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Département de science économique
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INTRODUCTION TO MONEY AND BANKING
ECO2115
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MIDTERM EXAM
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SECTION 1: 10 CLOSED QUESTIONS (3 points for each right answer)

1.- Which of the following statements about the Canadian dollar is false?

a. An appreciation in the Canadian dollar means that it buys more units of a foreign currency.
b. A depreciation of the Canadian dollar is a fall in the value of the Canadian dollar.
c. When the Canadian dollar depreciates, imported goods become relatively cheaper.
d. None of the above.

2.- If the government needs to finance a larger deficit, which of the following is likely to occur?

a. The price of government bonds goes up.
b. Interest rates in the bond market go up.
c. Stock prices go down.
d. b. and c. are true.

3.- Stock prices affect economic activity by influencing:

a. consumption
b. investment
c. government spending
d. a. and b. are true.

4.- Banks engage in asset transformation in order to

a. decrease their liabilities
b. provide liquidity services.
c. lower transaction costs.
d. create less risky assets.

5.- As the transaction costs of selling an asset rise, the asset is said to become

a. more similar to money
b. more valuable
c. less liquid
d. less risky

6.- In a barter economy with 40 goods, which of the following is true?

a. We need to know 40 good prices.
b. The conversion of barter economy to one that uses money significantly decreases the number of prices that need to be known.
c. We need to know 780 good prices.
d. b. and c.

7.- With an annual interest rate of 8%, the present value of a security that pays 100 next year, 200 two years from now and 300 three years from now is:

a. $200
b. $258
c. $358
d. $600

8.- Which of the following 10 period $4000 face value securities has the lowest yield to maturity?

a. 10% coupon bond selling for $4000
b. 10% coupon bond selling for $4800
c. 20% coupon bond selling for $4000
d. 20% coupon bond selling for $3600

9.- You bought one year ago a $3000-face-value zero coupon bond with 7 years to maturity. This year, the interest rate decreases from 5% to 4% and you decide to sell the bond. What is the rate of capital gain on this bond?

a. 5%
b. 7%
c. 9%
d. 11%

10.- Which of the following events will lead to an increase of the interest rate in the bond market?

a. A decrease in government spending
b. A decrease in volatility of stock returns
c. A decrease in expected inflation
d. None of the above

SECTION 2: 3 SHORT ANSWER QUESTIONS (10 points for each right answer)

1.- Why do financial intermediaries play an important role in the financial system? (2 points for mentioning increase in efficiency, 2 points for relating increase in efficiency with reducing transaction costs, 2 points for relating increase in efficiency with allowing risk sharing and 4 points for relating increase in efficiency with solving problems created by adverse selection and moral hazard)

Financial intermediaries play an important role in the financial system because they increase the efficiency in the economy by reducing transaction costs, allowing risk sharing, and solving problems created by adverse selection and moral hazard.

2.- Explain briefly why using money in the economy is efficient. (5 points for mentioning the 2 reasons that explain why money is efficient and 5 points for explaining how money reduces transaction costs)

Using money in the economy is efficient because it lowers transaction costs and allows people to specialize in what they do best. Money decreases transaction costs in two ways. First, it eliminates much of the time spent in exchanging goods and services. In a barter economy (economy without money), individuals have to satisfy a "double coincidence of wants", which implies higher transaction costs. Second, it reduces the number of prices that need to be considered with respect to the case of barter economy. For instance, in an economy with 10 goods, we would have to consider 45 prices in a barter economy whereas we would only consider 10 prices in an economy with money.

3.- Which are the determinants of asset demand? How are these determinants related to asset demand?

(5 points)The determinants of asset demand are:

- **Wealth**
- **Expected return**
- **Risk**
- **Liquidity**

(5 points)Asset demand is:

- **positively related to wealth.**
- **positively related to its expected return <u>relative</u> to other assets. (key to mention relative)**
- **negatively related to the <u>relative riskiness</u> of the asset. (key to mention relative)**
- **positively related to the liquidity of the asset.**

<u>SECTION 3: 2 SHORT ESSAY QUESTIONS (20 points for each right answer)</u>

1.- Explain in detail what adverse selection and moral hazard in the financial markets are **<u>(12 points: 6 points for adverse selection and 6 points for moral hazard)</u>**. Provide one example of each type of problem in the financial markets **<u>(4 points: 2 points for adverse selection and 2 points for moral hazard)</u>**. Finally, explain how financial intermediaries help overcome these problems **<u>(4 points)</u>**.

<u>Adverse Selection</u> is one type of asymmetric information. It exists <u>before</u> the contract is entered into: borrowers who are the worst credit risks tend to seek out loans most actively. Therefore, ceteris paribus, these borrowers are the ones most likely to be selected. Lenders may respond to this problem of adverse selection by curbing lending excessively.

<u>Moral hazard</u> is another type of asymmetric information. It is a problem <u>after</u> the contract is entered into: borrowers may use the loan less wisely after they have already gotten it, thus increasing their risk of non-repayment. This problem may prevent lenders from lending sufficiently because it lowers the probability that a loan will be repaid.

<u>Example of adverse selection</u>: an individual with very unstable income applies for a loan.

<u>Example of moral hazard</u>: an entrepreneur gets a loan for investing in expanding production capacity. However, these funds are used to finance the entrepreneur's house.

To overcome these problems, financial intermediaries use screening and monitoring.
<u>Screening:</u> devices like credit scoring and background checks to choose loan customers and minimize the adverse selection problem.
<u>Monitoring:</u> check what the parties they lend to do with the funds. In this way, financial intermediaries try to minimize the problem of moral hazard.

2.- Analyse what happens to the interest rate in the bond market in the case of a decrease in expected inflation. Explain in detail in words, and in graphs, all relevant effects.

Key ideas that need to be present in the answer (4 points each bullet, total of 12 points for each bullet below):

- **When expected inflation decreases, the real cost of borrowing increases (2 points). Therefore, firms issue less bonds (supply of bonds shift to the left) (2 points). --- 2 points for each right sentence in this bullet.**
- **When expected inflation decreases, the expected return on bonds relative to real assets increases (2 points). Therefore, demand for bonds increases, which means that the demand for bonds shift to the right (2 points).**
- **As a consequence of the increase in bond demand and a decrease in bond supply, the price of bonds goes up (2 points). Therefore, the interest rate goes down (2 points).**

<u>Graph and description (8 points):</u> it should be like the one below. **Notice that the starting point in the graph below is point 2 (where price of bond is P2 and interest rate is i2).** Then, supply shift to the left and demand shift to the right (from BS2 to BS1 and from BD2 to BD1) and we reach point 1. These shifts in supply and demand lead to an increase in the price of bonds when expected inflation decreases. Given the inverse relationship between price of bond and interest rate, an increase in the price of bonds implies a decrease in the interest rate.
<u>Points:</u> 4 points for supply side of the graph and 4 points for demand side of the graph. Explanations of the shifts and graph have to be clear for each side (supply and demand).