



## Economics 105 Midterm Exam II (Fall 2022)

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English Name:

Please indicate your lecture day: Wednesday morning (1) [ ]

Wednesday afternoon (2) [ ]





















Instructions:

1. There are 20 multiple choice questions that are 0.5 point each, totaling 10 points. Please put your answers on the table provided on page 3.
2. There are 3 short answer questions totaling 40 points as indicated on each question. Please provide all the steps and explanations. No point will be given without explanations.
3. All the questions must be answered in the exam sheet. No marks will be deducted for incorrect answers. The total number of marks available is 50.
4. Time allowed is 1.5 hours.
5. Answers written in pencil and whiteouts are NOT eligible for remark.
6. Please do not open the exam until you are asked to.
7. Page 2 serves as a draft paper, there are no extra paper provided during the exam, please use it wisely.
8. For all your final answers, please keep 2 decimal places.
9. Good luck!



Place Answers to the Multiple Choice Questions in the Chart Below  
Fill in the space that corresponds to the correct answer.

*Econ 105 MT2  
Fall 2022*

Question	A	B	C	D
1				
2				
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## Section I: Multiple Choice Questions

- A 1. Which of the following statements is correct?
- Lenders buy bonds, and borrowers sell them.
  - Long-term bonds usually pay a lower interest rate than do short-term bonds, because long-term bonds are riskier.
  - Junk bonds refer to bonds that have been resold many times.
  - Short-term bonds usually pay a lower interest rate than do long-term bonds, because short-term bonds are riskier.
- C 2. What is the face value of a bond?
- the market price of the bond
  - the difference between the amount owned by the issuer and the market price of the bond
  - the amount owed by the issuer
  - the interest earned by the owner of the bond

Table 8-3

GDP	\$8.7 trillion
Consumption Spending	\$3.5 trillion
Taxes minus Transfers	\$2.7 trillion
Government Purchases	\$3.0 trillion

- A 3. Refer to the Table 8-3. Supposing equilibrium exists in the market for loanable funds, what is the quantity of funds supplied in this market?
- \$2.2 trillion
  - \$2.5 trillion
  - \$2.8 trillion
  - \$3.1 trillion
- $$S = Y - C - G$$
$$= 8.7 - 3.5 - 3 = 2.2$$
- B 4. Suppose Parliament instituted an investment tax credit. Which of the following would most likely happen in the market for loanable funds?
- The interest rate and investment would both fall.
  - The interest rate and investment would both rise.
  - The interest rate would rise, and investment would fall.
  - The interest rate would fall, and investment would rise.
- $$I \uparrow, r \uparrow$$

Table 9-1

This table shows the 2013 data for males and females aged 15 and over in the country of Dan.

Not in the Labour Force		Unemployed		Employed	
Male	Female	Male	Female	Male	Female
45 million	35 million	5 million	5 million	85 million	65 million

C 5. Refer to the Table 9-1. What is the adult female labour force in Dan?

- a. 35 million
- b. 40 million
- c. 70 million
- d. 85 million

$$65 + 5 = 70$$

C 6. Meredith is looking for work as a computer programmer. Although her prospects are good, she hasn't yet taken a job. Julie is looking for work in a steel mill, but there aren't many job ads for steel workers and every time she shows up for an interview, there are many more people than openings. Which of the following best describes the nature of their unemployment?

- a. Meredith and Julie are both frictionally unemployed.
- b. Meredith and Julie are both structurally unemployed.
- c. Meredith is frictionally unemployed, and Julie is structurally unemployed.
- d. Meredith is structurally unemployed, and Julie is frictionally unemployed.

D 7. What is the effect of anything that makes the efficiency wage rise relative to the market-clearing wage?

- a. It increases both the quantity demanded and the quantity supplied of labour.
- b. It decreases both the quantity demanded and the quantity supplied of labour.
- c. It increases the quantity demanded and decreases the quantity supplied of labour.
- d. It decreases the quantity demanded and increases the quantity supplied of labour.

A 8. Mia puts money into a piggy bank so she can spend it later. Which of the following functions of money does this illustrate?

- a. store of value
- b. medium of exchange
- c. unit of account
- d. wealth

C 9. If the reserve ratio is 10 percent and a bank receives a new deposit of \$20, what happens to the bank's reserves in the longer term?

- a. Reserves increase by \$2.
- b. Reserves increase by \$18.
- c. Reserves increase by \$20.
- d. Reserves increase by \$200.

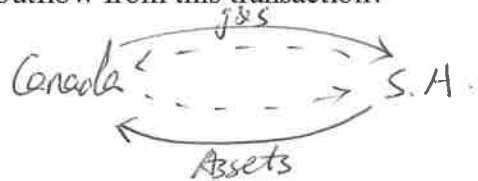
D 10. If the reserve ratio is 100 percent, how much will the money supply eventually increase if there is a deposit of \$500 of paper money in a bank?

- a. \$5000
- b. \$1000
- c. \$500
- d. \$0

- C 11. Crowding out refers to which of the following?
- an increase in national saving that occurs when government runs a deficit
  - a decrease in the real interest rate due to government borrowing
  - a reduction in investment spending resulting from government borrowing
  - a decrease in consumption spending resulting from government borrowing
- D 12. Why is the money supply curve vertical?
- because the quantity of money supplied increases when the value of money increases
  - because the quantity of money supplied increases when the value of money decreases
  - because the quantity of money supplied increases only if people desire to hold more money
  - because the quantity of money supplied increases only if the central bank increases the money supply
- C 13. How can people avoid the inflation tax?
- by reducing savings
  - by not filing a tax return
  - by reducing cash holdings
  - by spending less
- B 14. Which of the following best describes the term loanable funds?
- the money in banks and other financial institutions
  - the amount of credit available
  - an amount equal to the total value of capital in the economy
  - the money available only to businesses
- A 15. What would be the effect of indexing the tax system to take into account the effects of inflation on taxing capital gains?
- Only real interest earnings would be taxed.
  - Taxing capital gains would become irrelevant.
  - Average tax rates would increase.
  - Investors would be worse off.
- D 16. Under which of the following conditions is wealth distributed from debtors to creditors?
- when inflation is high, but expected
  - when inflation is low, but expected
  - when inflation is unexpectedly high
  - when inflation is unexpectedly low

- D 17. <sup>IM↑</sup> A Canadian firm buys sardines from Morocco and pays for them with Canadian dollars. Which of the following correctly identifies the effects of this transaction?
- Canadian net exports increase, and Canadian net capital outflow increases.
  - Canadian net exports increase, and Canadian net capital outflow decreases.
  - Canadian net exports decrease, and Canadian net capital outflow increases.
  - Canadian net exports decrease, and Canadian net capital outflow decreases.

- A 18. Canada sells machinery to a South African company, which pays Canada with South African currency (the rand). What happens to Canadian net capital outflow from this transaction?
- It increases because Canada acquires foreign assets.
  - It decreases because Canada acquires foreign assets.
  - It increases because Canada sells capital goods.
  - It decreases because Canada sells capital goods.



- B 19. A country has \$50 million of domestic investment and net capital outflow of -\$70 million. What is saving?
- $S - I = NCO$
- $S = I + NCO = 50 - 70 = -20$
- \$70 million
  - \$20 million
  - \$50 million
  - \$120 million

- A 20. According to the theory of purchasing-power parity, what must the nominal exchange rate between two countries reflect?
- the different price levels in those countries
  - the different resource endowments in those countries
  - the different income levels in those countries
  - the different standards of living between those countries

## Section II Short Answer Questions

1. [17 points in total] Bank A, a Canadian commercial bank currently has \$300 million in deposits, has been operating with a target reserve ration of 8%. Jiamin Liu has just inherited the equivalent of \$1 million Canadian from a relative living in China and deposits this sum in this bank.
- a) If the bank continued to operate on an 8% target reserve basis, what is the magnitude of its excess reserves after Jiamin's deposit? (assume Bank A had no initial excess reserves.) Please also draw the T-account to reflect Bank A's current situation. (6 points)

Assets	Liabilities
R: 25	D: 301
Loan: 276	

$$\begin{aligned}\text{Excess Reserves} &= 300 \times 0.08 + 1 - (300 + 1) \times 0.08 \\ &= 25 - 24.08 \\ &= 0.92 \text{ m}\end{aligned}$$

- b) If other Canadian banks also had 8% target reserve <sup>ratio</sup> and the general public does not hold currency in their hands, what might be the final change in the Canadian money supply? (2 points)

$$\Delta D = \frac{D_{\text{initial}}}{r.r.} = \frac{1}{0.08} = 12.5 \text{ m}$$

↑ M<sup>s</sup> by \$12.5 m



- c) Suppose that Bank A considers the risk of extending new loans from the excess reserves created by Jiamin's deposit to be too high. It decides to hold all of Jiamin's deposit in reserves. What is its new target reserve ratio, approximately? Will a multiple expansion in the bank deposit occur? (4 points)

$$r.r. = \frac{R}{D} = \frac{25}{301} \times 100\% \doteq 8.31\%$$

No, bank A has no excess reserves to lend out.  
Thus no other banks receive additional reserves.

- d) Assume that the scenario in (a) holds. Jiamin deposits \$1 million in Bank A. All Canadian banks, including Bank A, have a constant target reserve ratio of 8%. However, the Canadian public normally holds 2% of its money holdings in the form of currency. If all banks used all of their excess reserves to extend loans, what would be the maximum possible change in the Canadian money supply? (5 points)

$$\frac{C}{D} = \frac{2}{98} = \frac{1}{49} \Rightarrow 49C = D$$

$$D = \frac{1-C}{8\%} \Rightarrow 0.08D = 1-C$$

$$0.08 \times 49C = 1-C$$

$$3.92C = 1-C$$

$$4.92C = 1 \Rightarrow \begin{cases} C \doteq 0.2 \\ D = 9.8 \end{cases}$$

$$\Delta M^s = \Delta C + \Delta D = 0.2 + 9.8 = 10m$$

NOTE: the \$1m Jiamin inherited is not part of the currency originally b/c it's located in China not Canada. Tricky !!

2. [12 points in total] Classify the following situations as frictional unemployment, structural unemployment or cyclical unemployment, and briefly explain your choice.

- a) An auto assembly worker is laid off because auto sales decrease during a slowdown in economic activity. (2 points)

*Cyclical*  
*b/c of the slowdown in economic activity.*

- b) An engineer refuses a job offer and decides to look for another job that has a higher rate of remuneration. (2 points)

*Frictional*  
*The engineer refused a job b/c of the expectation of finding another job w/ a higher rate of remuneration.*

- c) A social worker is laid off because the city of Toronto cancels one of its social welfare programs. (2 points)

*Structural*  
*supply of jobs is now less than number of workers available.*

- d) A brewery worker in Regina is laid off when the firm relocates its production to Saskatoon. (2 points)

*Frictional*  
*b/c of the sectoral shift.*

- e) Stenographers are laid off as Vancouver firms introduce word processing equipment into their offices. (2 points)

*Frictional*  
*b/c of new technology. Stenographers have to attain new skills to find employment.*

- f) Systems analysts lose their jobs as firms curtail projects due to slumping sales. (2 points)

*Cyclical*  
*b/c of a general economic recession.*

3. [11 points in total] Suppose that the price of Canadian-bottled spring water is \$40 per case in Canada and 600 pesos in Mexico.

a) What is the nominal exchange rate if purchasing power parity holds? (3 points)

$$E = \frac{P^*}{P} = \frac{600 \text{ pesos}}{40 \$} = 15 \text{ pesos}/\$$$

- b) Suppose that Mexico's central bank doubles its money supply, given that monetary neutrality holds in Mexico. What is the new exchange rate supposing that purchasing power parity holds? In your answer please explain what monetary neutrality states. (4 points)

Monetary neutrality states that changing  $M^s$  will only change nominal variables but not real variables. when Mexico's central bank doubles the  $M^s$ ,  $P$  doubles.

$$E = \frac{1200 \text{ pesos}}{40 \$} = 30 \text{ pesos}/\$$$

- c) Based on your calculation in part <sup>b</sup>c, did the pesos appreciate or depreciate? Can you explain your result? (4 points)

Pesos depreciates against Canadian \$, b/c according to PPP,  $E = P^*/P$ , if foreign country experiences higher rate of inflation than domestic country, domestic currency will appreciate against foreign currency.

