**2.13 Option: Financial Institutions and Regulation**

**1 Course Unit**

**Year 4**

**Lecturer: Hugh Goodacre.**

**Aims (Broad Educational Purpose)**

- This module introduces the theory of financial market failure and regulation. It integrates modern theories of asymmetrical information into the analysis of financial institutions, relating the theory to current developments.

**Objectives (Specific Learning Outcomes)**

The module provides the basis for:

- Informed debate on the reasons for financial market failure and the rationale for financial regulation, with reference to topical issues.

- An understanding of the structure of the markets for fund management, insurance, capital, and banking services, with particular reference to their information structure and the tasks faced by the regulator in each case.

- An understanding of how financial institutions interact with, and affect, the wider economy.

- An understanding of the main differences between the various financial systems existing in the world today.

- An informed assessment of the current regulatory regime in the UK, with particular reference to the experience of the Financial Services legislation enacted under the present Labour government.

- An appreciation of current issues under discussion in the press, particularly those most relevant to the coursework project.

On completion of the module, the student will have gained a familiarity with the theoretical concepts encountered in the current technical literature on financial issues.

- The concept of asymmetrical information will be illustrated in connection with current issues of intermediation and problems of agency.

- These theoretical aspects of the module draw mainly on the textbook:

> Spencer, P D (2000). *The structure and regulation of financial markets.* Oxford University Press.

**Teaching**

- The weekly programme consists of a one-hour lecture followed by a one-and-a-half hour class.

- The classes focus on a number of formal models, each of which is based on a seminal article in the financial literature. The models will be presented by means of worksheets based on the simplified versions given in the above textbook, but it is recommended that an attempt is also made to read the original articles on which they are based.

**Assessment**

- **Coursework** (20%): "Assess the experience of the current framework for financial regulation in the UK".  To be handed in by 19 January 2009.

- **Exam** (80%): Three-hour formal examination in June.

**Lecture topics**

Financial system in crisis: the background.

Financial institutions: the market for fund management as an example.

Financial regulation.

The market for insurance and its regulation.

Capital market microstructure.

Insider trading.

Shareholders, management and conflict of interest.

Intermediation theory.

Excessive risk-taking.

Liquidity requirements and systemic risk.

Banking regulation in Britain today.

## Brief lecture outlines and required reading

*Note*: These outlines are provisional.

**Reading:**

> S = Spencer 2000 *The structure and regulation of financial markets.*
>
> > *All* the references to this book are *required reading*.

For further background reading, see any general introduction to financial markets, e.g.

> Mishkin, Frederic S. *The economics of money, banking, and financial markets*. Boston, etc.: Pearson, Addison Wesley. Latest (2007) edition is eighth.

**Financial system in crisis: the background.**

> The core principles of bank management. Deregulation: historical phases in UK and US; from asset management to liability management; banks and nbfis. Financial innovation: instability; sophistication of regulation; technological developments. Globalisation: pull and push factors.
>
> Required reading:
>
> > Matthews, Kent and Thompson, John (2008). *The economics of banking*. Second edition. New Jersey, etc.: John Wiley. Chapter 1: "Trends in domestic and international banking".

**Financial institutions: the market for fund management as an example.**

> Speed of change and textbook concepts. Asymmetrical information: adverse selection, moral hazard, state verification. Exogenous and endogenous information. Financial products as contracts: ownership, control, delegation. Agency problems.
>
> > S1.6-10, S2.1-2.

**Financial regulation.**

> Solutions to market failure (i) from within the market (ii) by collective action by an industry (iii) by government intervention and regulation. The historical experience of financial regulation.
>
> > S1.1-5, S2.6-12.

**The market for insurance and its regulation.**

> Mutual insurance; idiosyncratic and common risk; insurance and asymmetrical information; group insurance and risk-pooling. The under-insurance problem; limitations of compulsion as a solution.
>
> > S3.1, S3.8-10.

**Capital market microstructure.**

Primary and secondary capital markets: functions, information structure, and problems of regulation. Spread; liquidity; 'immediacy'. Two extreme situations: 'thick' and 'thin' markets. Dealership systems: quote-driven and order-driven.

S4.1-5.

**Insider trading.**

Insider information: static model with fixed information endowments; dynamic model with learning effects. Endogenous information: research costs and price-inefficiency. Equity price and true value: management incentives; 'takeover discipline'.

S5.4-7, S6.3-9, S7.1-3, 9-11.

**Intermediation theory.**

Bank confidentiality and the signalling role of bank lending. Incentive loan contracts. Economies of scale in monitoring. Monitoring versus default penalties. Delegated monitoring.

S8.1-3, S8.6.

**Excessive risk-taking**.

Asset-substitution. Collateral. Bank loans and public debt. Credit rationing; implications for prudential regulation of banks.

S9.2-6.

**Liquidity requirements and systemic risk.**

Uncertain liquidity requirements and bank runs. Solutions: suspension of convertibility; deposit insurance; lender of last resort facility. Systemic risk.

S10.5-10.

**Financial regulation in Britain today.**

Banking regulation; current Financial Services legislation; coursework project.

S11 and S12.

# Programme of classes.

**Worksheets**: The classes are based on a series of Worksheets which run through the simplified versions given in S of some standard models of financial institutions and regulation.

**Reading**: *All* the references to S are *required reading*.

## W1. Disappearing markets.

Adverse selection in the market for fund management. Fund management as 'pure' delegation with extreme asymmetry of information. Akerlof's 'lemons'. Minimum standards rules.  (After Akerlof 1970.)

> S2.3-5.

## W2. Insider trading.

Insider information, with fixed information endowments. Dealer's profits. Analysing spread: insider information, spread and markets. (After Copeland and Galai 1983.)

> S4.6.

## W3. Convexity.

Convexity (concavity) of payoff to equity-holders (fixed-interest debt-holders).

> S9.1.

## W4. Uncertain liquidity demand and bank runs.

Autarchy. Optimal social insurance. Deposit contract. (After Diamond and Dybvig 1983.)

> S10.1-4.

**Reading.**

*Required reading:*

**Spencer, Peter D**. (2000). *The structure and regulation of financial markets.* Oxford University Press.

> The basic textbook for the classes; also includes much required reading on general lecture topics.


*Useful background reading:*

**Matthews, Kent** and **Thompson, John** (2005). *The economics of banking.* New Jersey, etc.: John Wiley.

> Fairly technical book, centering on economic theory and its banking applications. Required reading: Chapter 1: "Trends in domestic and international banking".

**Mishkin, Frederic S**. *The economics of money, banking, and financial markets.* Boston, etc.: Pearson, Addison Wesley. Latest (2007) edition is eighth.

> Well-established textbook; strong emphasis on US, but much useful general background.

> e.g. Chapter 11, etc., on regulation and banking crises. See also chapter 10 on competition issues, chapter 8 on financial structure and asymmetrical information (shorter version in chapter 2: 37-41).

**Howells, Peter** and **Bain, Keith**. *The economics of money, banking and finance: a European text.* Harlow, etc.: FT Prentice Hall. Latest (2005) edition is third.

> Well-established textbook; much detail on money markets, and nbfis; individual chapters on banking in different European countries.

> Useful background: Chapter 1: "The role of a financial system".

**Casu, Barbara, Girardone, Claudia, Molyneux, Philip (**2006). *Introduction to banking.* FT Prentice Hall.

**Heffernan, Shelagh** (2005). *Modern banking.* New Jersey, etc.: John Wiley.

**Buckle, Mike** and **Thompson, John** (2004). *The UK financial system: theory and practice.* Fourth edition. Manchester: Manchester University Press.


*The following are more technical:*

**Dewatripont, Mathias and Tirole, Jean** (1993). *The prudential regulation of banks.* Cambridge Mass. and London: The MIT Press.

> Pursues the theme that the primary motive for regulation is the representation of small depositors.

**Freixas, Xavier and Rochet, Jean-Charles** (1999). *Microeconomics of Banking.* Cambridge Mass. and London: The MIT Press. Chapter 9.

*Very handy for reference on technical terms and jargon:*

> *Oxford dictionary of finance and banking*. Latest (2005) edition is third. Oxford: OUP.

*The articles on which the Worksheets are based are:*

> **Akerlof, G.** (1970) "The market for lemons: quantitative uncertainty and the market mechanism". *Quarterly Journal of Economics* 222: 488-500.
>
> **Copeland, T**., and **Galai, D.** (1983) "Information effects and the bid-ask spread". *Journal of Financial Economics* 38: 1457-69.
>
> **Diamond, D. W**., and **Dybvig, P**. (1983) "Bank runs, deposit insurance and liquidity". *Journal of Political Economy* 91: 401.

*Relevant web material:*

> **FSA** website:
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>> General mission statements:
>>> http://www.fsa.gov.uk/Pages/about/index.shtml
>>
>> Example of relevant FSA paper: Llewellyn, David (1999) "The economic rationale for financial regulation".
>>> http://www.fsa.gov.uk/pubs/occpapers/OP01.pdf
>
> **BoE** website:
>
>> See relevant pages, e.g.
>> http://www.bankofengland.co.uk/publications/speeches/financialstability.htm

**Coursework project.**

To be completed during the Christmas vacation. Maximum length 2000 words.

> *Theme / suggested title:*
> **"The experience of the current framework for financial regulation in the UK".**
> BUT: You can modify this title if you choose (see below).

Scan through the whole of S for relevant discussion:
- Take note of particularly relevant sections we have covered, e.g. 2.8-12; 3.8-10; 4.1; 5.4-6; 6.9; 7.11; 9.5-6; 9.11, and scan through *all* of chapters 11 and 12.

Rather than attempting an overall survey of the question, you may choose a particular topic, in which case, you may adapt the title accordingly.
- An overall survey is OK, but if you have particular experience or knowledge, you will probably greatly benefit by making use of this and adopting a specialised focus.
- You might also consider a particularly topical subject of direct relevance to the theme, such an assessment of the performance of the 'tripartite' regulation system during the period of financial turbulence in recent months.
- *Note*: The purpose of the exercise is not just to provide a general discussion of your chosen topic, but to apply to it (or explicitly contest) the theory and methodology taught in this module, e.g. market disappearance, informational asymmetries, etc.

During the first half of the term, draw up a list of relevant literature, documentation or regulations that you will be considering in your essay. (On web material, see below.)

By the end of the reading week, write a brief abstract of your essay, between 150 and 300 words long.
- The abstract should clearly and explicitly explain how your discussion will relate your chosen topic to the methodology and theory taught in this module.

Have this summary ready for presentation after reading week so that we can all discuss it in class and benefit from each other's special knowledge and interests.
- Never mind if the abstract is tentative; you can always change it as the work gets under way.

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**WARNING**: **e-plagiarism**:

In the case of use of material from the web, make *absolutely* sure that you give a *full* reference, e.g. don't just say "FSA website" or put in a URL, but say exactly *where* on the site. Refer to web material in the same way as you would to book or periodical literature.

**FAILURE TO DO THIS WILL RESULT IN DISQUALIFICATION**: see the University's regulations on e-plagiarism.

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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*

**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.

**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?

**Abbreviations**.

| | |
|---|---|
| AD | Aggregate demand |
| AEH | Adaptive expectations hypothesis |
| AS | Aggregate supply |
| BB | Banks |
| BoE | Bank of England |
| BOP | Balance of payments |
| BOT | Balance of trade |
| BW | Bretton Woods |
| C | Consumption expenditure |
| CA | Comparative Advantage |
| CB | Central Bank |
| CB | Central bank |
| CCC | Competition and Credit Control |
| CF | Circular flow |
| CM | Classical model |
| DL | Discount loan |
| DM | Deutschmark |
| DMP | Demand management policy |
| EE | Equation of exchange |
| emecs | emerging economies |
| ER | Exchange rates |
| ER | Exchange rates, Excess reserves |
| ERM | [European] Exchange Rate Mechanism. |
| FE | Foreign Exchange |
| FF | Firms |
| FP | Fiscal policy |
| G | Government expenditure |
| GDP | Gross Domestic Product |
| HH | Households |
| I | Investment expenditure |
| i.t.o. | in terms of |
| ICT | Information and Communication Technology |
| IFIs | International Financial Institutions |
| IMF | International Monetary Fund |
| IS | Investment [and other injections] = Savings [and other withdrawals] |
| J | Injections (in CF) |
| KM | Keynesian model |
| LD | Labour demand |
| LF | Loanable funds |
| LH | Left hand |
| LM | Liquidity [demand] = Money [supply] |
| LR | Long run |
| LS | Labour supply |
| M | Money OR Imports |
| MB | Monetary base |

| | |
|---|---|
| MD | Money demand |
| MP | Monetary policy |
| MPC | Monetary Policy Committee (of BoE) |
| MS | Money supply |
| MTFS | Medium Term Financial Strategy |
| NBP | Non-bank public |
| NCM | New Classical Macroeconomics |
| NIAs | National Income Accounts |
| NKM | New Keynesian macroeconomics |
| NR | Natural rate |
| NX | Net exports (= X - M) |
| OECD | Organisation of Economic Cooperation and Development |
| omks | Older market economies |
| P | Price level |
| P&I | Prices and incomes policy |
| PC | Phillips curve |
| PIP | Policy ineffectiveness postulate |
| PPP | Purchasing power parity |
| PSBR | Public Sector Borrowing Requirement |
| PSNCR | Public Sector Net Cash Requirement |
| PWC | Post-Washington Consensus |
| PX | Price of exports |
| QTM | Quantity theory of money |
| R | Reserves of the commercial banking system |
| R&D | Research and development |
| RBC | Real business cycle |
| REH | Rational expectations hypothesis |
| RER | Real exchange rate |
| RF | Foreign exchange reserves |
| RH | Right hand. |
| RRR | Required reserve ratio |
| S | Savings |
| SDM | Simple deposit multiplier |
| SR | Short run |
| T | Taxation |
| TCA | Theory of Comparative Advantage |
| u | unemployment |
| UB | Unemployment benefit |
| UIP | Uncovered interest parity |
| V | Velocity of circulation |
| W | Withdrawals (in CF) |
| WB | World Bank |
| X | Exports |
| Y | GDP |
| $Y_{FE}$ | Full-employment level of Y |
| $\pi$ | Inflation |