Problem set I

Econ 2102B - Fall 2017

1. The rate of inflation is the:
   A) median level of prices.
   B) average level of prices.
   C) percentage change in the level of prices.
   D) measure of the overall level of prices.

2. To increase the money supply, the Bank of Canada:
   A) buys government bonds.
   B) sells government bonds.
   C) buys corporate stocks.
   D) sells corporate stocks.

3. Open-market operations are:
   A) Department of Finance efforts to open foreign markets to international trade.
   B) Bank of Canada purchases and sales of government bonds.
   C) Securities and Exchange Commission rules requiring open disclosure of market trades.
   D) Finance Department purchases and sales of gold.

4. Demand deposits are funds held in:
   A) currency.
   B) certificates of deposit.
   C) chequing accounts.
   D) money markets.

5. The definition of the transactions velocity of money is:
   A) money multiplied by prices divided by transactions.
   B) transactions divided by prices multiplied by money.
   C) money divided by prices multiplied by transactions.
   D) prices multiplied by transactions divided by money.

6. If the transactions velocity of money remains constant while the quantity of money doubles, the:
   A) price of the average transaction must double.
   B) number of transactions must remain constant.
   C) price of the average transaction multiplied by the number of transactions must remain constant.
   D) price of the average transaction multiplied by the number of transactions must double.

7. The income velocity of money:
   A) is defined in the identity $MV = PY$.
   B) is defined in the identity $MV = PT$.
   C) is the same thing as the transactions velocity of money.
   D) will be smaller than the transactions velocity of money if the quantity of transactions is greater than income.

8. Real money balances equal the:
   A) sum of coin, currency, and balances in chequing accounts.
   B) amount of money expressed in terms of the quantity of goods and services it can purchase.
   C) number of dollars used as a medium of exchange.
   D) quantity of money created by the Bank of Canada.

9. If the quantity of real money balances is kY, where k is a constant, then velocity is:
   A) k.
   B) $1/k$.
   C) kP.
   D) P/k.

10. When the demand for money parameter, k, is large, the velocity of money is _____ and money is changing hands _____
   A) large; frequently
   B) large; infrequently
   C) small; frequently
   D) small; infrequently

11. Consider the money demand function that takes the form $(M/P)^d = kY$, where M is the quantity of money, P is the price level, and Y is real output. If the money supply is growing at a 10 percent rate, real output is growing at a 3 percent rate, and k is constant, what is the rate of inflation in this country?
    A) 3 percent
    B) 7 percent
    C) 10 percent
    D) 13 percent

12. The quantity theory of money assumes that:
    A) income is constant.
    B) velocity is constant.
    C) prices are constant.
    D) the money supply is constant.

13. In the long run, according to the quantity theory of money and the classical macroeconomic theory, if velocity is constant, then _____ determines real GDP and _____ determines nominal GDP.
    A) the productive capability of the economy; the money supply
    B) the money supply; the productive capability of the economy
    C) velocity; the money supply
    D) the money supply; velocity

14. According to the quantity theory of money, ultimate control over the rate of inflation in Canada is exercised by:
    A) the Organization of Petroleum Exporting Countries (OPEC).
    B) the Federal Department of Finance.
    C) the Bank of Canada.
    D) private citizens.

15. According to the quantity theory of money, if money is growing at a 10 percent rate and real output is growing at a 3 percent rate, but velocity is growing at increasingly faster rates over time as a result of financial innovation, the rate of inflation must be:
    A) increasing.
    B) decreasing.
    C) 7 percent.
    D) constant.

16. Using decade-long data across countries from 2000–2010, countries with high money growth tend to have _____ inflation.
    A) high
    B) low
    C) constant
    D) decreasing

17. "Inflation tax" means that:
    A) as the price level rises, taxpayers are pushed into higher tax brackets.
    B) as the price level rises, the real value of money held by the public decreases.
    C) as taxes increase, the rate of inflation also increases.
    D) in a hyperinflation, the chief source of tax revenue is often the printing of money.

18. The real interest rate is equal to the:
    A) amount of interest that a lender actually receives when making a loan.
    B) nominal interest rate plus the inflation rate.
    C) nominal interest rate minus the inflation rate.
    D) nominal interest rate.

19. If the real interest rate and real national income are constant, according to the quantity theory and the Fisher equation, a 1 percent increase in money growth will lead to rises in:
    A) inflation of 1 percent and the nominal interest rate of less than 1 percent.
    B) inflation of 1 percent and the nominal interest rate of 1 percent.
    C) inflation of 1 percent and the nominal interest rate of more than 1 percent.
    D) both inflation and the nominal interest rate of less than 1 percent.

20. If the nominal interest increases then:
    A) the real interest rate must increase
    B) the money supply decreases.
    C) the demand for money increases.
    D) the demand for money decreases.

21. If the money supply is held constant, then an increase in the nominal interest rate will _____ the demand for money and _____ the price level.
    A) increase; increase
    B) increase; decrease
    C) decrease; increase
    D) decrease; decrease

22. The classical dichotomy:
    A) cannot hold if money is "neutral."
    B) is said to hold when the values of real variables can be determined without any reference to nominal variables or the existence of money.
    C) fully describes the world in which we live, especially in the short run.
    D) arises because money depends on the nominal interest rate.

23. According to the classical dichotomy, when the money supply decreases, _____ will decrease.
    A) real GDP
    B) consumption spending
    C) the price level
    D) investment spending

24. Consider a money demand function that takes the form $(M/P)^d = Y/3i$, where M is the quantity of money, P is the price level, Y is real output, and i is the nominal interest rate (measured in percentage points).
    a. What is the velocity of money if the nominal interest rate is constant?
    b. How will the level of the velocity of money change if there is a permanent (one time) increase in the nominal interest rate, holding other factors constant?

25. A classical economist wears a t-shirt printed with the slogan "Fast Money Raises My Interest!" Use the quantity theory of money and the Fisher equation to explain the slogan.

26. An "open" economy is one in which:
    A) the level of output is fixed.
    B) government spending exceeds revenues.
    C) the national interest rate equals the world interest rate.
    D) there is trade in goods and services with the rest of the world.

27. Net exports equal GDP minus domestic spending on:
    A) all goods and services.
    B) all goods and services plus foreign spending on domestic goods and services.
    C) domestic goods and services.
    D) domestic goods and services minus foreign spending on domestic goods and services.

28. If domestic spending exceeds output, we _____ the difference—net exports are _____.
    A) import; negative
    B) export; positive
    C) import; positive
    D) export; negative

29. If net capital outflow is positive, then:
    A) exports must be positive.
    B) exports must be negative.
    C) the trade balance must be positive.
    D) the trade balance must be negative.

30. Net capital outflow is equal to:
    A) national saving minus the trade balance.
    B) domestic investment plus the trade balance.
    C) domestic investment minus national saving.
    D) national saving minus domestic investment.

31. Net capital outflow is equal to the amount that:
    A) foreign investors lend here.
    B) domestic investors lend abroad.
    C) foreign investors lend here minus the amount domestic investors lend abroad.
    D) domestic investors lend abroad minus the amount that foreign investors lend here.

32. If domestic saving exceeds domestic investment, then net exports are _____ and net capital outflows are _____.
    A) positive; positive
    B) positive; negative
    C) negative; negative
    D) negative; positive

33. In a small open economy, if exports equal $20 billion, imports equal $30 billion, and domestic national saving equals $25 billion, then net capital outflow equals:
    A) –$25 billion.
    B) –$10 billion.
    C) $10 billion.
    D) $25 billion.

34. In a small open economy, if exports equal $5 billion and imports equal $7 billion, then there is a trade _____ and _____ net capital outflow.
    A) deficit; negative
    B) surplus; negative
    C) deficit; positive
    D) surplus; positive

35. In a small open economy, if domestic saving equals $50 billion and domestic investment equals $50 billion, then there is _____ and net capital outflow equals _____ .
    A) a trade deficit; $100 billion
    B) balanced trade; $0
    C) a trade surplus; $100 billion
    D) balanced trade; $100 billion

36. A trade deficit can be financed in *all* of the following methods *except* by:
    A) borrowing from foreigners.
    B) selling domestic assets to foreigners.
    C) selling foreign assets owned by domestic residents to foreigners.
    D) borrowing from domestic lenders.

37. A "small" economy is one in which the:
    A) level of output is fixed.
    B) price level is fixed.
    C) domestic interest rate equals the world interest rate.
    D) domestic saving is less than domestic investment.

38. The world interest rate:
    A) is equal to the domestic interest rate.
    B) makes domestic saving equal to domestic investment.
    C) is the interest rate charged on loans by the World Bank.
    D) is the interest rate prevailing in world financial markets.

39. In a small open economy, if the world real interest rate is above the rate at which national saving exceeds domestic investment, then there will be a trade _____ and _____ net capital outflow.
    A) surplus; negative
    B) deficit; positive
    C) surplus; positive
    D) deficit; negative

40. An increase in the trade deficit of a small open economy could be the result of:
    A) an increase in taxes.
    B) an increase in government spending.
    C) a decrease in the world interest rate.
    D) the expiration of an investment tax-credit provision.

41. In a small open economy, starting from a position of balanced trade, if the government increases the income tax, this produces a tendency toward a trade _____ and _____ net capital outflow.
    A) deficit; negative
    B) surplus; positive
    C) deficit; positive
    D) surplus; negative

42. In a small open economy, starting from a position of balanced trade, if the government increases domestic government purchases, this produces a tendency toward a trade _____ and _____ net capital outflow.
    A) deficit; negative
    B) surplus; positive
    C) deficit; positive
    D) surplus; negative

43. Starting from a small open economy with balanced trade, if large foreign countries increase their domestic government purchases, this policy will tend to increase:
    A) investment in the small open economy.
    B) saving in the small open economy.
    C) exports by the small open economy.
    D) imports by the small open economy.

44. Starting from trade balance, if the world interest rate falls, then, holding other factors constant, in a small open economy the amount of domestic investment will _____ and net exports will _____.
    A) increase; increase
    B) increase; decrease
    C) increase, not change
    D) decrease; increase

45. The nominal exchange rate between the Canada dollar and the Japanese yen is the:
    A) number of yen you can get for lending one dollar in Japan for one year.
    B) number of yen you can get for one dollar.
    C) price of Canadian goods divided by the price of Japanese goods.
    D) price of Japanese goods divided by the price of Canadian goods.

46. If the number of dollars per yen rises, this is called a(n):
    A) appreciation of the dollar.
    B) appreciation of the yen.
    C) increase in the terms of trade.
    D) decrease in the terms of trade.

47. A country's real exchange rate:
    A) measures how many units of foreign exchange one really gets for one unit of domestic currency.
    B) is equal to the nominal exchange rate multiplied by the domestic price level divided by the foreign price level.
    C) is equal to the nominal exchange rate multiplied by the foreign price level divided by the domestic price level.
    D) the price of a domestic car divided by the price of a foreign car.

48. If the real exchange rate is high, foreign goods:
    A) and domestic goods are both relatively expensive.
    B) and domestic goods are both relatively cheap.
    C) are relatively expensive and domestic goods are relatively cheap.
    D) are relatively cheap and domestic goods are relatively expensive.

49. If 5 Swiss francs trade for $1, the U.S. price level equals $1 per good, and the Canadian price level equals 2 francs per good, then the real exchange rate between Swiss goods and Canadian goods is _____ Swiss goods per Canadian good.
    A) 0.5
    B) 2.5
    C) 5
    D) 10

50. When a country's real exchange rate rises:
    A) exports will decrease but imports will be unaffected.
    B) imports will decrease but exports will be unaffected.
    C) exports will increase and imports will decrease.
    D) exports will decrease and imports will increase.

51. The lower our real exchange rate is, the _____ expensive domestic goods are relative to foreign goods, and the _____ the demand is for net exports.
    A) more; greater
    B) more; smaller
    C) less; greater
    D) less; smaller

52. If a graph is drawn with net exports on the horizontal axis and the real exchange rate on the vertical axis, then the real exchange rate is determined by the intersection of the _____ net-exports schedule and the _____ line representing saving minus investment.
    A) downward-sloping; vertical
    B) upward-sloping; vertical
    C) downward-sloping; upward-sloping
    D) upward-sloping; downward-sloping

53. In the basic version of a small open economy model, a reduction in the government's budget deficit _____ net exports and the real exchange rate _____.
    A) increases; appreciates
    B) increases; depreciates
    C) decreases; appreciates
    D) decreases; depreciates

54. In the basic model of a small open economy, if consumer confidence falls and consumers decide to save more, then the real exchange rate:
    A) rises and net exports fall.
    B) and net exports both rise.
    C) falls and net exports rise.
    D) and net exports both fall.

55. In the basic model of a small open economy, if consumers shift their preferences toward foreign cars, then net exports:
    A) fall and the real exchange rate falls.
    B) fall but the real exchange rate remains unchanged.
    C) remain unchanged but the real exchange rate falls.
    D) and the real exchange rate remain unchanged.

56. In a long-run model of a small open economy, deficit reduction
    I: leads initially to increased net exports.
    II: eventually leads to lower foreign debt and increased consumption.
    A) I is true; II is not.
    B) II is true; I is not.
    C) Both I and II are true.
    D) Neither I nor II is true.

57. Assume that in a small open economy where full employment always prevails, national saving is 300.
    a. If domestic investment is given by $I = 400 - 20r$, where r is the real interest rate in percent, what would the equilibrium interest rate be if the economy were closed?
    b. If the economy is open and the world interest rate is 10 percent, what will investment be?
    c. What will the current account surplus or deficit be? What will net capital outflow be?

58. Suppose that governments around the world begin to engage in expansionary fiscal policy (run large budget deficits) in order to stimulate economic activity in their countries.
    a. Use the basic version of the long-run model of a small open economy to illustrate graphically the impact of this expansionary fiscal policy by foreigners on the Canadia exchange rate and the Canadian trade balance. Assume that the country starts from a position of trade balance, i.e., exports equal imports. Be sure to label:
       i. the axes
       ii. the curves
       iii. the initial equilibrium values
       iv. the direction the curves shift
       v. the new long-run equilibrium values.
    b. Based on your graphical analysis, explain the predicted impact of the foreign expansionary fiscal policy on the Canadian exchange rate and the Canadian trade balance.

59. If corporate downsizing and lack of job security cause consumers to spend less and save more, what will be the impact on the exchange rate and trade balance?
    a. Use the basic version of the long-run model of a small open economy to illustrate gra the impact of this decline in consumer confidence on the exchange rate and the trade b Assume the country starts from a position of trade balance, i.e., exports equal imports sure to label:
       i. the axes
       ii. the curves
       iii. the initial equilibrium values
       iv. the direction the curves shift
       v. the new long-run equilibrium values.
    b. Based on your graphical analysis, explain the predicted impact of a decline in consum confidence on the exchange rate and the domestic economy's trade balance.

60. A difference between the economic long run and the short run is that:
    A) the classical dichotomy holds in the short run but not in the long run.
    B) monetary and fiscal policy affect output only in the long run.
    C) demand can affect output and employment in the short run, whereas supply is the ruling force in the long run.
    D) prices and wages are sticky in the long run only.

61. The aggregate demand curve is the _____ relationship between the quantity of output demanded and the _____.
    A) positive; money supply
    B) negative; money supply
    C) positive; price level
    D) negative; price level

62. A short-run aggregate supply curve shows fixed _____, and a long-run aggregate supply curve shows fixed _____.
    A) output; output
    B) prices; prices
    C) prices; output
    D) output; prices

63. When a long-term aggregate supply curve is drawn with real GDP (*Y*) along the horizontal axis and the price level (*P*) along the vertical axis, this curve:
    A) slopes upward and to the right.
    B) slopes downward and to the right.
    C) is horizontal.
    D) is vertical.

64. The vertical long-run aggregate supply curve satisfies the classical dichotomy because the natural rate of output does *not* depend on:
    A) the labour supply.
    B) the supply of capital.
    C) the money supply.
    D) technology.

65. If the long-run aggregate supply curve is vertical, then changes in aggregate demand affect:
    A) neither prices nor level of output.
    B) both prices and level of output.
    C) level of output but not prices.
    D) prices but not level of output.

66. The natural level of output is:
    A) affected by aggregate demand.
    B) the level of output at which the unemployment rate is zero.
    C) the level of output at which the unemployment rate is at its natural level.
    D) permanent and unchangeable.

67. The short run refers to a period:
    A) of several days.
    B) during which prices are sticky and unemployment may occur.
    C) during which capital and labour are fully employed.
    D) during which there are no fluctuations.

68. The long run refers to a period:
    A) of decades.
    B) during which capital and labour are sometimes not fully employed.
    C) during which prices are flexible.
    D) during which capital, labour, and technology can change.

69. If the short-run aggregate supply curve is horizontal, then a change in the money supply will change _____ in the short run and change _____ in the long run.
    A) only prices; only output
    B) only output; only prices
    C) both prices and output; only prices
    D) both prices and output; both prices and output

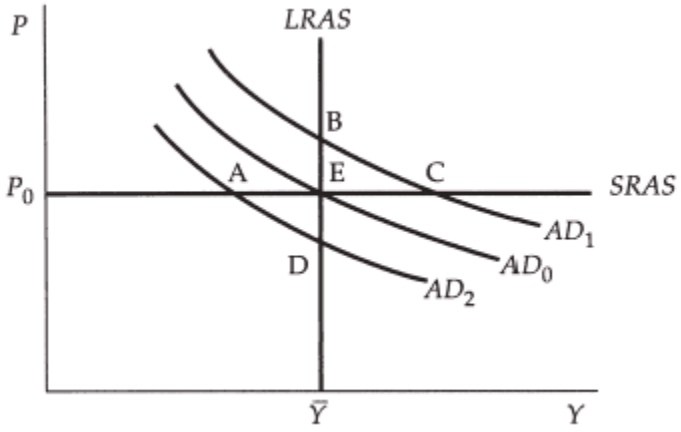
70. Monetary neutrality is a characteristic of the aggregate demand–aggregate supply model in:
    A) both the short run and the long run.
    B) in neither the short run nor the long run.
    C) in the short run, but not in the long run.
    D) in the long run, but not in the short run.

71. Assume that the economy starts from long-run equilibrium. If the Bank of Canada increases the money supply, then _____ increase(s) in the short run and _____ increase(s) in the long run.
    A) prices; output
    B) output; prices
    C) output; output
    D) prices; prices

72. Assume that the economy begins in long-run equilibrium. Then the Bank of Canada reduces the money supply. In the short run _____, whereas in the long run prices _____ and output returns to its original level.
    A) output decreases and prices are unchanged; rise
    B) output decreases and prices are unchanged; fall
    C) output and prices both decrease; rise
    D) output and prices both decrease; fall

Use the following to answer questions 73-75:

Exhibit: Shift in Aggregate Demand



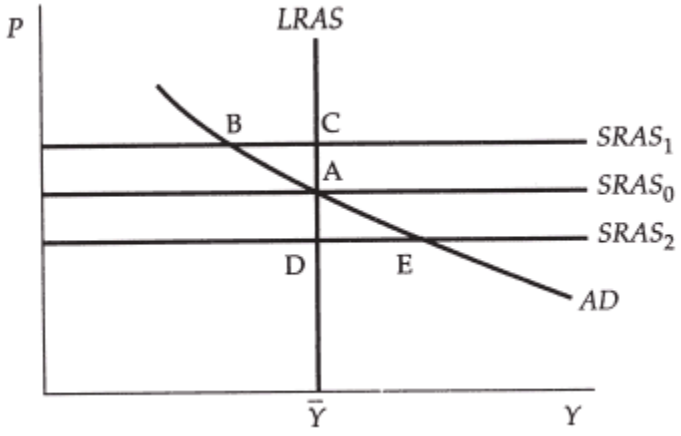
73. (Exhibit: Shift in Aggregate Demand) In this graph, initially the economy is at point E, with price P_0 and output Y. Aggregate demand is given by curve AD_0, and *SRAS* and *LRAS* represent, respectively, short-run and long-run aggregate supply. Now assume that the aggregate demand curve shifts so that it is represented by AD_1. The economy moves first to point _____ and then, in the long run, to point _____.
    A) A; D
    B) D; A
    C) C; B
    D) B; C

74. (Exhibit: Shift in Aggregate Demand) In this graph, initially the economy is at point E, with the price P_0 and output Y. Aggregate demand is given by curve AD_0, and *SRAS* and *LRAS* represent, respectively, short-run and long-run aggregate supply. Now assume that the aggregate demand curve shifts so that it is represented by AD_2. The economy moves first to point _____ and then, in the long run, to point _____.
    A) A; D
    B) D; A
    C) A; B
    D) B; A

75. (Exhibit: Shift in Aggregate Demand) Assume that the economy is initially at point A with aggregate demand given by AD_2. A shift in the aggregate demand curve to AD_0 could be the result of either a(n) _____ in the money supply or a(n) _____ in velocity.
    A) increase; increase
    B) increase; decrease
    C) decrease; increase
    D) decrease; decrease

Use the following to answer questions 76-79:

Exhibit: Supply Shock



76. (Exhibit: Supply Shock) In this graph, assume that the economy starts at point A and there is a favourable supply shock that does not last forever. In this situation, point _____ represents short-run equilibrium and point _____ represents long-run equilibrium.
    A) B; C
    B) B; A
    C) E; D
    D) E; A

77. (Exhibit: Supply Shock) Assume that the economy is at point B. With no further shocks or policy moves, the economy in the long run will be at point:
    A) A.
    B) B.
    C) C.
    D) D.

78. (Exhibit: Supply Shock) Assume that the economy is at point E. With no further shocks or policy moves, the economy in the long run will be at point:
    A) A.
    B) B.
    C) C.
    D) D.

79. (Exhibit: Supply Shock) Assume that the economy starts at point A and there is a drought that severely reduces agricultural output in the economy for just one year. In this situation, point _____ represents the short-run equilibrium immediately following the drought and point _____ represents the eventual long-run equilibrium.
    A) B; C
    B) B; A
    C) E; D
    D) D; A

80. Suppose that droughts in the Prairies and floods in Ontario substantially reduce food production in Canada. Use the aggregate demand–aggregate supply model to illustrate graphically the impact in the short run and the long run of this adverse supply shock. Be sure to label:
    i. the axes
    ii. the curves
    iii. the initial equilibrium values
    iv. the direction the curves shift
    v. the short-run equilibrium values
    vi. the long-run equilibrium values.

    State in words what happens to prices and output in the short run and the long run.

81. Suppose that laws are passed banning labour unions and that resulting lower labour costs are passed along to consumers in the form of lower prices. Use the aggregate demand–aggregate supply model to illustrate graphically the impact in the short run and the long run of this favourable supply shock. Be sure to label:
    i. the axes
    ii. the curves
    iii. the initial equilibrium values
    iv. the direction the curves shift
    v. the short-run equilibrium values
    vi. the long-run equilibrium values.

    State in words what happens to prices and output in the short run and the long run.

82. The basic *IS–LM* model takes _____ as exogenous.
    A) the price level and national income
    B) the price level
    C) national income
    D) the interest rate

83. According to classical theory, national income depends on _____, while Keynes proposed that _____ determined the level of national income.
    A) aggregate demand; aggregate supply
    B) aggregate supply; aggregate demand
    C) monetary policy; fiscal policy
    D) fiscal policy; monetary policy

84. The variable that links the market for goods and services and the market for real money balances in the *IS–LM* model is the:
    A) consumption function.
    B) interest rate.
    C) price level.
    D) nominal money supply.

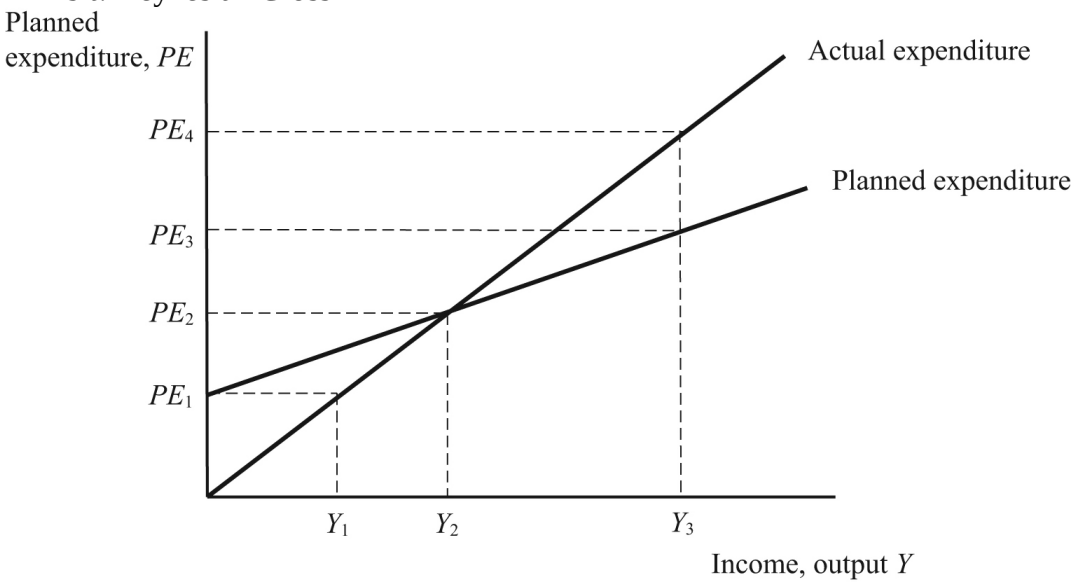
85. In the basic Keynesian cross analysis, planned expenditure consists of:
    A) planned investment.
    B) planned government spending.
    C) planned investment and government spending.
    D) planned investment, government spending, and consumption expenditures.

86. In the basic Keynesian-cross model, actual expenditures equal:
    A) GDP.
    B) the money supply.
    C) the supply of real balances.
    D) unplanned inventory investment.

87. In the Keynesian-cross model, actual expenditures differ from planned expenditures by the amount of:
    A) liquidity preference.
    B) the government-purchases multiplier.
    C) unplanned inventory investment.
    D) real money balances.

Use the following to answer questions 88-90:

Exhibit: Keynesian Cross



88. (Exhibit: Keynesian Cross) In this graph, the equilibrium levels of income and expenditure are:
    A) Y_1 and PE_1.
    B) Y_2 and PE_2.
    C) Y_3 and PE_3.
    D) Y_3 and PE_4.

89. (Exhibit: Keynesian Cross) In this graph, if firms are producing at level Y_1, then inventories will _____ inducing firms to _____ production.
    A) rise; increase
    B) rise; decrease
    C) fall; increase
    D) fall; decrease

90. (Exhibit: Keynesian Cross) In this graph, if firms are producing at level Y_3, then inventories will _____ inducing firms to _____ production.
    A) rise; increase
    B) rise; decrease
    C) fall; increase
    D) fall; decrease

91. The government-purchases multiplier indicates how much _____ change(s) in response to a $1 change in government purchases.
    A) the budget deficit
    B) consumption
    C) income
    D) real balances

92. In the Keynesian-cross model with a given *MPC*, the government-expenditure multiplier _____ the tax multiplier.
    A) is larger than
    B) equals
    C) is smaller than
    D) is the inverse of the

93. In the Keynesian-cross model, if the *MPC* equals .75, then a $1 billion decrease in taxes increases planned expenditures by _____ and increases the equilibrium level of income by _____.
    A) $1 billion; more than $1 billion
    B) $.75 billion; more than $.75 billion
    C) $.75 billion; $.75 billion
    D) $1 billion; $1 billion

94. An explanation for the slope of the *IS* curve is that as the interest rate increases, the quantity of investment _____, and this shifts the expenditure function _____, thereby decreasing income.
    A) increases; downward
    B) increases; upward
    C) decreases; upward
    D) decreases; downward

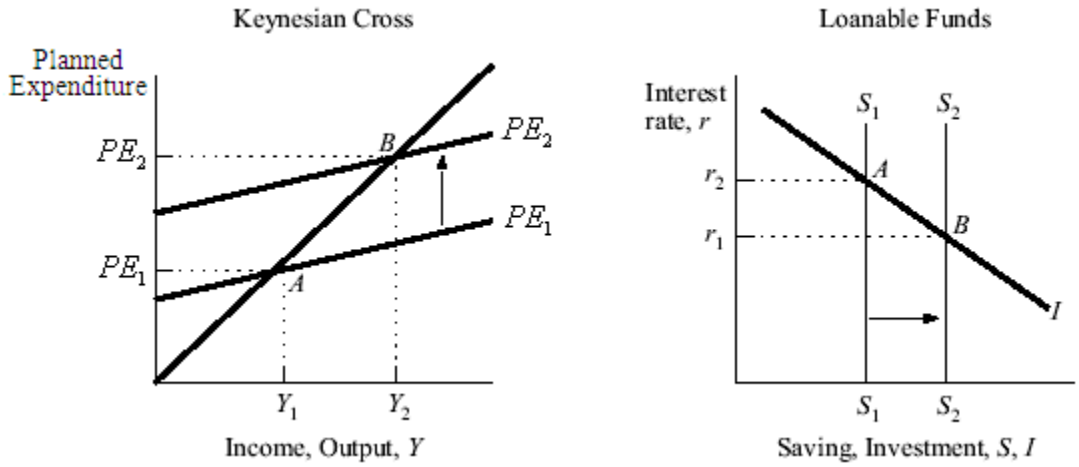
95. Along any given *IS* curve:
    A) tax rates are fixed, but government spending varies.
    B) government spending is fixed, but tax rates vary.
    C) both government spending and tax rates vary.
    D) both government spending and tax rates are fixed.

96. If investment does not depend on the interest rate, then the _____ curve is _____.
    A) *IS*; vertical
    B) *IS*; horizontal
    C) *LM*; vertical
    D) *LM*; horizontal

97. Based on the Keynesian model, one reason to support spending increases over tax cuts as measures to increase output is that:
    A) government spending increases the *MPC* more than tax cuts.
    B) the government-spending multiplier is larger than the tax multiplier.
    C) government-spending increases do not lead to unplanned changes in inventories, but tax cuts do.
    D) increases in government spending increase planned spending, but tax cuts reduce planned spending.

Use the following to answer questions 98-100:

Exhibit: Keynesian Cross and Loanable Funds



98. (Exhibit: Keynesian Cross and Loanable Funds) Both graphs illustrate the inverse relationship between the equilibrium interest rate and the equilibrium level of income. The economy moves from equilibrium *A* to equilibrium *B* in the Keynesian-cross diagram as a result of a(n) _____ that shifts planned expenditures.
    A) increase in income
    B) decrease in income
    C) increase in the interest rate
    D) decrease in the interest rate

99. (Exhibit: Keynesian Cross and Loanable Funds) Both graphs illustrate the inverse relationship between the equilibrium interest rate and the equilibrium level of income. The economy moves from equilibrium *A* to equilibrium *B* in the Loanable Funds diagram as a result of a(n) _____ that shifts saving.
    A) increase in income
    B) decrease in income
    C) increase in the interest rate
    D) decrease in the interest rate

100. (Exhibit: Keynesian Cross and Loanable Funds) Both graphs illustrate the inverse relationship between the equilibrium interest rate and the equilibrium level of income. Planned expenditures increase in the Keynesian-cross model as a result of _____, and saving increases in the loanable funds model as a result of _____.
    A) an increase in taxes; an increase in real money balances
    B) a decrease in the interest rate; an increase in income
    C) a decrease in velocity; an increase in government spending
    D) an increase in the interest rate; a decrease in income

101. According to the theory of liquidity preference, the supply of nominal money balances:
    A) is chosen by the central bank.
    B) depends on the interest rate.
    C) varies with the price level.
    D) changes as the level of income changes.

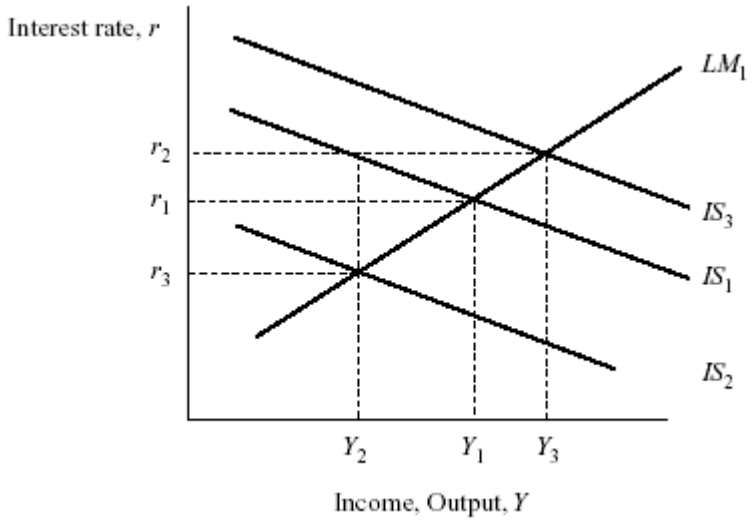
102. The theory of liquidity preference implies that:
    A) as the interest rate rises, the demand for real balances will fall.
    B) as the interest rate rises, the demand for real balances will rise.
    C) the interest rate will have no effect on the demand for real balances.
    D) as the interest rate rises, income will rise.

103. According to the theory of liquidity preference, tightening the money supply will _____ nominal interest rates in the short run, and according to the Fisher effect, tightening the money supply will _____ nominal interest rates in the long run.
    A) increase; increase
    B) increase; decrease
    C) decrease; decrease
    D) decrease; increase

104. If consumption is given by $C = 200 + 0.75(Y - T)$ and investment is given by $I = 200 - 25r$, then the formula for the *IS* curve is:
A) $Y = 400 - 0.75T - 25r + G$.
B) $Y = 1{,}600 - 3T - 100r + 4G$.
C) $Y = 400 + 0.75T - 25r - G$.
D) $Y = 1{,}600 + 3T - 100r - 4G$.

Use the following to answer questions 105-107:

Exhibit: *IS–LM* Fiscal Policy



105. (Exhibit: *IS–LM* Fiscal Policy) Based on the graph, starting from equilibrium at interest rate r_1 and income Y_1, a decrease in government spending would generate the new equilibrium combination of interest rate and income:
A) r_2, Y_2.
B) r_3, Y_2.
C) r_2, Y_3.
D) r_3, Y_3.

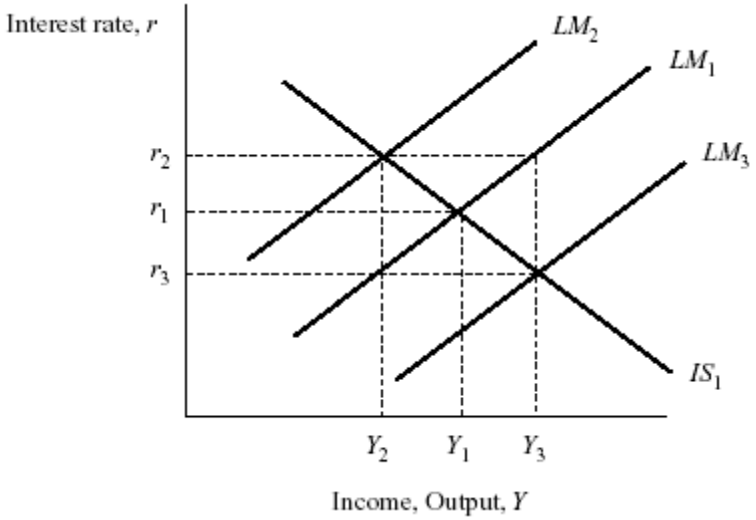
106. (Exhibit: *IS–LM* Fiscal Policy) Based on the graph, starting from equilibrium at interest rate r_1 and income Y_1, an increase in government spending would generate the new equilibrium combination of interest rate and income:
A) r_2, Y_2.
B) r_3, Y_2.
C) r_2, Y_3.
D) r_3, Y_3.

107. (Exhibit: *IS–LM* Fiscal Policy) Based on the graph, starting from equilibrium at interest rate r_1 and income Y_1, a tax cut would generate the new equilibrium combination of interest rate and income:
A) r_2, Y_2.
B) r_3, Y_2.
C) r_2, Y_3.
D) r_3, Y_3.

108. If $MPC = 0.75$ (and there are no income taxes) when G increases by 100, then the IS curve for any given interest rate shifts to the right by:
A) 100.
B) 200.
C) 300.
D) 400.

Use the following to answer questions 109-110:

Exhibit: *IS–LM* Monetary Policy



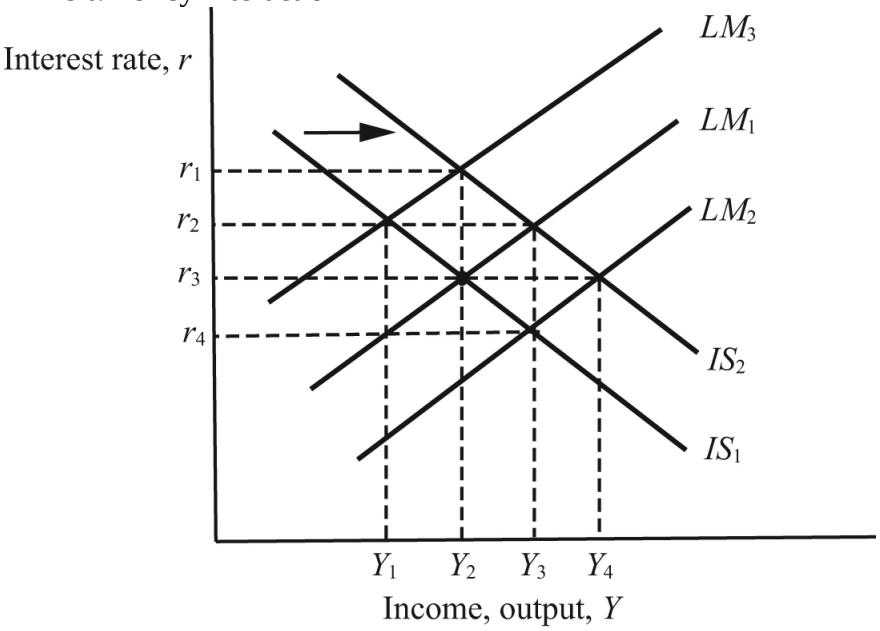
109. (Exhibit: *IS–LM* Monetary Policy) Based on the graph, starting from equilibrium at interest rate r_1 and income Y_1, a decrease in the money supply would generate the new equilibrium combination of interest rate and income:
A) r_2, Y_2.
B) r_3, Y_2.
C) r_2, Y_3.
D) r_3, Y_3.

110. (Exhibit: *IS–LM* Monetary Policy) Based on the graph, starting from equilibrium at interest rate r_1 and income Y_1, an increase in the money supply would generate the new equilibrium combination of interest rate and income:
A) r_2, Y_2.
B) r_3, Y_2.
C) r_2, Y_3.
D) r_3, Y_3.

111. Other things equal, a given change in government spending has a larger effect on demand, the:
A) flatter the *LM* curve.
B) steeper the *LM* curve.
C) smaller the interest sensitivity of money demand.
D) larger the income sensitivity of money demand.

Use the following to answer questions 112-114:

Exhibit: Policy Interaction



112. (Exhibit: Policy Interaction) Based on the graph, starting from equilibrium at interest rate r_3, incomeY_2, IS_1, and LM_1, if there is an increase in government spending that shifts the *IS* curve to IS_2, then in order to keep the interest rate constant the central bank should _____ the money supply shifting to _____.
A) increase; LM_2
B) decrease; LM_2
C) increase; LM_3
D) decrease; LM_3

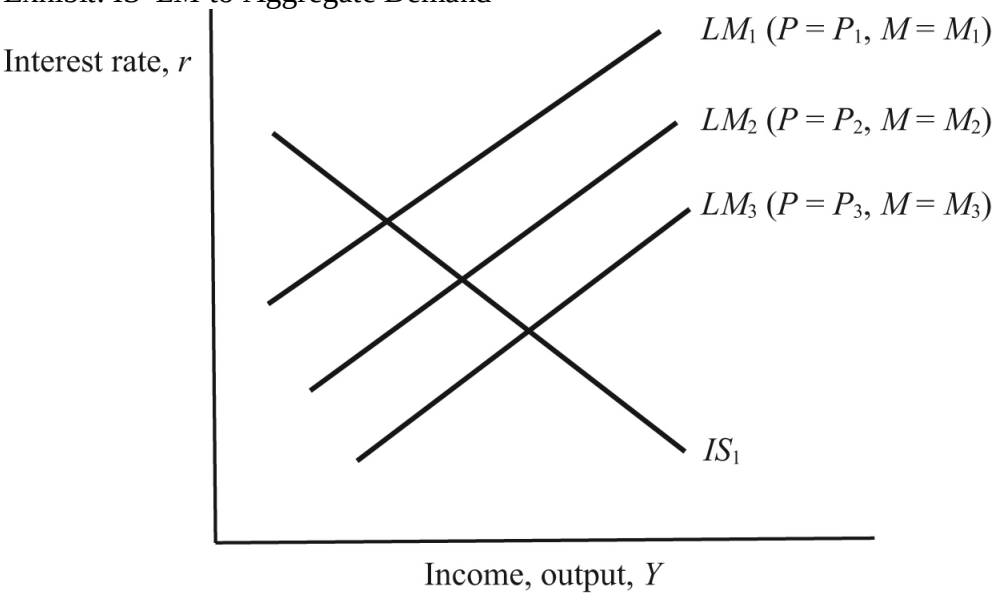
113. (Exhibit: Policy Interaction) Based on the graph, starting from equilibrium at interest rate r_3, income Y_2, IS_1, and LM_1, if there is an increase in government spending that shifts the *IS* curve to IS_2, then in order to keep output constant the central bank should _____ the money supply shifting to _____.
A) increase; LM_2
B) decrease; LM_2
C) increase; LM_3
D) decrease; LM_3

114. (Exhibit: Policy Interaction) Based on the graph, starting from equilibrium at interest rate r_3, income Y_2, IS_1, and LM_1, if there is an increase in government spending that shifts the *IS* curve to IS_2 and the central bank does not change the money supply, the new equilibrium combination of interest and income will be:
A) r_1, Y_2.
B) r_2, Y_3.
C) r_3, Y_3.
D) r_3, Y_4.

115. A change in income in the *IS–LM* model resulting from a change in the price level represents a _____ aggregate demand curve, while a change in income in the *IS–LM* model for a given price level represents a _____ aggregate demand curve.
A) movement along the; shift in the
B) shift in the; movement along the
C) vertical; horizontal
D) horizontal; vertical

Use the following to answer questions 116-118:

Exhibit: *IS–LM* to Aggregate Demand



116. (Exhibit: *IS–LM* to Aggregate Demand) Based on the graph, if LM_1 shifts to LM_2 because the price level decreases from P_1 to P_2, then, holding other factors constant:
    A) the aggregate demand curve will shift to the right.
    B) the aggregate demand curve will shift to the left.
    C) this represents a movement up the aggregate demand curve.
    D) this represents a movement down the aggregate demand curve.

117. (Exhibit: *IS–LM* to Aggregate Demand) Based on the graph, if LM_3 shifts to LM_2 because the money supply decreases from M_3 to M_2, then, holding other factors constant:
    A) the aggregate demand curve will shift to the right.
    B) the aggregate demand curve will shift to the left.
    C) this represents a movement up the aggregate demand curve.
    D) this represents a movement down the aggregate demand curve.

118. (Exhibit: *IS–LM* to Aggregate Demand) Based on the graph, which is the correct ordering of the price levels and money supplies?
    A) $P_1 > P_2$ and $M_1 > M_2$
    B) $P_1 > P_2$ and $M_1 < M_2$
    C) $P_1 < P_2$ and $M_1 > M_2$
    D) $P_1 < P_2$ and $M_1 < M_2$

119. If the *IS* curve is given by $Y = 1{,}700 - 100r$ and the *LM* curve is given by $Y = 500 + 100r$, then equilibrium income and interest rate are given by:
A) $Y = 1{,}100$, $r = 6$ percent.
B) $Y = 1{,}200$, $r = 5$ percent.
C) $Y = 1{,}000$, $r = 5$ percent.
D) $Y = 1{,}100$, $r = 5$ percent.

120. If the *IS* curve is given by $Y = 1{,}700 - 100r$, the money demand function is given by $(M/P)^d = Y - 100r$, the money supply is 1,000, and the price level is 2, then if the money supply is raised to 1,200, equilibrium income rises by:
A) 200 and the interest rate falls by 2 percent.
B) 100 and the interest rate falls by 1 percent.
C) 50 and the interest rate falls by 0.5 percent.
D) 200 and the interest rate remains unchanged.

121. According to the Keynesian-cross analysis, if the marginal propensity to consume is 0.6, and government expenditures and autonomous taxes are both increased by 100, equilibrium income will rise by:
A) 0.
B) 100.
C) 150.
D) 250.

122. In the Keynesian-cross analysis, if the consumption function is given by $C = 100 + 0.6(Y - T)$, and planned investment is 100, G is 100, and T is 100, then equilibrium Y is:
A) 350.
B) 400.
C) 600.
D) 750.

123. Using the Keynesian-cross analysis, assume that the consumption function is given by $C = 100 + 0.6(Y - T)$. If planned investment is 100 and T is 100, then the level of G needed to make equilibrium Y equal 1,000 is:
A) 200.
B) 240.
C) 250.
D) 260.

124. a. Graphically illustrate the impact of an open-market purchase by the Bank of Canada on the equilibrium interest rate using the theory of liquidity preference and the market for real money balances. Be sure to label:
i. the axes
ii. the curves
iii. the initial equilibrium values
iv. the direction the curve shifts
v. the terminal equilibrium values.
b. Explain in words what happens to equilibrium interest rate as a result of the open-market purchase.

125. The *IS–LM* model simultaneously determines equilibrium in two markets.
a. Which two markets?
b. What two variables adjust to bring equilibrium in the markets?

126. Explain why an increase in the money supply, which is a change in the money market, will upset the equilibrium in the goods market.

127. During the financial crisis of 2008–09, many financial institutions stopped making loans even to creditworthy customers, which could be represented in the *IS–LM* model as a(n):
A) expansionary shift in the *IS* curve.
B) contractionary shift in the *IS* curve.
C) expansionary shift in the *LM* curve.
D) contractionary shift in the *LM* curve.

128. The *LM* curve is steeper the _____ the interest sensitivity of money demand and the _____ the effect of income on money demand.
A) greater; greater
B) greater; smaller
C) smaller; smaller
D) smaller; greater

129. Assume that an economy is described by the *IS* curve $Y = 3{,}600 + 3G - 2T - 150r$ and the *LM* curve $Y = 2\ M/P + 100r$ [or $r = 0.01Y - 0.02(M/P)$]. The investment function for this economy is $1{,}000 - 50r$. The consumption function is $C = 200 + (2/3)(Y - T)$. Long-run equilibrium output for this economy is 4,000. The price level is 1.0 and M = 1,200.

    a. Assume that government spending is fixed at 1,200. The government wants to achieve a level of investment equal to 900 and also achieve $Y = 4{,}000$. What level of r is needed for $I = 900$? What levels of T and M must be set to achieve the two goals? What will be the levels of private saving, public saving, and national saving? (*Hint*: Check $C + I + G = Y$.)
    b. Now assume that the government wants to cut taxes to 1,000. With G set at 1,200, what will the interest rate be at $Y = 4{,}000$? What must be the value of M? What will I be? What will be the levels of private, public, and national saving? (*Hint*: Check $C + I + G = Y$.)
    c. Which set of policies may be referred to as tight fiscal, loose money? Which set of policies may be referred to as loose fiscal, tight money? Which "policy mix" most encourages investment?

130. Suppose the government wishes to reduce the budget deficit by reducing government spending. Use the *IS–LM* model to illustrate graphically the impact of the reduction in government spending on output and interest rates. Be sure to label:
    i. the axes
    ii. the curves
    iii. the initial equilibrium values
    iv. the direction the curves shift
    v. the terminal equilibrium values.

131. Suppose the government passes legislation that reduces taxes. Use the *IS–LM* model to illustrate graphically the impact of the tax reduction on output and interest rates. Be sure to label:
    i. the axes
    ii. the curves
    iii. the initial equilibrium values
    iv. the direction the curves shift
    v. the terminal equilibrium values.

132. How can the Bank of Canada keep the economy from falling into a recession if the budget deficit is reduced? Use the *IS–LM* model to illustrate graphically the impact of both the fiscal policy reducing the deficit and the monetary policy, which prevents output from falling. Be sure to label:
i. the axes
ii. the curves
iii. the initial equilibrium values
iv. the direction the curves shift
v. the terminal equilibrium values.

133. Use the *IS–LM* model to illustrate graphically the impact on output and interest rates of a one-time increase in the price level due to a large increase in oil prices. Be sure to label:
i. the axes
ii. the curves
iii. the initial equilibrium value
iv. the direction the curves shift
v. the terminal equilibrium values.

134. In a small open economy with perfect capital mobility, if the domestic interest rate were to rise above the world interest rate, then _____ would drive the domestic interest rate back to the level of the world interest rate.
A) capital inflow
B) capital outflow
C) the central bank
D) a decline in domestic saving

135. Assuming there is perfect capital mobility, compared to a *large* open economy, a *small* open economy is one in which the:
A) exchange rate is fixed.
B) exchange rate is floating.
C) domestic interest rate equals the world interest rate.
D) domestic interest rate is not equal to the world interest rate.

136. In a small open economy with a floating exchange rate, an effective policy to increase equilibrium output is to:
A) increase government spending.
B) increase taxes.
C) increase the money supply.
D) decrease the money supply.

137. In a small open economy with a floating exchange rate, an effective policy to decrease equilibrium output is to:
    A) decrease government spending.
    B) decrease taxes.
    C) increase the money supply.
    D) decrease the money supply.

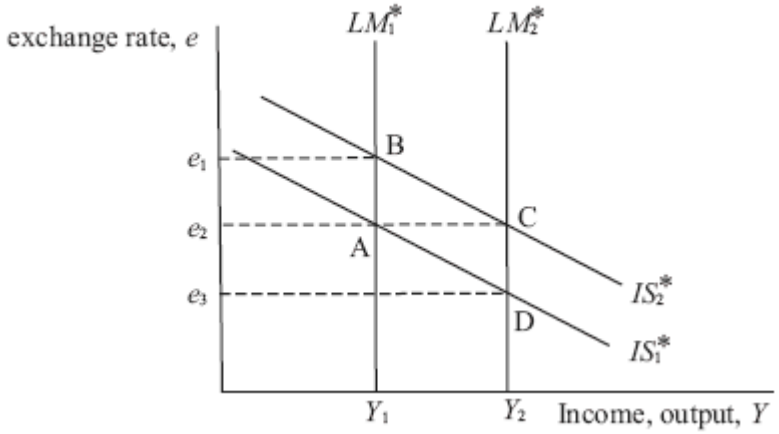
138. In a small open economy with a floating exchange rate, the exchange rate (defined as the value of the domestic currency) will appreciate if:
    A) the money supply is increased.
    B) the money supply is decreased.
    C) government spending is decreased.
    D) taxes are decreased.

139. In a small open economy with a floating exchange rate, if the government adopts an expansionary fiscal policy, in the new short-run equilibrium:
    A) income and the exchange rate will both rise.
    B) the exchange rate will rise, but income will remain unchanged.
    C) income will rise, but the exchange rate will remain unchanged.
    D) both income and the interest rate will rise.

140. In a small open economy with a floating exchange rate, the supply of real money balances is fixed and a rise in government spending:
    A) raises the interest rate, so income must rise to maintain equilibrium in the money market.
    B) raises the interest rate, so net exports must fall to maintain equilibrium in the goods market.
    C) cannot change the interest rate, so net exports must fall to maintain equilibrium in the goods market.
    D) cannot change the interest rate, so income must rise to maintain equilibrium in the money market.

Use the following to answer questions 141-142:

Exhibit: *IS**–*LM**

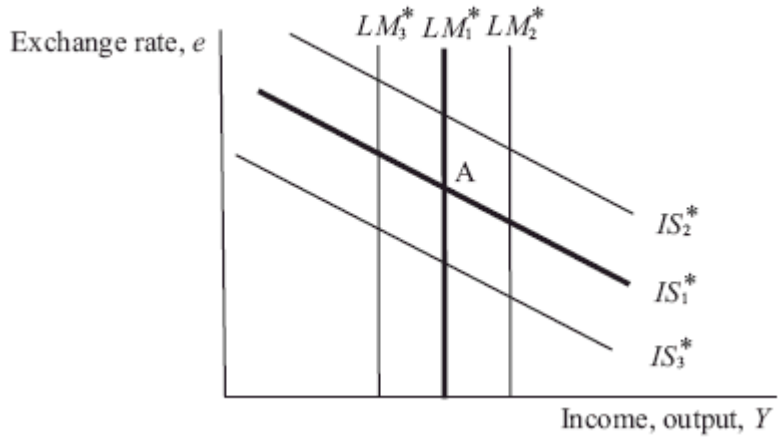


141. (Exhibit: *IS**–*LM**) A small open economy with a floating exchange rate is initially at equilibrium A with IS^*_1, LM^*_1, equilibrium exchange rate e_2, and equilibrium output Y_1. If there is an increase in government spending to IS^*_2, the new equilibrium will be at _____, holding everything else constant.
A) A
B) B
C) C
D) D

142. (Exhibit: *IS**–*LM**) A small open economy with a floating exchange rate is initially at equilibrium A with IS^*_1, LM^*_1, equilibrium exchange rate e_2, and equilibrium output Y_1. If there is a monetary expansion to LM^*_2, the new equilibrium will be at _____, holding everything else constant.
A) A
B) B
C) C
D) D

Use the following to answer questions 143-144:

Exhibit: Risk Premium

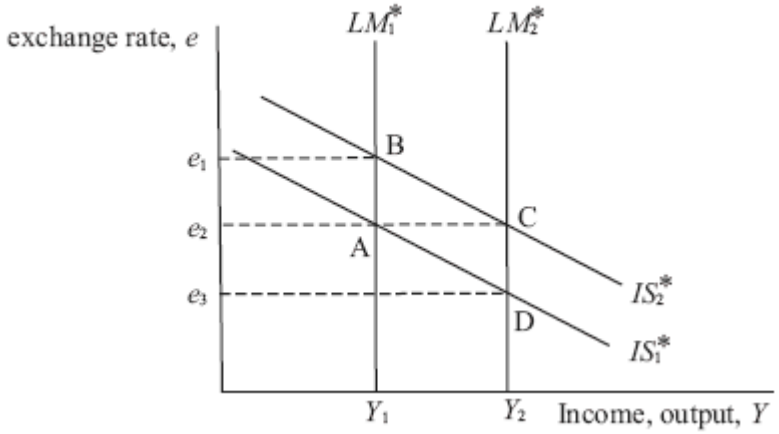


143. (Exhibit: Risk Premium) A small open economy with a floating exchange rate is initially in equilibrium at A with IS^*_1, LM^*_1. Holding all else constant, if the government imposes a tariff on imports in order to protect domestic jobs, then the _____ curve will shift to _____.
A) LM^*; LM^*_2
B) LM^*; LM^*_3
C) IS^*; IS^*_2
D) IS^*; IS^*_3

144. (Exhibit: Risk Premium) A small open economy with a floating exchange rate is initially in equilibrium at A with IS^*_1, LM^*_1. Holding all else constant, if domestic consumers develop greater preferences for imported goods, then the _____ curve will shift to _____.
A) LM^*; LM^*_2
B) LM^*; LM^*_3
C) IS^*; IS^*_2
D) IS^*; IS^*_3

Use the following to answer questions 145-146:

Exhibit: *IS**–*LM**



145. (Exhibit: *IS**–*LM**) A small open economy with a fixed exchange rate, e_2, is initially at equilibrium A with IS^*_1, LM^*_1, and equilibrium output Y_1. If there is an increase in government spending to IS^*_2, the new equilibrium will be at _____, holding everything else constant.
    A) A
    B) B
    C) C
    D) D

146. (Exhibit: *IS**–*LM**) A small open economy with a fixed exchange rate, e_2, is initially at equilibrium A with IS^*_1, LM^*_1, and equilibrium output Y_1. If there is a monetary expansion to LM^*_2, the new equilibrium will be at _____, holding everything else constant.
    A) A
    B) B
    C) C
    D) D

147. In a small open economy with a fixed exchange rate, if the central bank tries to increase the money supply, then in the new short-run equilibrium:
    A) income rises.
    B) income falls.
    C) the exchange rate falls.
    D) income remains constant.

148. In the Mundell–Fleming model with fixed exchange rates, attempts by the central bank to decrease the money supply:
    A) lead to a lower equilibrium level of income.
    B) lead to a higher equilibrium level of income.
    C) must be abandoned in order to maintain the fixed exchange rate.
    D) must be offset by expansionary fiscal policy.

149. The introduction of a stylish new line of cars made in Europe, which makes some consumers prefer foreign cars over domestic cars, will, according to the Mundell–Fleming model with floating exchange rates, lead to:
    A) a fall in income and net exports.
    B) no change in income or net exports.
    C) a fall in income but no change in net exports.
    D) no change in income but a fall in net exports.

150. The introduction of a stylish new line of cars made in Europe, which makes some consumers prefer foreign cars over domestic cars, will, according to the Mundell–Fleming model with fixed exchange rates, lead to:
    A) a fall in income and net exports.
    B) no change in income or net exports.
    C) a fall in income but no change in net exports.
    D) no change in income but a fall in net exports.

151. Assume that the *LM* curve for a small open economy with a floating exchange rate is given by $Y = 200r - 200 + 2(M/P)$, while the *IS* curve is $Y = 400 + 3G - 2T + 3NX - 200r$. The function for *NX* is $NX = 200 - 100e$, where *e* is the exchange rate. The price level (*P*) is fixed at 1.0. The international interest rate is $r^* = 2.5$ percent.

    a. Using the *LM* curve, find the equilibrium level of *Y* in the small open economy, if $M = 100$.
    b. Given this value of *Y*, if $G = 100$ and $T = 100$, what must be the equilibrium value of *NX*?
    c. If this value of *NX* is to be achieved, what must be the equilibrium exchange rate, *e*?

152. Assume that the *LM* curve for a small open economy with a fixed exchange rate is given by $Y = 200r - 200 + 2(M/P)$. This *IS* curve is given by $Y = 400 + 3G - 2T + 3NX - 200r$. The function for the net exports is $NX = 200 - 100e$, where e is the exchange rate. The price level is fixed at 1.0, the world interest rate is $r^* = 2.0$ percent, and the exchange rate is initially 1.0.

    a. If $M = 100$, $G = 100$, and $T = 100$, solve for the equilibrium short-run values of Y and NX. Is the initially given exchange rate equal to the equilibrium exchange rate?
    b. If the central bank buys bonds in order to raise the money supply, will equilibrium Y increase?

153. Suppose the government of a small open economy with a floating exchange rate imposes
    50 percent tariffs on all imports. Use the Mundell–Fleming model to illustrate graphically the short-run impact of the tariffs of the exchange rate and output in the country. Be sure to label:
    i. the axes
    ii. the curves
    iii. the initial equilibrium levels
    iv. the direction the curves shift
    v. the new short-run equilibrium.