

# Watson Wyatt Public Lecture

organised in conjunction with the UBS Pensions Research Programme at LSE

*Zvi Bodie, Professor of Finance and Economics at the Boston University School of Management, held a Public Lecture on 'Life-Cycle Theory and Defined Contribution Pensions'. This event took place on 10 June 2004, in the Shaw Library, LSE, and was organized by Watson Wyatt in conjunction with the UBS Pension Research Programme at LSE*

Professor Bodie started his lecture by familiarizing the audience with the economic theory of the life-cycle. He presented a simplified version of a lifetime consumption optimisation model and stressed the following principles; total wealth is the sum of 'endowments' of human and non-human wealth, present value of lifetime consumption cannot exceed total wealth, and within this constraint, individuals choose the consumption path that maximizes their welfare.

In a more realistic context as in Bodie, Merton and Samuelson (1992), the model's results indicate that the fraction of an individual's wealth optimally invested in equity should 'normally' decline with age for two reasons. The first stems from the fact that human capital is usually less risky than equity and that the value of human capital usually declines as a proportion of an individual's total wealth as one ages. For example, in an individual's early years of work, his wealth is often dominated by relatively safe human capital, so to get sufficient risk in his total wealth, a large share of his financial wealth should be held in risky assets. Second, at any given age, the greater the flexibility an individual has to alter her labour supply, the greater the amount she should invest in risky assets. Individuals may be able to offset changes in the value of their financial wealth by changing the amount they work. They may have the opportunity to work longer hours, take extra jobs, or delay retirement, for example. If younger workers have more opportunity to alter their labour supply than older workers, the share of assets held as risky equity should decline with age. The opposite result, however, is also possible. For people with risky human capital, such as entrepreneurs or stock analysts, the optimal path may be to start out early in life with no stock market exposure in one's investment portfolio and increase that exposure as one ages.



(L-R) David Webb, Zvi Bodie and Mike Orzag

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Professor Bodie emphasized that in economic theory there is no necessary connection between the length of one's time horizon and one's tolerance for risk. People with long time horizons may be risk averse, and those with short time horizons may be risk tolerant. In fact the least risky strategy for long-term investors is to match default-free, inflation-protected bonds to their planned spending goals; stocks are not safe in the long run. In this context he explained how misleading the advice from professional financial planners can be. Inspection of the educational materials distributed to consumers by financial services firms confirmed these fears. Consumers are led to believe that stocks are not risky in the long run and online asset-allocation tools are heavily biased toward equity investment. On the other hand, safe inflation-protected investments such as I-bonds or Treasury Inflation-Indexed Securities are rarely mentioned.

Financial advisers tend to argue that in the long run stocks are safe because the probability of a shortfall decreases with time. However, they ignore the potential severity of any shortfall. Professor Bodie then explained the fallacy of time diversification: on the one hand, they say that the probability of a shortfall is decreasing with time and therefore in the long run can be neglected; on the other hand, if one wants to buy insurance for the case when a shortfall indeed happens, for example by buying a put option, the price increases with time because the severity of the shortfall also increases.

For many people, the most important goal of financial planning is an adequate retirement income. In the past, one institutional response has been defined benefit pension plans. However, lately these plans have been on the decline in the United States, eclipsed by cash-balance plans and defined contribution plans. From a social welfare perspective, this development might actually be a step backwards, in that risk is being transferred to those who are least qualified to manage it.

The tendency in the last several years has been to offer participants in self-directed defined contribution retirement plans more and more investment options. Economists generally believe that people are made better off when offered more choices, as long as they can always choose what they had before. But when people do not have the knowledge to make choices that are in their own best interests, increasing the number of choices does not necessarily make them better off. In fact, it may make them more vulnerable to exploitation by opportunistic sales people or by well intentioned but unqualified professionals.

Professor Bodie predicted the likely future trend in the pension industry would be better pension design through financial engineering. In particular, he focused on escalating life annuities and bundled-risk annuities. Traditional annuities in the United States, including those provided by defined benefit plans have a glaring defect, namely, they are not protected against inflation. Today, financial intermediaries can efficiently produce annuities that are protected fully or partially against inflation by hedging the liability with TIPS (Bodie 1990, 1997). Moreover, annuities can be combined with upside participation in the performance of various stock market

indices. For example, an escalating life annuity with a minimum benefit linked to the cost of living. Payments increase with inflation and with the performance of a market index, and increases are locked in for life. Escalating annuities are designed to provide a guaranteed minimum standard of living defined in terms of a flow of lifetime consumption (rather than a stock of wealth). They allow retirees to gradually increase their consumption if the stock market performs well without jeopardizing the standard of living to which retirees have become accustomed. Bundled risk annuities are integrated instruments that combine life annuities with long-term care insurance. Combining the coverage mitigates the adverse selection that occurs in the demand for each of the two products on a stand-alone basis.

Roger Urwin, Global Head on Investment Consulting at Watson Wyatt, responded to Zvi Bodie's lecture by agreeing that stocks do get riskier over time- nevertheless it is optimal for younger people to invest more in stocks. He pointed out that most people are doing the right thing for the wrong reasons. He also compared the UK and US economies in terms of the choices available in defined contribution plans and in the annuities markets, and stressed what can be learned from both experiences.



# Forthcoming Conference

## 'FMG Research Students: a Retrospective'

*an ESRC funded conference*

11 and 12 November 2004

The London School of Economics and Political Science

The Financial Markets Group is holding a special conference to mark the completion of its 10 year ESRC Research Centre Award. The conference will be devoted to the Centre's role in the training of young researchers and career development. It will bring together leading academics and practitioners and draw on papers from the Financial Markets Group's past members.

### Some of the topics to be addressed in the conference will be:

- Information and Incentives in Corporate Decision Making and Venture Capital
- Theoretical Models of Asset Pricing Dynamics
- Empirical Studies of Asset Pricing Dynamics
- Empirical Market Microstructure
- Structural Models for the pricing of defaultable bonds / Credit Risk
- Financial Regulation and Financial Stability

### Contributors to the conference include:

**Marcus Brunnemier** Princeton University  
**Victoria Cerasi** Università degli Studi di Milano-Bicocca  
**Giles Chemla** Sauder School of Business  
**Vicente Cunat** Universitat Pompeu Fabra  
**Andrew Ellul** Indiana University, Kelley School of Business  
**Denis Gromb** London Business School  
**Robert Kosowski** INSEAD  
**Raoul Minetti** Michigan State University  
**Alexander Muermann** Wharton, University of Pennsylvania  
**Francisco Poneranda** LSE  
**Enrique Sentana** CEMFI  
**Heski Bar-Isaac** Stern School, NYU

The full programme and registration details can be found in the FMG website at <http://fmg.lse.ac.uk/>.

If you require any further information please contact the FMG administration at 020 7955 7002/7891 or email: [fmg@lse.ac.uk](mailto:fmg@lse.ac.uk)



# Discussion papers



DP 471

## A Comprehensive Test of Order Choice Theory: Recent Evidence from the NYSE

Andrew Ellul

The author performs a comprehensive test of order choice theory from a sample period when the NYSE traded in decimals and allowed automatic executions. He analyses the decision to submit or cancel an order or to take no action. Submitted orders are distinguished by a number of features; order type (market vs. limit), order side (buy vs. sell), execution method (floor vs. automatic), and order pricing aggressiveness. Using a multinomial logit specification and a new statistical test, the author finds negative autocorrelation in changes in order flow (supporting dynamic limit order book theory), despite a positive first-order autocorrelation in order type. Orders routed to the NYSE's floor are sensitive to market conditions (e.g., spread, depth, volume, volatility, market and individual-stock returns, and private information), but those using the automatic execution system (Direct+) are insensitive to market conditions. When the quoted depth is large, traders are more likely to jump the queue by submitting limit orders with limit prices bettering existing quotes. Aggressively-priced limit orders are more likely late in the trading day providing evidence in support of prior experimental results.

DP 472

## Credibility and Cheap Talk of Securities Analysts: Theory and Evidence

Jordi Blanes

This paper studies how investors react to public messages that may be optimistically biased. The author first constructs a communication game between an investor and a (possibly) biased securities analyst. He then finds an equilibrium characterised by the following properties: first, the investor reacts more to bad news than to good news, and second, the difference in this reaction is higher when the investor has a greater prior suspicion that the analyst is a biased type. The paper then presents nonparametric techniques and uses a large database of earnings forecasts to test these predictions, finding that the evidence does in fact support them. Lastly, the author uses the empirical strategy to discriminate between the causes of analysts' bias.

interesting predictions; firstly, the welfare calculations on the access to annuities markets show that nominal annuities are welfare improving even when sold at the empirically parameterised cost, which is above fair value. Real annuities are welfare improving over nominal annuities when sold at a fair price, but when the author incorporates the empirically parameterised annuity premium the gains become negative at all wealth levels.

Secondly, the simulation of the model for the British population wealth distribution shows that an important explanation for the little interest in annuities comes from the fact that annuities are extremely expensive, compared with the total accumulated assets held by households. In other words many households cannot afford even to enter the annuity market. The paper also compares the simulated annuity demand to the actual demands reported in the Family Resources Survey. For those individuals who buy annuities, the simulated demands are not very different from those actually observed.

DP 473 (UBS Pensions series 19)

## Are Annuities Value for Money? Who Can Afford Them?

Paula Lopes

This paper solves an empirically parameterised model of households' optimal demand for nominal and inflation indexed annuities. The model incorporates mortality, inflation, and real interest rate risk. The model draws some

DP 474 (UBS Pensions series 20)

## Optimal Life-Cycle Asset Allocation: Understanding the Empirical Evidence

Francisco Gomes and Alex Michaelides

The authors show that a life-cycle model with realistically calibrated uninsurable labour income risk and moderate risk aversion can simultaneously match stock market participation rates and asset allocation decisions conditional



on participation. The key ingredients of the model are Epstein-Zin preferences, a fixed stock market entry cost, and moderate heterogeneity in risk aversion. Households with low risk aversion smooth earnings shocks with a small buffer stock of assets and consequently most of them (optimally) never invest in equities. Therefore, the marginal stockholders are (endogenously) more risk-averse and as a result they do not invest their portfolios fully in stocks.

DP 475

## Macroeconomic news, order flows and exchange rates

Ryan Love and Richard Payne

Under rational expectations and efficient markets, the news contained in public information announcements is directly impounded into prices with there being no role for trades in this process of information assimilation. This paper directly tests this assertion using transaction level exchange rate data and a sample of scheduled macroeconomic announcements. The main result of the paper is that even information that is publicly and simultaneously released to all market participants is largely impounded into prices via the key micro-level price determinant; order flow. The authors quantify the role that order flow plays and find that between a half and two thirds of price relevant information is incorporated into prices via the trading process.

DP 476

## Simulated Nonparametric Estimation of Continuous Time Models of Asset Prices and Returns

Antonio Mele and Filippo Altissimo

This paper introduces a new parameter estimator of dynamic models in which the state is a multidimensional, continuous-time, partially observed Markov process. The estimator minimizes appropriate distances between nonparametric joint (and/or conditional) densities of sample data and nonparametric joint (and/or conditional) densities estimated from data simulated out of the model of interest. Sample data and model-simulated data are smoothed with the same kernel. This makes the estimator: 1) consistent independent of the amount of smoothing, and 2) asymptotically root-T normal when the smoothing parameter goes to zero at a reasonably mild rate. When the underlying state is observable, the estimator displays the same asymptotic efficiency properties as the maximum-likelihood estimator. In the partially observed case, the authors derive conditions under which efficient estimators can be implemented with the help of auxiliary prediction functions suggested by standard asset pricing theories. The method is flexible, fast to implement and possesses finite sample properties that are well approximated by asymptotic theory.

DP 477 (IAM Series 2)

## An Introduction to Hedge Funds

Gregory Connor and Mason Woo

International Asset Management ('IAM') is the proud sponsor of the IAM Hedge Fund Research Programme of the Financial Markets Group. Within this programme the LSE team undertakes independent research into aspects of the hedge

fund industry. It is hoped that the results of this research will give greater understanding about this growing area of financial innovation.

This research paper gives a broad introduction to the hedge fund industry, the historical background to the evolution of hedge funds and provides an explanation of some of the terminology used within this area.

As an overview of the industry the paper does not attempt to address the use of hedge funds within the broader context of portfolio management such as organisational risk or other areas of concern for the investor. It is a non-technical paper and as such is intended for students or practitioners seeking a general introduction and reference tool.

DP 478

## Principal Agent Problems Under Loss Aversion: An Application to Executive Stock Options

David C Webb and David De Meza

Executive stock options reward success but do not penalise failure. In contrast, the standard principal agent model implies that pay is normally monotonically increasing in performance. This paper shows that, under loss aversion, the use of carrots but not sticks is a feature of an optimal compensation contract. Low risk aversion and high loss aversion is particularly propitious to the use of options. Moreover, loss aversion on the part of executives explains the award of at the money options rather than discounted stock or bonus related pay. Other features of stock option grants are also explained, such as resetting or reloading with an exercise price equal to the current stock price.

## Discussion Papers

DP 479

### Continuous Time Optimal Stochastic Growth: Local martingales, Transversality and Existence

Lucien Foldes

This paper extends the author's work on optimal planning of consumption versus capital accumulation to stochastic versions of traditional continuous-time one-sector growth models. Risk is assumed to be exogenous but is otherwise specified in a very general form. An optimal plan is characterized by means of local martingale conditions for shadow prices and transversality conditions at infinity. The definitions of these conditions involve sequences of random stopping times, and various choices of these times, which are of economic interest, are considered. For example, assumptions are given which allow the stopping times to be chosen as clock times, so that the local martingale is a true martingale and the expected capital value tends to zero as clock time tends to infinity. The possibility of making random time changes so as to replace -local by true martingale conditions for an optimum is also considered. Separately, conditions for the existence of an optimum are obtained.

DP 480

### Block-Booking and IPO Share Allocation: The Importance of Being Ignorant

Kevin James and Céline Gondat-Larralde

Given the opportunity to buy IPO shares of uncertain value at a fixed price, potentially informed investors have an incentive to refuse to participate in offerings, which the underwriter happens to overprice. The authors show that an underwriter can efficiently resolve this problem by entering into a repeat game with a stable coalition of investors who agree to participate in all of the bank's IPOs (block-booking). Using a unique data-set consisting of UK transaction records that enables one to identify original investors for all large UK IPOs between 1997 and 2000, the authors find strong empirical support for this implication.

DP 481

### IPO Underpricing During the Boom: A Block-Booking Explanation

Kevin James

A bank can efficiently underwrite individually difficult to value IPOs by offering them as a package deal to a stable coalition of investors (block-booking). Block-booking banks set offer prices to equalize down side risk across their offerings, not expected returns. Examining US IPOs over the 1986 to 2003 period, the author finds that this is so. Given the return distribution on non-tech IPOs during non-boom years, equalizing downside risk implies that the average initial return on tech/boom IPOs equals 48 per cent (actual value: 46 per cent). The block-booking theory accounts for both the direction and magnitude of differences in average initial returns across IPO types.



# Special papers

SP 151

## FCIs and Economic Activity: Some International Evidence

Charles Goodhart and Boris Hofmann

A Monetary Conditions Index (MCI), a weighted average of the short-term real interest rate and the real exchange rate, is a commonly used indicator of aggregate demand conditions. In-sample evidence for the US, the euro area, Japan and the UK suggests that a Financial Conditions Index (FCI), also comprising property prices and share prices, would be a better indicator for economic activity than the standard MCI. Out-of sample, the FCI also performs better than the MCI, but its overall performance is mixed. An FCI would have predicted the recent economic downturn in Japan and the UK, but not in the US and the euro area.

SP 152

## The Challenge of European Integration for Prudential Policy

Laurence Scialom and Michel Aglietta

The economic unification of Europe is taking a long time. It has become more challenging with the advent of financial integration and the single currency. Under the pressures of globalisation and, as a necessary by-product, of increased competition, the risk profile of financial systems has dramatically changed for the worse. In Europe, soft compromises, which the principle of subsidiarity entails, have impeded the necessary reform of financial safety nets. This paper studies the forces of competition, which reshape financial systems, and the changing pattern of

risk. It also reviews the theoretical foundations of prudential policy, which inspired the institutional design of the financial safety net. Finally, it points to the shortcomings of current prudential policy, which result from a tension between the highly decentralized prudential framework and the ongoing progress in financial integration.

Despite substantial progress, financial integration is still incomplete. With regard to debt markets, however, the integration project has admittedly moved faster and forced intermediaries to strengthen their domestic positions. On the other hand, banks have remained under national supervision while their risks are increasingly cross-border. As a consequence, endogenous risks, which stem from market inter-dependencies, have raised the vulnerability of markets to systemic risks.

The final section of the report sets out proposals combining cooperation among national supervisors and minimum centralisation. The ECB should be capable of performing this task efficiently, because a single currency calls for a lender of last resort with overall responsibility for liquidity. Thus the authors propose the creation of a European observatory of systemic risk. They also propose the establishment of a European agency for transparency to coordinate information flows among national supervisors and enhance disclosure requirements. They suggest that prudential rules could be further harmonised with regard to deposit insurance schemes; that capital standards for banks should be sensitive to the credit cycle; that the creation of European rating agencies should be encouraged and those agencies should be accredited by a committee of bank supervisors. Finally, the

report stresses that the most acute problem lies in the resolution of bank crises insofar as crisis management involves the use of public funds. In failing to bestow the ECB with responsibility over this major question, fiscal subsidiarity collides directly with monetary sovereignty.

SP 153

## Central Banks and Supreme Courts

Charles Goodhart and Ellen Meade

This paper examines two institutions in the UK and US—central banks and supreme courts—in order to assess their common features. Both central banks and supreme courts are independent of government (which can be justified on standard time inconsistency grounds) and make decisions of a highly technical nature. After looking at the appointments process, decision-making procedures, importance of consensus, and the communications strategy for central banks and supreme courts in the UK and US, the authors argue that institutions within a single country are more similar than common institutions across countries. The monetary and judicial institutions in the US have a broader mandate than their counterparts in the UK; while the former have goal independence, the latter do not. This can be seen as creating a democratic deficit in the US relative to the UK, which is remedied by the politicisation of the appointments process.



# Forthcoming Discussion and Special Papers

## Discussion Papers

### DP 482

#### **'A Model to Analyse Financial Fragility: Applications'**

Charles Goodhart, Dimitrios Tsomocos and Pojanart Sunirand

### DP 483 (UBS Pensions series 11)

#### **'Simple Tests for Models of Dependence Between Multiple Financial Time Series, with Applications to US Equity Returns and Exchange Rates'**

Yanqin Fan, Xiaohong Chen and Andrew Patton

### DP 484

#### **'Financial Institutions and The Wealth of Nations: Tales of Development'**

Chenggang Xu and Jian Tong

### DP485 (UBS Pensions Series 21)

#### **'Stopping short? Evidence on contributions to long-term savings from aggregate and micro data'**

Sarah Smith

### DP486 (UBS Pensions series 22)

#### **'Performance of Personal Pension Schemes in the UK'**

David Blake

### DP 487 (UBS Pensions series 23)

#### **'Sponsoring Company Finance and Investment and Defined Benefit Pension Scheme Deficits'**

David C Webb

### DP488

#### **'A Theory of Sovereign Debt Roll-over Crisis'**

Masazumi Hattori

### DP 489

#### **'General Properties of Rational Stock-Market Fluctuations'**

Antonio Mele

### DP 490

#### **'Multiple-bank lending: diversification and free-riding in monitoring'**

Sonja Daltung Vittoria Cerasi and Elena Carletti

## Special Papers

### SP154

#### **'A speech by Sir Andrew Large "Financial Stability Oversight, Past and Present" '**

Sir Andrew Large

### SP155

#### **'A speech by Sir Howard Davies "Creating a Single Financial Market in Europe: What Do We Mean?" '**

Sir Howard Davies

### SP156

#### **'Financial Supervision in an Integrating Europe: Measuring Cross-Border Externalities'**

Sander Osterloo and Dirk Schoenmaker



# Capital Markets Workshop

The Capital Markets Workshop meets regularly throughout the academic year at 5pm on Wednesdays in room R405, Lionel Robbins Building, LSE. Please see the schedule below for any different times/locations.

## Michaelmas Term 2004

- |                    |   |
|--------------------|---|
| <b>13 October</b>  | <b>Urs Peyer</b> (INSEAD)<br><i>Limits of arbitrage and corporate finance theory</i>  |
| <b>20 October</b>  | <b>Paolo Vitale</b> (University G.d'Annunzio and Ente Einaudi)<br><i>An Empirical Study of Liquidity and Information Effects of Order Flow on Exchange Rates</i>  |
| <b>27 October</b>  | <b>Ulrike Malmendier</b> (Stanford Graduate School of Business)<br><i>TBC</i>   |
| <b>3 November</b>  | <b>Mark Flannery</b> (University of Florida)<br><i>Partial Adjustments toward Target Capital Structure</i>  |
| <b>10 November</b> | <b>Sergei Guriev</b> (New Economic School, Moscow)<br><i>Earnings Manipulation and Internal Incentives</i>  |
| <b>17 November</b> | <b>Narayan Naik</b> (London Business School)<br><i>TBC</i>  |
| <b>24 November</b> | <b>Joao Gomes</b> (The Wharton School, University of Pennsylvania)<br><i>Equilibrium Asset Pricing Under Heterogeneous Information</i>  |
| <b>1 December</b>  | <b>Serdar Dinc</b> (University of Michigan Business School)<br><i>TBC</i>   |
| <b>8 December</b>  | <b>Arvind Krishnamurthy</b> (Kellogg Graduate School, North-western University)<br><i>Limits of Arbitrage: Theory and Evidence from Mortgage Backed Securities Market</i><br><b>Please note this seminar will take place at 1pm</b> |
| <b>8 December</b>  | <b>Allan Timmermann</b> (University of Southern California, San Diego)<br><i>TBC</i>  |

Organised by: Antoine Faure Grimaud

Revisions to the programme may take place, these will be identified through the website at:

<http://fmg.lse.ac.uk>

The Capital Markets Workshop is funded by:  
The Department of Accounting and Finance, LSE  
The Suntory and Toyota International Centres for Economics and Related Disciplines, LSE



# Visitors to the FMG

## August-October 2004

**Thomas Philippon**

(NYU Stern)

**David Thesmar**

(Ecoles Nationales d'Economie et de Statistique)

**Suresh Sundaresan**

(Columbia)

**Thomas Gilbert**

(Berkley)

**Andrew Ellul**

(Indiana University Kelley School of Business)

**Katerina Kalcheva**

(University of Munich)

**Silvia Marchesi**

(University of Siena)

**Gillaume Plantin**

(Carnegie Mellon business school)

**Haresh Shapra**

(University of Chicago – Graduate School of Business)

**Thomas Steinberger**

(CSEF)

# The London Financial Regulation Seminar

An inter-disciplinary and inter-collegiate group of experts specialising in financial regulation will be holding a regular series of seminars, and more occasional conferences, on topics relating to this field.

Meetings take place on **Mondays in R405, 4th Floor, unless otherwise stated**, Lionel Robbins building at LSE between 5.45pm to 7.15pm. Enter the Library building through the side door on Portugal Street, and take elevator to the 4th floor. Drinks will be served afterwards.

## Schedule for Michaelmas Term 2004

- 11 October** **Ian Michael** (Bank of England) on '*IAS 39: What is all the fuss about?*'
- 25 October** **Kathryn Imboden** (Senior Policy Advisor, UN Development Fund) on '*Micro-Finance: Should it be regulated; if so, how?*'
- 25 November** **Tom Lawton** (RSM Robson Rhodes Ltd) on '*Some topics in Accounting and Regulation*'
- 29 November** **Chenggang Xu** (LSE) on '*Chinese Stock Market Regulation: How can poor regulation and good performance exist side-by-side?*'
- 8 December** *Full day conference in honour of the publication of Padoa-Schioppa's book on Regulating Finance.*
- Morning: Analysis Papers by**
- D Tsomocos:** *Models of Financial Fragility*
- R Repullo:** *TBA*
- R Gropp and J Vesala:** *Deposit Insurance*
- Afternoon: Policy Presentations by**
- C Mayer and J Franks:** Colin and Julian have recently completed a further book on financial regulation.
- H Benink and TBC:** Harald is Chairman of the European Shadow Financial Regulatory Committee
- C McCarthy:** Callum is Chairman of the FSA
- T Padoa-Schioppa:** Tommaso has responsibility for financial stability issues at the ECB

The organisers of this seminar series are (by alphabetical order):-

**Dr J Benjamin**, Reader in Law, London School of Economics; **Professor E Philip Davis**, Professor of Economics and Finance, Brunel University; **Professor Charles Goodhart**, Professor of Banking and Finance, Financial Markets Group, London School of Economics; **Dr Rosa Maria Lastra**, Senior Lecturer in Financial and Monetary Law, Centre for Commercial Law Studies, Queen Mary, University of London; **Dr Alistair Milne**, Senior Lecturer in Banking, Cass Business School; **Mr Andrew Winckler**, Chairman, Financial Services Regulatory Practice, Ernst and Young; and, **Professor Geoffrey Wood**, Professor of Economics, Faculty of Finance, City University Business School.

For more information please call 020 7955 6301

For details of any changes to the scheduled programme please see the FMG's website at <http://fmg.lse.ac.uk/regulation>



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<http://fmg.lse.ac.uk/>

## FMG Review

**Edited by:** Professor Bob Nobay

**Prepared by:** Nicola Gambrell,  
Paula Lopes, Ryan Love

**Designed by:** LSE Design Unit  
[www.lse.ac.uk/designunit](http://www.lse.ac.uk/designunit)