**BIRKBECK**
**(University of London)**

**BSc(Econ) EXAMINATION FOR INTERNAL STUDENTS**

**SCHOOL OF ECONOMICS, MATHEMATICS AND STATISTICS**

**BSc. (Econ.) FINANCIAL ECONOMICS, EMEC009U**
**Financial Institutions and Regulation: Year 4**

**DATE OF EXAMINATION:** To be announced.

**DURATION OF PAPER:** Three hours and fifteen minutes.

Answer **BOTH** the questions in **SECTION A** and any **TWO** of the questions in **SECTION B**.

Section A accounts for 40% of the total exam mark. Section B accounts for 60% of the total exam mark.

**Section A**: (**Answer BOTH the questions in this section**)
This Section accounts for 40% of the total exam mark.

**A1**. Take the following model of the market for fund management:

- The ability of fund managers to beat the performance of the market is at best 3% p.a.
- At worst the funds they manage just perform in line with the market.
- We consequently define the 'quality' of managers as x, where $0 \leq x \leq 3$.
- The capacity of the various individual managers is uniformly distributed between these two extremes.
- Managers' costs (c) are perfectly correlated with their management quality (x).
- Managers' efficiency parameter (a) is defined as x/c.
- Management quality is exogenous – the quality of an individual manager does not change.
- In a seller's market, managers receive a 50% mark-up on costs.
- Managers can correctly assess their own individual ability, but their clients can only observe the *average* performance of the fund management industry as a whole.
- The reservation prices of fund managers and their clients are defined as $p^s$ and $p^d$ respectively.
- The marginal manager is defined as the best-performing manager in the market at any given moment, and has a reservation price of $p^s_{max}$ and costs of $c_{max}$.

(i) Plot, in ($c_{max}$, p) space, the reservation price functions of fund managers and their clients, explaining algebraically the steps through which you derive these functions. What is the outcome for the market for fund management in the absence of regulation?

(ii) The fund managers now establish a self-regulatory body which succeeds in excluding all managers who fail to beat the market by at least 1.5%. Briefly describe, with the aid of the above graphical exposition, the outcome.

***25 marks***

**A2**. What is meant by the 'convexity' of the payoff to holders of equity, and how does this concept serve to explain systemic bias towards excessive risk-taking in the financial sector?

***15 marks***

**PTO . . . .**

**Section B**: (**Answer any TWO of the six questions in this section**).
This Section accounts for 60% of the total exam mark.
Each answer carries equal weight, i.e. 30% of the total exam mark.

**B1.** In a 3-period model, there are N individuals, each of whom has a primary investment of 1 in period 0.

- The primary investment yields 1 if liquidated and consumed in period 1, or R > 1 if liquidated and consumed in period 2.
- Half the individuals are Type 1s, who 'die' in period 1, having first liquidated their investment and consumed its entire value.
- The other half are Type 2s, who survive period 1 but 'die' in period 2, having by that time liquidated their investment and consumed its entire value.
- Individuals do not find out which type they are until period 1, and this information is private, i.e. they have no way of knowing each others' type.
- Consumption in periods 1 and 2 is defined as $C_1$ and $C_2$ respectively.
- 'Autarchy' is defined as a situation in which there is no trading in risk.
- 'Intermediation' is defined as a situation in which an intermediary offers a deposit contract which provides insurance against the risk of early death, i.e. the loss of (R – 1).
- The mechanism is that each depositor contracts to make a payment ($\pi$) to the intermediary if he/she turns out to be a Type 2, and the intermediary contracts to make a corresponding transfer payment to each of those who turn out to be a Type 1.
- The transfer payment is set at a socially optimal level ($\pi^*$), the corresponding consumption in periods 1 and 2 being $C_1^*$ and $C_2^*$ respectively.

Compare the individual's expected utility in each of the following situations:

- 'autarchy';
- intermediation without a bank run;
- intermediation with a bank run and with no deposit insurance;
- intermediation with a bank run in a situation where a government-backed deposit insurance scheme is in place.

Rank the outcomes in each of these situations in order of total social welfare, explaining your reasoning in each case.

**PTO . . . .**

**B2.** In what ways may the concept of asymmetrical information be applied in assessing the record of Britain's current 'tripartite' financial regulatory regime?

**B3.** What are the fundamental problems involved in the regulation of insider trading in capital markets? In your answer, discuss the relevance of the analysis of 'spread' between bid and ask prices, and briefly outline the issues that arise if a company's share price is affected by its fundamental value.

**B4.** What regulatory problems arise as a result of asymmetrical information between the contracting parties in contracts that are entered into in financial markets?

In your answer, choose ONE of the TWO following options:

- EITHER discuss the issue by way of a comparative discussion of the various different forms of contract in different sections of the financial sector.
- OR provide a more detailed discussion of one particular financial market, e.g. the market for insurance services, the market for mortgages, etc.

**B5.** What measures may be taken from within financial markets for self-regulation and monitoring of risky behaviour? What are the limitations of such measures?