Queen Mary
University of London

January Examination Period 2022-23

ECN205 Money and Banking ***Duration: 2 hours***

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Answer 2 Questions from Section A and All from Section B

If you answer more questions than specified, only the first answers (up to the specified number) will be marked. Cross out any answers that you do not wish to be marked.

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Examiner: Dr Thomai Filippeli

PART A: Answer TWO Questions

Question 1

A. Briefly explain how seigniorage can be used as a means of revenue-raising for the government.

[10 marks]

B. Does it make sense to use seigniorage to raise revenue? Explain your answer.

[10 marks]

Question 2

Consider an overlapping generations model with the following characteristics: Population is constant, individuals are endowed with *y* units of the consumption good when young and nothing when old. The resources y are used to consume when young and to acquire money balances. The fiat money supply changes according to $M_t=zM_{t-1}$ for every period t, where *z* is greater than 1. The money created in each period is introduced into the economy by means of lump-sum subsidies (transfers) to each old person in every period t worth a_t units of the consumption good.

A. Prove that the monetary equilibrium (c^*, c^*) does not maximize the utility of future generations.

[15 marks]

B. Explain why the feasible set line goes through the monetary equilibrium (draw a graph to explain your answer).

[5 marks]

Question 3

A. Does the lender of last resort function of central banks introduce moral hazard into the financial system? Explain.

[10 marks]

B. Briefly explain why central bank independence can be a solution to the time-inconsistency problem.

[10 marks]

PART B: Answer ALL Questions

Question 4

Consider an economy with a constant population of N=100. Each person is endowed with y=20 units of consumption good when young and nothing when old.

A. What is the equation for the feasible set of this economy? Portray the set on a graph. With arbitrarily drawn indifferences curves, illustrate the stationary combination of c_1 and c_2 that maximises the utility of future generations.

[5 marks]

B. Now look at a monetary equilibrium where fiat money opens up a trading possibility. A young person can sell some of their endowment of goods (to old persons) for fiat money, hold the money until the next period and then trade the fiat money for goods (with the young of that period). Write down the equations that represent the constraints on first and second -period consumption for a typical person. Combine these constraints into a lifetime budget constraint.

[5 marks]

C. Suppose the initial old are endowed with a total of M = 400 units of fiat money. What condition represents the clearing of the money market in an arbitrary period t? Use this condition to find the real return of fiat money.

[5 marks]

D. Now suppose the preferences are such that each person wishes to hold real balances of money worth $\frac{y}{1+\frac{u_t}{u_{t+1}}}$ goods. What is the value of money in period t, u_t?

Use the assumption about preferences and your answer in part (C) to find an exact numerical value. What is the price of the consumption good p_t?

[8 marks]

E. Suppose instead that the initial old were endowed with a total of 800 units of fiat money. How do your answers to part (D) change? Are the initial old better off with more units of fiat money?

[7 marks]

Question 5

Suppose you are the sole shareholder of a bank with deposits of £1,200,000 and assets of £1,000,000. There is no reserve requirement. Your liability in the bank is limited by law to your investment (if it fails, you needn't make up losses to depositors). You are risk neutral. For simplicity assume that the deposits do not pay any interest.

A. What is the net worth of the bank?

[3 marks]

B. Suppose you may reinvest your assets into one but only one of the following projects before the examiners audit your books:

Project A: pays a certain return of 7 percent
Project B: has a 50 percent chance of a 21 percent net return and a 50 percent chance of a net return of -21 percent, or
Project C: has a 10 percent chance of doubling your assets and a 90 percent chance of losing everything.

Rank the three projects according to which will benefit you personally.

[8 marks]

C. How would your ranking change if the assets of the bank were £1,200,000?

[5 marks]

D. How would your ranking change if the assets of the bank were £2,000,000?

[4 marks]

E. If you have the chance to abscond with £100,000 at the cost of losing ownership in the bank, would you do it (setting aside questions of morality)? How does your answer depend on the net worth of the bank?

[5 marks]

F. If banks are covered by government deposit insurance, why should the government take an active role in closing down failed banks as soon as they can be discovered? Answer with references to the examples in this question.

[5 marks]

End of Examination/ Thomai Filippeli