

THE UNIVERSITY OF WESTERN ONTARIO
LONDON CANADA

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ECONOMICS 1022B-002/004

February 6, 2010

MIDTERM 1

INSTRUCTIONS:

1. The examination begins at **4:00 p.m.** and ends at **6:00 p.m.**

2. Check that your examination paper contains 16 pages.

3. Use a **BLACK PENCIL** to complete your Scantron Form.

Print your **NAME** and complete your **SIGNATURE**.

Enter your **STUDENT NUMBER**.

Enter your **SECTION NUMBER**, which is either 002 or 004.

4. **Please hand in Scantron Form only.**

5. You may use a regular calculator but you may not use a programmable or graphing calculator. Your cell phone may *not* be used as a calculator.

6. Your cell phone must be switched off and left in your bag at the front of the exam room.

7. You must remain in the examination room until you have finished the exam. No breaks outside of the examination room will be allowed.

NOTE: QUESTIONS ARE PRINTED ON BOTH SIDES OF EACH PAGE

Use the figure below to answer the following question.

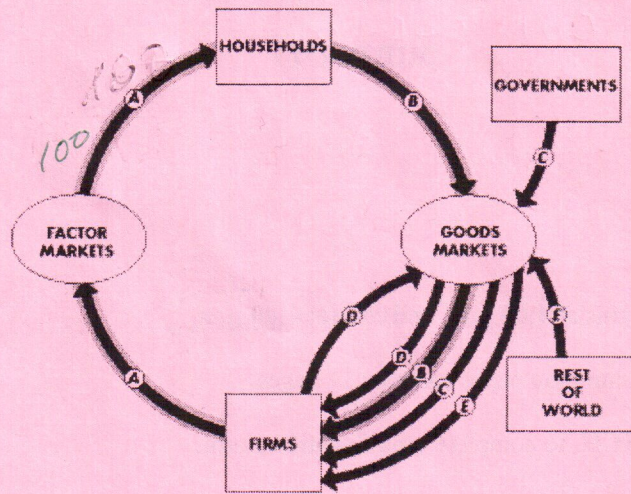


Figure 1

1) Refer to Figure 1, which shows the circular flow of expenditure and income for Venus. During 2008, *A* was \$100, *B* was \$50, *C* was \$30 and *D* was \$10. What is aggregate income?

- A) \$90.
- B) \$25.
- C) \$75.
- D) \$50.
- E) \$100.

2) A bakery uses flour to produce bread.

When calculating GDP, we include _____, because when we add the value of the flour to the value of the loaf of bread to calculate GDP, the result is _____.

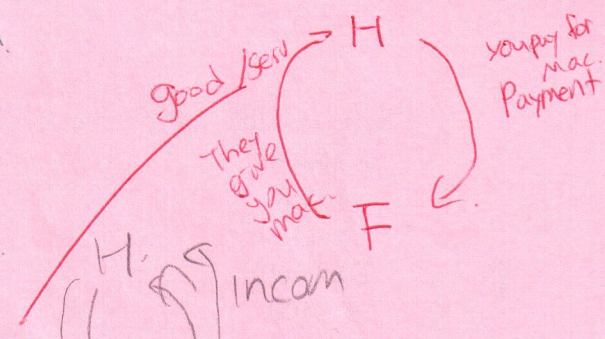
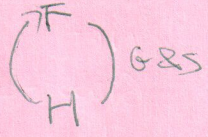
- A) only the value of the flour used to produce the bread; double counting
- B) only the value of the bread sold in a store; double counting
- C) both the value of the bread sold in a store and the value of the flour used to produce the bread; double counting
- D) both the value of the bread sold in a store and the value of the flour used to produce the bread; the true value of the economy's output
- E) none of the above

$$Y = G + I + C + X - M$$

3) Which one of the following is false?

- A) $X - M = Y - C - I - G$
- B) $Y = C + I + G + X - M$
- C) $Y - C - I - G - X + M = 0$
- D) $Y = C + I + G + M - X$
- E) $Y + M = C + I + G + X$

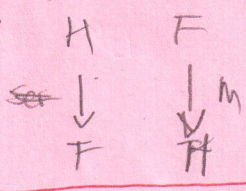
D



4) Which one of the following flows from firms to households?

- A) Payments for goods and services.
- B) Loans.
- C) Goods and services.
- D) Payments for loans.
- E) Factor services.

C



$$I + G + S$$

$$I + G + C + (X - M) = C + S + I$$

$$I = (T - G) + (M - X) - 80 +$$

Use the table below to answer the following questions.

Table 1
Data From Eastland

Wages, salaries, and supplementary labour income	800	
Farmers' income	80	120 - 240
Government expenditures on goods and services	240	+ 80
Depreciation	240	
Business investment	400	
Personal income taxes net of transfer payments	140	
Corporate profits	80	
Indirect taxes	120	
Net exports	80	
Consumption expenditure	640	
Interest and miscellaneous investment income	100	

$$G + I +$$

+640

5) Refer to Table 1. From the information given in the table, the value of gross domestic product is

- A) \$1,100.
- B) \$1,290.
- C) \$1,280.
- D) \$1,360.
- E) \$1,120.

D

$$C + G + I + NE \text{ GDP net}$$

$$640 + 240 + 400 + 80$$

$$G + I + S$$

6) Refer to Table 1. From the information given in the table, what is total income in Eastland?

- A) \$1,280.
- B) \$1,360.
- C) \$1,290.
- D) \$1,120.
- E) \$1,100.

B

$$I = S - \Delta + T$$

7) Refer to Table 1. From the data in the table, what is the net investment in Eastland?

- A) \$400.
- B) \$240.
- C) -\$160.
- D) \$160.
- E) \$500.

$$CS + T = G + C + T + X - M$$

I Net
Gross - depreciation

$$400 - 240 = 160$$

8) Refer to Table 1. From the data in the table, what additional data are needed to compute net domestic income at factor cost?

- A) Net taxes.
- B) Transfer payments.
- C) Subsidies.
- D) Depreciation.
- E) Income of non-farm unincorporated businesses.

GDP from income approach.

Use the table below to answer the following question.

Table 2

In 2007		
Item	Quantity	Price
Digital cameras	7	\$2 each
Chocolate bars	2	\$1 each
Watches	3	\$3 each

In 2008		
Item	Quantity	Price
Digital cameras	1	\$9 each
Chocolate bars	6	\$8 each
Watches	9	\$10 each

AGDP in 2007 = 25
 Priced in 2007 = 35
 RGDP in 2008 = 147
 Priced in 2008 = 109

9) Refer to Table 2. An economy produces only digital cameras, chocolate bars, and watches.

The table gives the quantities produced and prices in 2007 and 2008.

The base year is 2007.

The chained-dollar real GDP in 2008 is

- A) \$36.
- B) \$25.
- C) \$147.
- D) \$109.
- E) \$34.

In 2007
 Nominal GDP = 25

2008 prod at 2007 price = 35

Δ Percentage = $\frac{35 - 25}{25} \times 100 = 40\%$

In 2008

NOM = 147

2007 prod at 2008 price = 109

Δ Percentage = $\frac{147 - 109}{109} \times 100 = 35.9\%$

Use the table below to answer the following question.

Table 3

Quantities	2008	2009
Bananas	1,000 bunches	1,100 bunches
Coconuts	500 bunches	525 bunches
Prices	2008	2009
Bananas	\$2 a bunch	\$3 a bunch
Coconuts	\$10 a bunch	\$8 a bunch

10) Refer to Table 3. The table provides data on the economy of Tropical Republic that produces only bananas and coconuts.

Nominal GDP in 2008 is _____. Nominal GDP in 2009 is _____. The chained-dollar real GDP in 2009 expressed in 2008 dollars is _____.

- (A) \$7,000; \$7,500; \$7,472.50 ✓
- B) \$7,500; \$7,000; \$7,472.50
- C) \$1,500; \$1,625; \$1,575
- D) \$7,472.50; \$7,500; \$7,000
- E) \$7,472.50; \$7,000; \$7,500

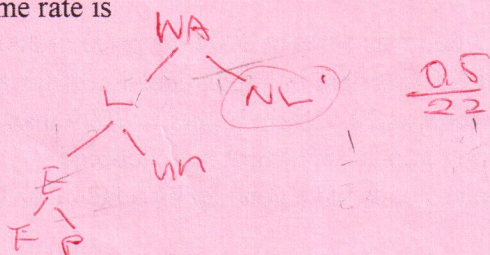
Handwritten calculations for Question 10:
 2008: 7000
 2009: 7450
 Chain index: $\frac{7450}{7000} = 1.064$
 Real GDP: $\frac{7450}{1.064} = 7000$
 Final answer: 6750

11) The labour force participation rate is

- A) the percentage of the labour force who are unemployed or employed. X
- B) the percentage of the working-age population who are employed. X
- D) the percentage of the labour force who are employed. X
- (D) the percentage of the working-age population who are unemployed or employed.
- E) none of the above.

12) In a country with a working-age population of 22 million, 16 million are employed, 2 million are unemployed, and 1 million of the employed are working part-time, half of whom wish to work full-time. The involuntary part-time rate is

- (C) A) 6.3 percent.
- B) 5 percent.
- C) 2.8 percent. →
- D) 12.5 percent.
- E) none of the above.



13) Full employment does not mean that there is zero unemployment because

- A) of the existence of discouraged workers. X
- B) some cyclical unemployment is always present. X
- C) business fluctuations are inevitable.
- D) of unrealistic wage expectations. X
- E) some frictional unemployment is always present.

14) In a dynamic economy under ideal conditions, the unemployment rate

- A) averages 6 percent.
- B) is greater than zero percent due to natural unemployment. ✓
- C) decreases as the price level falls.
- D) increases as the price level rises.
- E) should be zero.

$$\frac{80}{100}$$

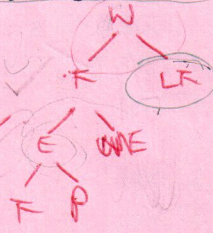
15) If the economy is operating at full employment, then

- A) the unemployment rate is zero.
- B) the entire labour force is employed. ✓
- C) everyone who wants a job has one.
- D) the unemployment rate is approximately 3 percent. ✓
- E) none of the above. X

Never full employment
 X. Total $\frac{80}{100}$ 20
 50 100

16) If the number of discouraged workers increases, everything else remaining the same, then the

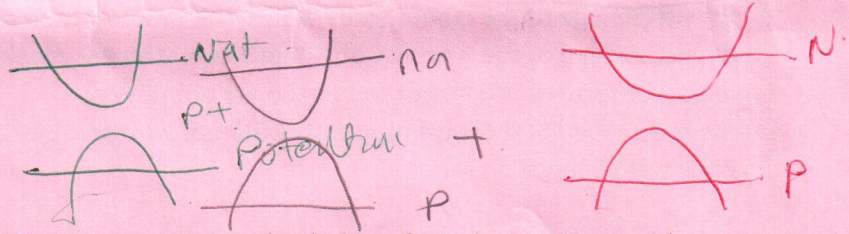
- A) unemployment rate will increase. ✓
- B) labour force participation rate will increase. ✓
- C) employment-to-population ratio will decrease. ✓
- D) labour force participation rate will decrease. ✓
- E) employment-to-population ratio will increase. ✓



$$\frac{E}{W} \uparrow = \downarrow$$

17) When the unemployment rate is less than the natural unemployment rate, real GDP is _____ than potential GDP and the output gap is _____.

- A) greater; negative
- B) greater; equal to zero
- C) smaller; negative
- D) greater; positive
- E) smaller; positive



18) The reference base period is 2002. A consumer price index of 122 in 2009 means that

- A) the market basket of consumer goods that cost \$122 in 2002 can be purchased for \$100 in 2009.
- B) if the price of a good was \$100 in 2002, its price in 2009 is \$122. ✓
- C) the average of the prices paid by urban consumers for a fixed market basket of consumer goods and services was 22 percent higher in 2009 than it was on average during 2002. ✓
- D) prices of consumer goods have more than doubled. ✓
- E) prices of consumer goods have gone up by a factor of 12.2. ✓

$$100 \quad 112$$

100.7-3

Use the table below to answer the following question.

Table 4
Data From Southton

Item	Price (dollars)	Price (dollars)	Quantity (number)	Quantity (number)
	Base	Current	Base	Current
Rubber				
Ducks	1.00	1.25	100	100
Beach Towels	9.00	6.00	12	14

19) Refer to Table 4. From the data, what is Southton's consumer price index for the current year?

- A) 100
- B) 105.6
- C) 112
- D) 100.5
- E) 94.7

D

E

125

209
226

700

196.96

20) Of the following sequences of price levels, which correctly represents a 5 percent inflation rate?

- A) 95, 100, 105, 110
- B) 100, 105, 110.25, 115.76
- C) 100, 105, 110, 115
- D) 100, 100, 100, 100
- E) 100, 105, 105, 105

B

21) In 2008, Armenia had real GDP of \$4.21 billion and a population of 2.98 million. In 2009, real GDP was \$4.59 billion and population was 2.97 million. Between 2008 and 2009, Armenia's standard of living _____.

- A) did not change
- B) increased
- C) decreased
- D) might have increased, decreased, or remained unchanged
- E) doubled

A

B

4.21 / 2.98 = 1.41
4.59 / 2.97 = 1.54

22) Real GDP per person in the country of Flip is \$10,000, and the growth rate is 10 percent a year. Real GDP per person in the country of Flap is \$20,000 and the growth rate is 5 percent a year. When will real GDP per person be greater in Flip than in Flap?

- A) in 2 years
- B) in 15 years
- C) in 7 years
- D) in 10 years
- E) never

B

Flip RGDP = 10000, GR = 10%
Flap RGDP = 20000, GR = 5%

70 / 10 = 7
20000 / 40000 = 0.5
70 / 5 = 35
40000

1 GR = 10%
2 GR = 5% 14 year
70 / 5 = 14

23) Canada's economic growth rate was highest in which of the following decades?

- A) the 1970s
- B) the 1980s
- C) the 1930s
- D) the 1990s
- E) the 1960s

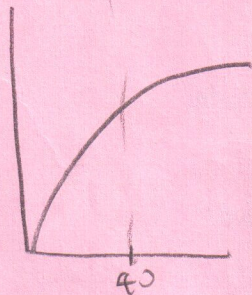
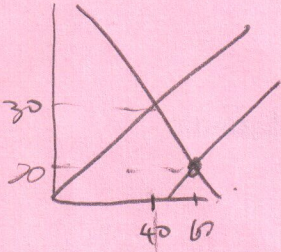
24) The gap between real GDP per person in Canada and Hong Kong has _____ since 1960. During this period, the growth rate of real GDP per person in Canada has been _____ than in Hong Kong.

- A) decreased; faster
- B) remained constant; equal
- C) increased; faster
- D) reversed; slower
- E) reversed; faster

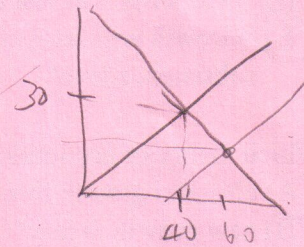
Use the table below to answer the following question.

Table 5

Real wage rate (2002 dollars per hour)	Quantity of labour demanded (billions of hours per year)	Quantity of labour supplied (billions of hours per year)
15	70	10
20	60	20
25	50	30
30	40	40
35	30	50



Real GDP (trillions of 2002 dollars per year)	Quantity of labour (billions of hours per year)
3	20
9	30
14	40
17	50
19	60



25) Refer to Table 5. The tables show the labour market and the production function schedule for the country of Pickett. An increase in population changes the quantity of labour supplied by 20 billion hours at each real wage rate. Potential GDP 17.

- A) increases to \$19 trillion
- B) decreases to \$3 trillion
- C) increases to \$50 trillion
- D) increases to \$17 trillion
- E) does not change

26) If labour productivity increases, then potential GDP ↑, employment ↑, and potential GDP per hour of labour ↑.

- A) increases; decreases; decreases
- B) increases; increases; increases
- C) decreases; increases; increases
- D) decreases; decreases; decreases
- E) increases; increases; decreases

27) Suppose capital per hour of labour grows at 3.0 percent a year and technological change increases labour productivity by 1.0 percent a year. If the economy follows a one-third rule, the growth rate of labour productivity is _____ percent a year.

- A) 1.0
- B) 5.0
- C) 2.0
- D) 7.0
- E) 4.0

1.47
0.49
1.96

28) Which one of the following quotations could be attributed to a supporter of the classical growth theory?

- A) "Growth will last as long as knowledge accumulation continues."
- B) "Knowledge does not experience diminishing returns."
- C) "Prosperity will last as long as there is knowledge accumulation."
- D) "Prosperity will last because technology keeps advancing."
- E) "Growth will last only until the increase in population brings productivity down to the subsistence level." ✓

29) Which theory of economic growth argues that growth does *not* automatically slow down?

- A) classical growth theory *popu*
- B) new growth theory
- C) neoclassical growth theory *tech.*
- D) all of the theories
- E) none of the theories

30) The key difference between the neoclassical growth theory and the new growth theory is that

- A) increases in population drive workers' incomes back down to the subsistence level in neoclassical growth theory.
- B) capital is subject to diminishing returns under new growth theory.
- C) labour productivity grows indefinitely in neoclassical growth theory.
- D) capital is not subject to diminishing returns under new growth theory.
- E) the pace of technological advances are caused by chance in new growth theory.

31) In 2008, Tim's Gyms needs to finance the building of a new gym. Suppose Tim secures this financing from a bank, and the bank receives ownership if Tim fails to make payments. This type of funding is

- A) a stock issued in the bond market.
- B) a bond issued in the bond market.
- C) a stock issued in the loan market.
- D) a mortgage obtained in the loan market.
- E) a mortgage obtained in the stock market.

3 2 = 1

32) At the beginning of the year, Tom's Tubes had a capital stock of 5 tube-inflating machines. During the year, Tom scrapped 2 old machines and purchased 3 new machines. Tom's net investment for the year totaled

- A) 5 machines
- B) 3 machines.
- C) 1 machine.
- D) 6 machines.
- E) 2 machines.

inf.
3 2
8-2

7

5+3
8-2=6

Refer to the table below to answer the following question.

Table 6

Item	Millions of dollars
Consumption expenditure	80
Government expenditure on goods and services	30
Net taxes	35
Investment	20
Imports	10
Exports	20

33) Refer to Table 6. Private saving is

- A) \$20 million.
- B) -\$15 million.
- C) \$25 million.
- D) \$40 million.
- E) \$80 million.

$$C + I + G + (X - M) = C + S + T$$

$$I + G + (X - M) - T = S$$

$$\frac{C + I + G + (X - M) - (C + S + T)}{I - S + G - T + X - M}$$

$$I = \text{investment} = S + (X - M)$$

$$S = I + G - T + X - M$$

$$C + J + G + (X - M) = S + T$$

$$30 + 20 + G + 35 + 20 - 10$$

$$I + G + (X - M) - T = S$$

$$20 + 30 + 10 - 35 = 25$$

Refer to the figure below to answer the following question.

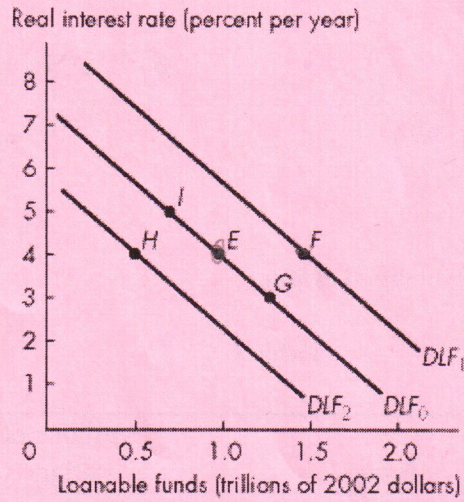


Figure 2

34) Refer to Figure 2. An increase in expected profit will result in a movement from point E to

- A) point H.
- B) point I.
- C) point F.
- D) point G.
- E) either point I or point F.

EX Profit = Shift
 RIR = movement along the curve.

35) If households' disposable income decreases, then

- A) households' saving will decrease. ✓
- B) a movement occurs down along the supply of loanable funds curve.
- C) the supply of loanable funds decreases. ✓
- D) households' saving will increase.
- E) both A and C are correct.

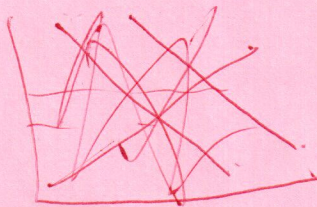
movement.
 Saving ↓ Supply ↓
 Saving ↑ Supply ↑
 Disposable ↑, wealth ↓

36) Investment will be higher if

- A) net exports are higher.
- B) national saving is higher.
- C) government spending is higher.
- D) the real interest rate is higher. x ↓
- E) the government deficit is higher. x ↓

Surplus ↓

Surplus of total investment ↑
 supply



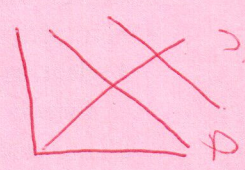
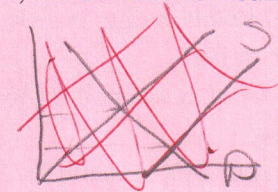
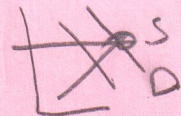
37) If the government begins to run a larger budget deficit, the demand for loanable funds _____ and the real interest rate _____.

- A) increases; falls
 B) increases; rises
 C) decreases; falls
 D) decreases; rises
 E) increases; rises or falls depending on the change in the supply of loanable funds

A

B

B



38) The Ricardo-Barro effect holds that

- A) equal increases in taxes and government expenditures have no effect on equilibrium real GDP.
 B) a government budget deficit induces a decrease in saving that magnifies the crowding out effect.
 C) a government budget deficit crowds out private investment.
 D) a government budget deficit has no effect on the real interest rate.
 E) none of the above.

♡

D

Use the table below to answer the following question.

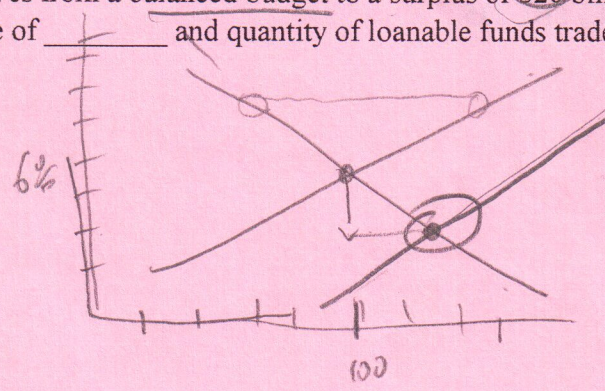
Table 7
Data from Northland

Real Interest Rate	Demand for Loanable Funds (billions of dollars)	Supply of Loanable Funds (billions of dollars)
3%	160	40
4%	140	60
5%	120	80
6%	100	100
7%	80	120
8%	60	140

39) Refer to Table 7. Table 7 shows the market for loanable funds in Northland. The government budget is balanced. If the government moves from a balanced budget to a surplus of \$20 billion, the new equilibrium has a real interest rate of _____ and quantity of loanable funds traded equal to _____.

- A) 5.5%; \$90 billion
 B) 6.5%; \$90 billion
 C) 5.5%; \$110 billion
 D) 6.5%; \$110 billion
 E) 6%; \$120 billion

C





40) An increase in the government budget deficit _____. If the country is an international borrower, the government budget deficit _____. If the country is an international lender, the government budget deficit _____.

- A) decreases the country's supply of loanable funds; increases foreign borrowing; decreases foreign lending
- B) increases the country's demand for loanable funds; increases foreign borrowing; decreases foreign lending
- C) increases the country's supply of loanable funds; decreases foreign lending; increases foreign borrowing
- D) decreases the country's demand for loanable funds; decreases foreign lending; increases foreign borrowing
- E) increases the country's demand for loanable funds; decreases foreign borrowing; increases foreign lending

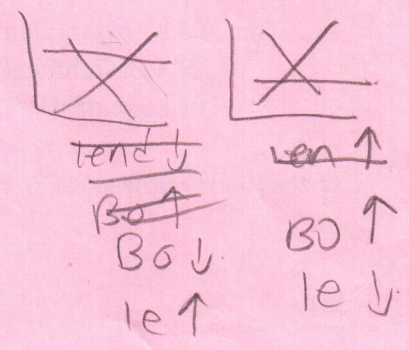
~~B~~
E

B

41) Which one of the following is a component of M2 but not of M1?

- A) Currency outside banks.
- B) Personal chequable deposits.
- C) Currency in a bank vault.
- D) Canada Savings Bonds.
- E) Personal non-chequable deposits.

21.1.1.1 + 2.1



E

42) Consider the following data from the economy of Adanac:

- Currency outside banks: \$15 billion
- Personal and non-personal chequable deposits: \$40 billion
- Personal non-chequable deposits: \$50 billion
- Non-personal non-chequable deposits: \$125 billion
- Fixed term deposits: \$200 billion

What is the value of M1 and the value of M2 in this economy in billions of dollars?

- A) 60; 430.
- B) 55; 430.
- C) 55; 230.
- D) 105; 230.
- E) 110; 235.

B

43) The Monetary Base consists of the sum of

- A) Bank of Canada notes held within the Bank of Canada, bank deposits at the Bank of Canada, and coins held by banks.
- B) Bank of Canada notes held outside the Bank of Canada, bank deposits at the Bank of Canada, and coins held by banks and the public.
- C) Bank of Canada notes held outside the Bank of Canada, the desired reserves of chartered banks, and coins held by banks.
- D) Bank of Canada notes held outside the Bank of Canada, bank deposits at the Bank of Canada, and notes and coins held by banks.
- E) Bank of Canada notes held within the Bank of Canada, bank deposits at the Bank of Canada, and coins held by banks and the public.

Use the information below to answer the following question.

Fact 1

The Bank of Speedy Creek has chosen the following initial balance sheet:

Assets	Liabilities
Reserves \$40	Deposits \$500
Loans \$460	
\$500	

44) Refer to Fact 1. Huck Finn comes along and deposits \$10. After Huck's deposit, but before any other actions occur, the total amount of money in the economy

- A) has stayed the same, with its components unchanged.
- B) has fallen, with currency decreasing and deposits unchanged.
- C) has fallen, with currency decreasing and deposits staying the same.
- D) has stayed the same, with currency decreasing and deposits increasing.
- E) has risen, with currency unchanged and deposits increasing.

45) The Canadian money multiplier is calculated as the

- A) change in the quantity of money divided by the change in the monetary base.
- B) change in monetary base divided by the change in monetary holdings of households.
- C) change in monetary base divided by the change in deposits.
- D) change in quantity of bank notes divided by the change in monetary base.
- E) change in monetary base divided by the change in quantity of money.

$$MV = PY \frac{(1+a)}{a+b}$$
 (where a is currency and b is derived reserve ratio)

$$\frac{\Delta \text{amt of } \$}{\Delta MB}$$

MB

48) Real GDP is \$2,000 billion, the price level is 120, and the velocity of circulation is 5. Nominal GDP is

- A) \$166.67 billion.
- B) \$600 billion.
- C) \$2,400 billion.
- D) \$2,000 billion.
- E) \$24 billion.

$MV = PY$

$\frac{N}{R} = \frac{\Delta}{Pk}$

a = currency drain ratio.
b = desired reserve ratio
 $(1+a)/(a+b)$

49) In the United Kingdom, the currency drain ratio is 0.38 and the desired reserve ratio is 0.002. The U.K. money multiplier is

- A) 3.61.
- B) 0.38.
- C) 0.28.
- D) 2.77.
- E) 2.62.

currency drain ratio = 0.38 = $\frac{\text{currency deposit}}{\text{deposit}}$

desired reserve ratio = $\frac{\text{reserve}}{\text{total}} = 0.002$

money multiplier = $\frac{\text{quantity of money}}{\text{monetary base}}$

50) You are given the following information about the economy of Nocoins:

The banks have deposits of \$300 billion. Their reserves are \$15 billion, two thirds of which is in deposits with the central bank. Households and firms hold \$30 billion in bank notes. There are no coins!

The banks have no excess reserves.

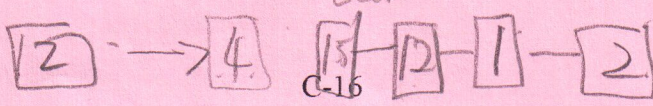
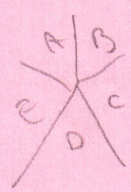
The Bank of Nocoins, the central bank, increases bank reserves by \$0.5 billion.

The quantity of money _____.

The change in the quantity of money is not equal to the change in the monetary base because _____.

The money multiplier is _____.

- A) increases; when bank reserves increase, banks loan out their excess reserves and a multiplier process ensues; 7.33
- B) increases; the components of the monetary base are not the components of the quantity of money; 7.0
- C) decreases; money includes currency but the monetary base does not include currency; 7.0
- D) increases; the monetary base includes bank deposits; 7.0
- E) decreases; an increase in monetary base brings about a decrease in the quantity of money; 7.33



6 = 30