy.

(b) Only natural unemployment would exist in the economy.

(c) The velocity of circulation of money would be constant.

(d) Aggregate demand for goods and services would be constant.

Answer 7: b. If wages and prices are fully flexible, the the labor market will always be in equilibrium. And in equilibrium, there is no cyclical unemployment.

Problem 8. Credit risk increases. The effect of this event can be represented as

(a) a movement down and to the right along the AD function

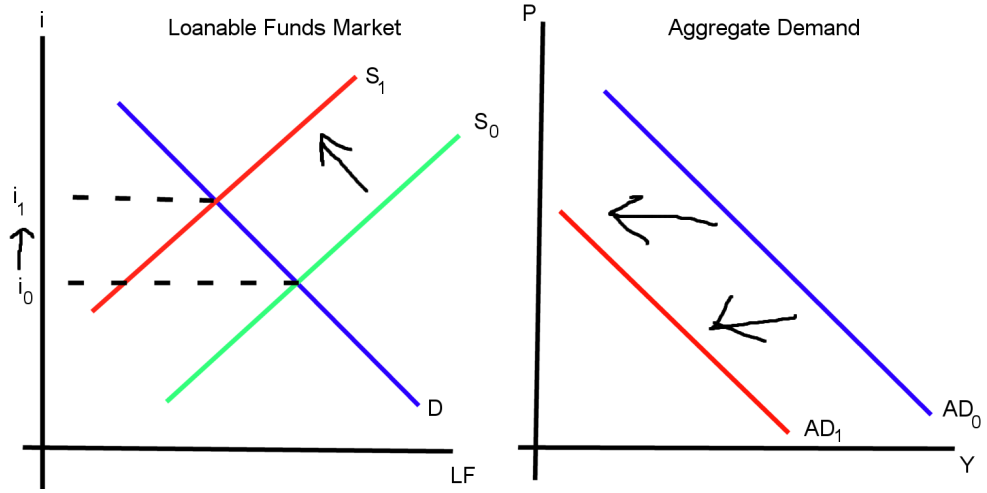
(b) a movement up and to the left along the AD function

(c) a rightward shift in the AD function

(d) a leftward shift in the AD function

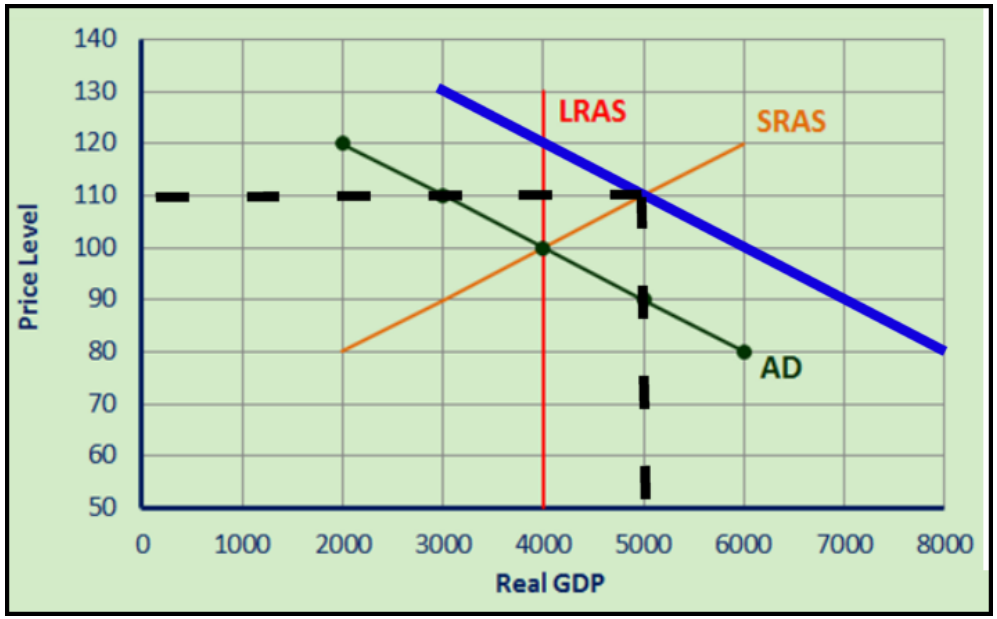
(e) none of the above

Answer 8: d. A credit risk increases means lenders will lend less at any interest rate. This means that the supply of loanable funds decreases, which results in a higher equilibrium interest rate i. Higher i means that the cost of borrowing increases, which in turn reduces consumption and investment. Therefore GDP will decrease at every price level, a leftward shift in AD.

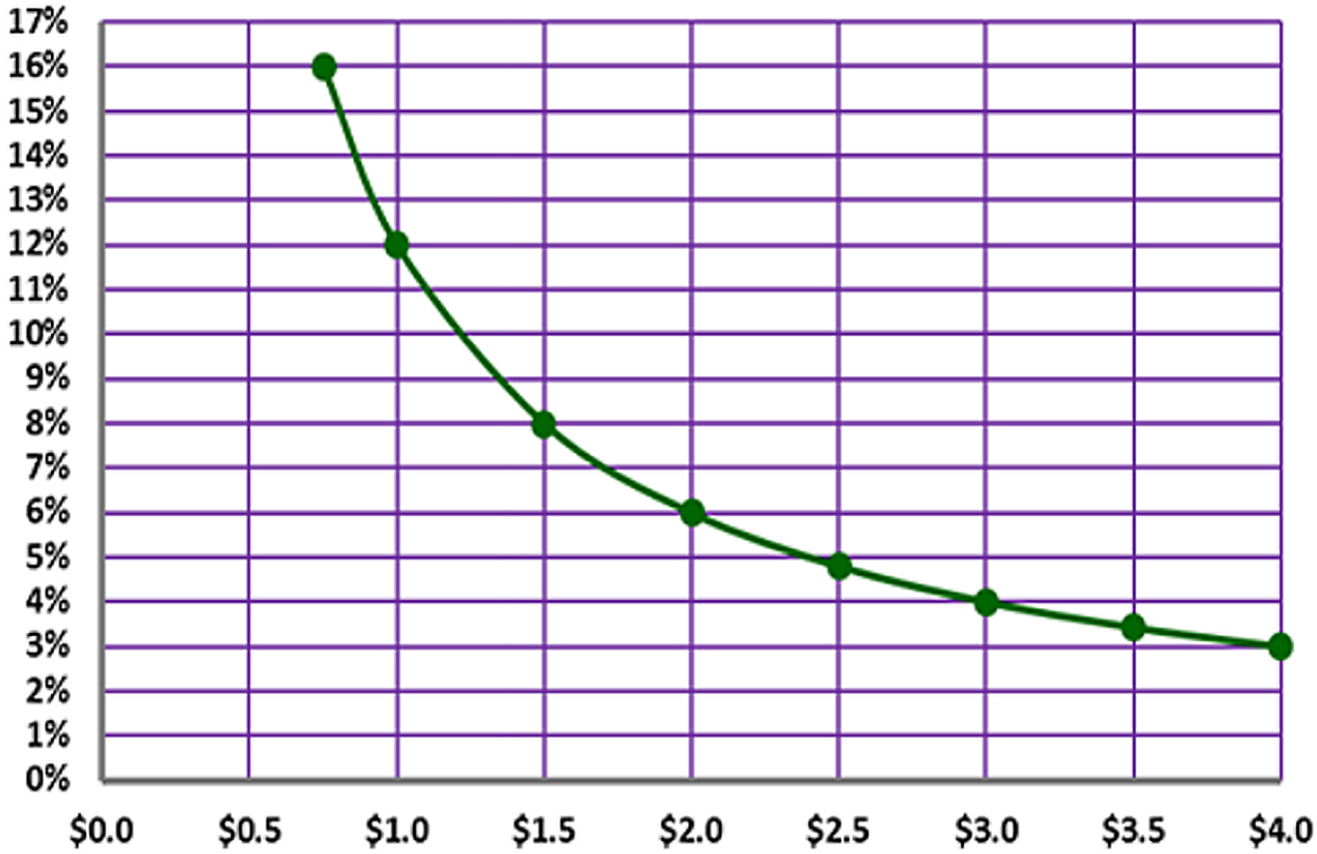


Problem 9. $MPC = 0.50$. Currently the country is in general equilibrium with $Y = 4000$ and $P = 100$. According to Keynesians, what will be the short-run effect of a balanced budget increase in government spending of 2000 units on P and Y?

Answer 9. A balanced budget increase of G by 2000 will shift AD to the right by 2000; remember, balanced budget increase means the multiplier effect doesn't go through. Shifting AD by 2000 means the new short-run equilibrium—where the new AD curve intersects SRAS—is at a price of 110 and real GDP of 5000.



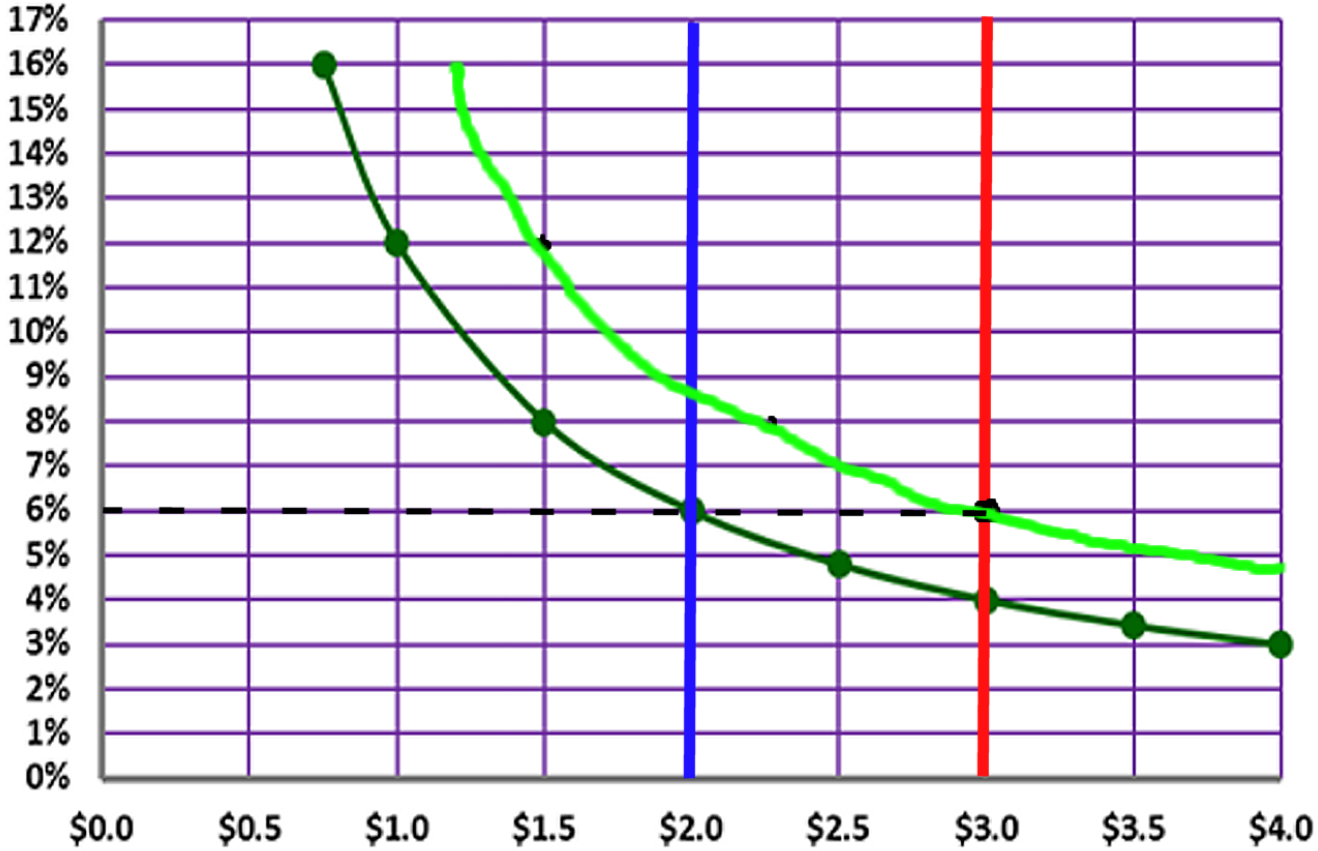
Problem 10. Consider the demand-for-money function in the graph below. Currently the equilibrium interest rate is 6%. What will be the new equilibrium interest rate if the money supply and the price level both increase by 50%, ceteris paribus[1] ?



[1]The phrase *ceteris paribus* is Latin for "all else the same." I once had professor who insisted it was pronounced "kaytaaris paariboose." But none of us ever pronounced it like that and he hated us for it. Good times.

Answer 10. If the equilibrium interest rate is 6%, it must mean that the money supply is at \$2.0. If the price level increases by 50%, then money demand will increase by 50% at every interest rate. For example at 12%, quantity demanded will go from 1.0 to 1.5. At 6%, quantity demanded will go from 2.0 to 3.0.

The money supply will double to \$3.0. The new curves now intersect at 6% again.

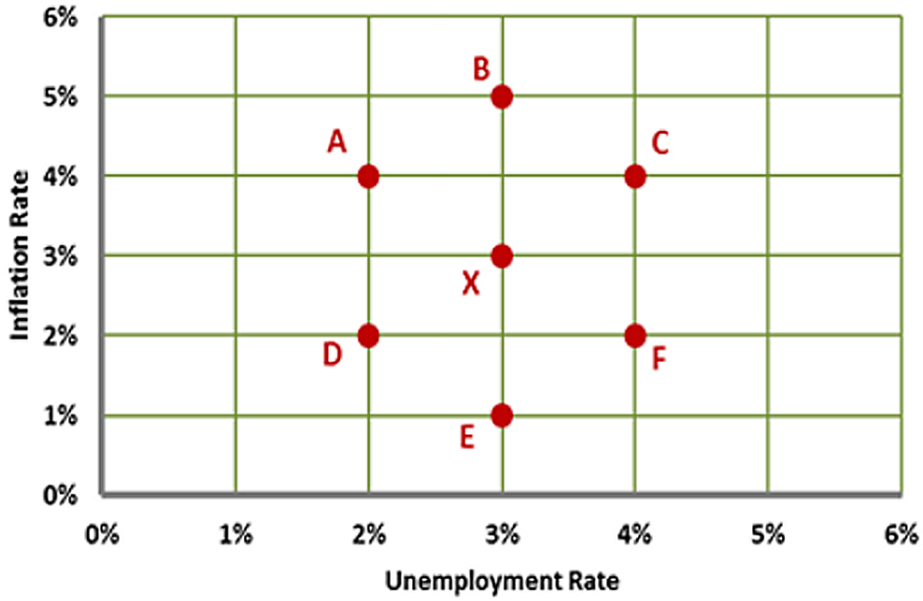


Problem 11. The natural rate of unemployment is 4%. People had expected inflation rate of 4%, but inflation actually turns out to be 6%. This information leads us to believe that the economy is at which point?

Answer 11: K. People mistakenly believed that we were at point M, because that's where $u = 4\%$ and $\pi = 4$. The expected inflation determines which Phillips curve we are looking at.

But since actually inflation is $\pi = 6$, it actually means we're actually on a different part of that line, in particular at point K.

Problem 12.



The natural rate of unemployment is 3%, money supply grows at the rate of 5%, and the real GDP grows at the rate of 2%. The economy is currently in a state of long run equilibrium. Which sequence of points best describes what would happen in the short run and the long run if OPEC increased the price of oil, once and for all?

(a) X to D to E

(b) X to F to E

(c) X to D to X

(d) X to F to X

(e) X to X to X to X to X to X to X to X

Answer 12: b. The long run equilibrium inflation rate is at $m - g = 5 - 2 = 3\%$, so we are at point X, as you might have guessed. If the Fed decreased the rate of growth of money supply to 3%, then

- in the short run there would be a small recession, so the economy would go to F,
- in the long run the inflation rate would drop 10 1%, so we'd be at point E