

ABRAAJ CAPITAL PUBLIC LECTURE PRIVATE EQUITY: LEVERAGED EXPERTISE OR LEVERAGED BETS

27 September 2010

To mark the launch of the Finance Department's new MSc programme in Finance and Private Equity and the new FMG Abraaj Capital Private Equity research programme, both sponsored by Abraaj Capital, **Ulf Axelsson** (FMG, LSE) delivered the lecture 'Private Equity: Leveraged Expertise or Leveraged Bets?' Axelsson is the newly appointed Abraaj Capital Reader in Finance and Private Equity at LSE and Director of the Abraaj Private Equity research programme.

Following the lecture, **Felda Hardyman** (Harvard Business School and LSE) chaired a very lively panel discussion entitled 'Private Equity in Downturns: Contributors or Saviours?'. The panel comprised of **Arif Naqvi**, founder and CEO of Abraaj Capital, **Kurt Björklund**, co-managing partner of Permira Advisers, **Lord Simon Cairns**, Chairman of Celtel, and **Lord Jacob Rothschild**, Chairman of RIT Capital Partners.

Axelsson's lecture shed light on the controversial role of private equity in the economy, but he pointed out that a lot still has to be done to determine whether private equity is good or bad for firms and investors. The lecture enriched the perspective of both experts and amateurs alike



Felda Hardyman (Harvard Business School), Lord Simon Cairns (Celtel), Lord Jacob Rothschild (RIT Capital Partners), Arif Naqvi (Abraaj Capital), Kurt Björklund (Permira Advisers)

and the subsequent discussion immediately made clear that the issue of private equity's role stirs up lively debate among practitioners and academics.

Axelsson began with an outline of private equity firms describing their most common activities. Private equity firms raise capital through private equity funds. Investors provide these funds with capital to be invested in companies, and they become what in legal terms is called a limited partner. They are usually institutional investors, insurance companies and wealthy individuals who have little say in the management of the company.

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ABRAAJ CAPITAL PUBLIC LECTURE 'PRIVATE EQUITY: LEVERAGED EXPERTISE OR LEVERAGED BETS'

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Ulf Axelson (FMG, LSE)

Fund managers are called general partners; they receive a periodic management fee as well as a share of profits.

The most common investment strategies in private equity are leveraged buyout, venture capital, and mezzanine credit. Axelson focused on the most controversial of these – leveraged buyout, the acquisition of controlling interest in a company's equity, where a significant part of the purchase is financed through debt – hence the term 'leveraged'. A private equity fund typically borrows against the acquisition for seventy per cent of the purchase price.

At the core of the debate is a basic and unresolved question: Does private equity create or destroy value? Axelson discussed pros and cons of private equity and brought to bear recent empirical evidence on the subject. He presented the following arguments against leveraged buyouts: firstly, they rely on too much debt, which causes systemic bank crises. Secondly, fund managers are 'short-termist', they manage target firms poorly, performing so-called 'asset stripping' (the process of buying an undervalued company with the intent of selling off its assets for a quick profit). Lastly, the incentives of the general partners are not aligned with those of the limited partners: general partners' limited liability, and hence their lack of exposure to the downside risk, encourages them to take risks – gamble – against the interests of the limited partners.

Axelson then presented the most relevant counterarguments to the criticisms above. As pointed out by Michael Jensen¹, investment in private equity provides investors with both a risk

sharing advantage – through diversification – and mitigates the free rider problem in monitoring – through concentrated ownership. Private equity firms comprise informed experts who restructure the target and improve the management. The presence of debt leverages this expertise over several investments, and also forces discipline on firm managers to perform. Furthermore, due to the private equity firms' relationships with lenders they can easily renegotiate debt contracts in economic downturns to avoid defaults. Finally, profit sharing between limited and general partners align incentives and make the general partners choose the best investments without gambling.

In reviewing the empirical evidence on the impact of private equity ownership on firms, workers, and the economy, Axelson concluded that although more research is needed, overall it seems that the positive aspects of private equity outweigh the negative ones. Private equity owned firms have better operating efficiency, and this does not appear to be at the expense of workers or long term investments.

Finally, Axelson discussed the most controversial side of private equity: the extensive use of debt. Although debt plays an important positive role in private equity, the use of debt can sometimes become excessive. He drew on his own research which shows that the amount of leverage used by private equity firms in the past was driven primarily by the availability of debt, rather than its suitability for different businesses². When debt markets become overheated, they no longer function as an external disciplining force, which can tempt general partners to take leveraged bets at the expense of their investors. Axelson also suggested giving limited partners the power to veto any highly leveraged transactions as a way to temper the over-use of debt to make acquisitions.

It was clear from the lecture that questions about the advantages of leveraged market operations remain unresolved; this became even clearer during the panel discussion, when noted finance practitioners expressed divergent opinions. Lord Rothschild, a veteran investor and private equity limited partner, said that incoming banking regulations would go some way to mitigating the over-use of leverage: 'Basel III will stop the aberration of the last few years,' he said during the panel discussion.

When asked whether he would allow his limited partners to veto unsuitable capital structures on individual deals, Björklund said that as the financial crisis hit, his firm had been able 'to trade out of inappropriate capital structures'. He added that 'strategically bad investments' cause more of a problem than over-leveraged ones. The correct capital structure, said Björklund, was 'very difficult to judge remotely'. 'Limited partners are meant to be limited,' added Naqvi (Abraaj Capital), who also reminded participants that the use of leverage is not uniquely a private equity problem: 'As far as I am aware, Greece is not a private equity firm, and Lehman Brothers wasn't a private equity firm either.'

Lord Cairns, who spent nine years as Chairman of emerging markets private equity investor Actis, in addition to holding other high-profile financial services positions, made the point that throughout his private equity career he never once used debt in a transaction.

¹ See Jensen, M (1989), 'Eclipse of the Public Corporation,' Harvard Business Review.

² See Axelson, Jenkinson, Strömberg, and Weisbach (2010), 'Borrow Cheap, Buy High? The Determinants of Leverage and Pricing in Buyouts', www.ssrn.com

The UK's first taught Master's in private equity, launched by the London School of Economics and Political Science (LSE) has been made possible by a substantial donation from Abraaj Capital, the largest private equity group in the Middle East, North Africa and South Asia (MENASA).

The MSc will give students a comprehensive foundation in all areas of finance, with a particular emphasis on private equity: how private equity funds are raised, how they can be used in scaling-up cash flow businesses and in providing growth capital and institutional support. Students will take both a theoretical and practical look at the subject and the programme will be taught in conjunction with a range of industry experts. It will help prepare students for careers within Private Equity firms, in investment banking, financial intermediation in general or any finance related career.

The MSc includes two core courses in more general finance – Asset Markets and Corporate Finance. Elective modules include financial engineering, risk management, applied financial valuation, advanced derivatives and structured financial products.

Ulf Axelson, the inaugural Abraaj Capital Reader in Finance and Private Equity, is programme director for the MSc and will teach its core course in private equity. He said: 'Over the last decade or so, private equity groups have bought stakes in more than 15,000 large firms worldwide and venture capitalists have become an increasingly important source of funding for entrepreneurs seeking start-up capital. The degree programme will help our students develop a deeper understanding of active investing.'

Alongside the Master's programme, the FMG Abraaj Capital Private Equity research programme has been launched. Directed by Ulf Axelson, the purpose of the programme is to deepen the understanding of the increasingly important segment of the economy that private equity and venture capital constitute. Globally, buyout deal-activity soared from \$28 billion in 1995 to more than \$500 billion in 2007, its peak. Since then, it has fallen to \$81 billion in 2009 because of the global economic crisis, according to data compiled by Thomson Reuters.

Two working papers have already been published under this new FMG research programme:

- 'Borrow Cheap, Buy High? The determinants of Leverage and Pricing in Buyouts' by Ulf Axelson (FMG, LSE and SIFR), Tim Jenkinson (University of Oxford and CEPR), Per Strömberg (SIFT and Stockholm School of Economics), Michael Weisbach (Ohio State University)
- 'Incentives to Innovate and the Decision to go Public or Private' by Daniel Ferreira (FMG, LSE, CEPR and ECGI), Gustavo Manso (MIT), Andre C Silva (Universidade Nova de Lisboa)

Lecture organised by: **Ulf Axelson**
(FMG, LSE)

PAUL WOOLLEY CENTRE 3RD ANNUAL CONFERENCE

10-12 June 2010

The 3rd Annual Conference of the Paul Woolley Centre was held on 10-12 June 2010. Research at the Centre aims at understanding the workings of capital markets and the social efficiency of allocations that these markets achieve. The three day event covered the following areas:

- Financial markets and the real economy;
- Delegated portfolio management;
- Credit markets and the macroeconomy; and
- Financial institutions and contracts.

The conference opened with a presentation by **Joel Peress** (INSEAD), entitled 'Learning from Stock Prices and Economic Growth', focussing on the feedback effect from prices to the macro economy. The paper analysed the role of the stock market on aggregate long-run economic growth when investors are unable to perfectly communicate their private information. The backbone of the model is a neoclassical growth economy, embedded within a Grossman-Stiglitz-type competitive stock market. Firms operating in the economy have to raise capital from overlapping generations of workers through the stock market. Agents can acquire private signals about productivity shocks at the expense of their leisure time, and due to their trading activity, this information is partially disseminated to other market participants. When members of a new generation are young, after earning a wage, they make choices regarding leisure and signal precision, which they use to decide on portfolio weights for their investments.

Growth is affected by the learning process through two channels. Firstly, agents with higher wages invest more and hence retire with more of the consumption good, which decreases marginal utility and implies that they would be better off by consuming more leisure (substitution effect).



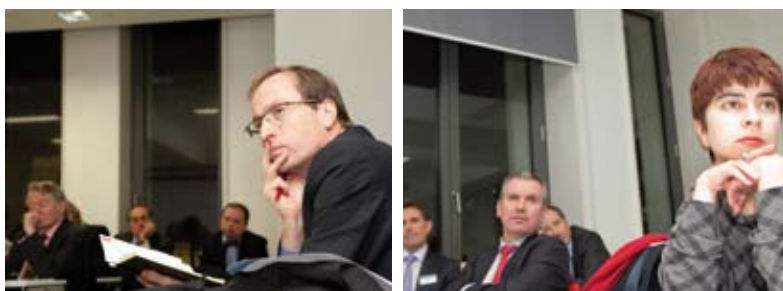
Paul Woolley (FMG, LSE)

Secondly, richer agents produce more information and hence more productive firms. They obtain more capital, which leads to higher marginal productivity of labour and higher wages for the next generation. Indeed, when the second (scale) effect dominates, income grows at an accelerated rate. Capital efficiency, total factor productivity and industrial specialization all increase, consistent with the data. Income inequality and stock market liquidity first increase then decrease, while return volatility decreases and cross-correlation rises.

The discussant, **Thierry Foucault** (HEC Paris), asked whether the cost of information acquisition is indeed a good measure of financial development, and how this cost should be measured. He noted that there is no cost of asymmetric information in this model, as information does not create an adverse selection problem. Finally, he suggested that as some of the empirical predictions did not seem to be supported by the data, research should be carried out to determine whether the scale effect indeed dominates the substitution effect.

Elias Albagli (Harvard University) presented 'Information Aggregation and Investment Decisions', co-authored with Christian Hellwig (UCLA) and Aleh Tsyvinski (Yale). They studied the feedback effect from stock prices to managerial decisions regarding real investments. Indeed, over and above their traditional role as institutions aggregating information about the value of firms, asset prices can also provide information to these firms and their managers in helping guide investment decisions, which in turn affects the value of the firm. Given that market participants receive more precise information than managers through private signals in addition to the public signals, prices are more sensitive to fundamentals than dividends. This information setup creates a 'wedge' between prices and dividends; prices are higher than dividends in good states, and lower in bad states, implying that the former are more volatile than the latter. Moreover, the two-way interaction ensures that dividends rely more on fundamentals in good states, leading to positive wedges being larger in size than negative wedges, and average prices being higher than average dividends (i.e. overvaluation). The paper also studies managerial incentives, and shows that if decision makers are interested in higher prices (eg, through stock-based compensation), equilibrium share prices will indeed be higher and even more volatile, and the potential value of the firm decreases.

The discussant, **Amil Dasgupta** (FMG, LSE), pointed out that the presence and sign of the wedge might be very sensitive to the assumption regarding signal precision, as the firm's manager has less information about its own cash-flows than the average market trader. He also noted that, although the implication on stock-based managerial compensation is very interesting, even without feedback, there is no role for stock-based



compensation. Finally, he suggested that the authors focus their message on this aspect taking into consideration also where such incentives would have potential benefits.

Itay Goldstein (University of Pennsylvania) presented his paper, entitled 'Trading Frenzies and Their Impact on Real Investment', jointly written with Emre Ozdenoren (LBS) and Kathy Yuan (FMG, LSE). They studied the causes of trading frenzies (ie, periods when speculators rush to trade in the same direction, causing large price fluctuations) and their real effect, in a setting where market prices affect real investments through their information content. The paper presented a model with both strategic substitutes and complementarities present in a market setting. Indeed, due to the traditional price mechanism, speculators prefer not to buy (sell) when many others buy (sell) the asset, which corresponds to placing low weight on correlated information.

However, a coordinated sale by many speculators transmits negative information to the capital provider and can lead to a reduction in the value of the security, leading to higher profits from selling. Thus, if agents put a large weight on correlated information, and this second effect – labelled feedback – dominates the substitution effect, it can lead to trading frenzies. The paper also considers investment efficiency. As coordination increases the effect of noise in the common signal, optimal coordination is high when the common signal variance is low and/or noise trading variance is high, and vice versa. This implies that speculators wish to coordinate exactly when it is harmful so that they can then affect the decision of the capital provider. This inefficiency provides policymakers with room to improve coordination by releasing public information, or providing liquidity, when market liquidity is low, and absorbing it when market liquidity is high.

The discussant, **Johan Hombert** (HEC Paris), noted that the results are mainly driven by the assumptions made by different participants regarding the information available. It is crucial, for example, that speculators cannot observe the price but have to predict this based on their common and idiosyncratic signals, as otherwise it would eliminate the feedback effect and hence lead to 'over coordination'. He also raised questions regarding the nature of a common signal that is distinct from the price observed by speculators, but not seen by the capital provider.

Rich Mathews (Duke University) presented 'Doing Battle with Short Sellers', co-authored by Naveen Khanna (Michigan State University). They argued that if speculators can profitably manipulate prices, which, in the presence of feedback effects, decreases the value of a firm, there is need for an informed party who takes the costly action of balancing the short-sellers and hence improves the firm's value. Given that such shareholders already have a natural incentive to protect the value of their stakes, blockholders might find it optimal to counter the shorters' strategy even when others are unwilling. The setup incorporates two conflicting objectives for informed blockholders. The first sets out to ensure that the right investment decision is made to maximise the value of existing positions by offsetting the price pressure of short sellers, and the second aims to use private information to maximise trading profits. At times, when trade has to be undertaken at unfavourable prices, the blockholders' stake must be sufficiently large to absorb losses. However, the paper also stated that blockholders are most likely to prevent bear raids when their stakes are high. As a policy implication, they concluded that markets should ordinarily be able to battle short-sellers without intervention, and restrictions on short-selling should only be considered in

'abnormal times', ie, when liquidity dries up, when short-sale constraints are unexpectedly relaxed (eg, when CDSs can be traded on the firm), or when decision makers become more risk averse, due to uncertainty or credit constraints.

The discussant, **Alexander Guembel** (University of Toulouse), noted that the paper identified a new, natural role for blockholders as agents to solve a free rider problem – a role subtly different from usual stories. However, he questioned whether price being the only channel of communication is a valid assumption. He also expressed that the conflict-of-interest part of the model seemed redundant, and called for a theory on types of conflicts that make firms more vulnerable to speculative attacks.

Zhiguo He (University of Chicago) presented 'Rollover Risk and Credit Risk', jointly written with Wei Xiong (Princeton University). They outlined a model to analyse the effects of a firm's rollover risk on its credit risk through the conflict of interest between debt and equity holders. They argued that the equity holders are willing to absorb the losses when a firm rolls over its maturing debt only if the option value of keeping the firm alive justifies the cost of paying off the maturing debt holders.

This externality and conflict of interest between the debt and equity holders will be exacerbated in the case of deteriorating market liquidity, because, in order to avoid bankruptcy, the equity holders have to take over all of the losses from rolling over maturing bonds at reduced market prices. As a result, equity holders choose to default at a higher fundamental threshold even if firms can freely raise more equity. Short debt maturity amplifies the debt crisis in a similar fashion since equity holders are forced to realize the rollover loss at a higher frequency. In conclusion, their model provided an alternative perspective to understanding the financial instability created by overnight repos, an





Dimitri Vayanos (FMG, LSE)

extreme form of short-term financing, to many financial firms. The discussant of the paper, **James Dow** (London Business School), highlighted the closed form solution from the model. However, he raised the problem of it containing too many exogenous parameters, and suggested a more reality-linked way to model rollover risk.

Opening the second day's sessions, **Peter Kondor** (Central European University) presented the paper entitled 'The Delegated Lucas-tree'. This theoretical paper, co-authored with Ron Kaniel (Duke University), introduces financial delegation into the standard Lucas-tree asset pricing model. The delegation process is represented by the 'incentive function', which exogenously characterises the flow-performance relationship of each investment fund. The authors argued that if the function has increasing elasticity, the average fund outperforms the market in recessions and underperforms in expansions. When the share of delegated capital is low, all the funds follow the same strategy. However, when the share is high, the funds with identical incentives use heterogeneous trading strategies, and fund returns are dispersed in cross-section. The authors also studied the impact of delegation on asset-price properties such as the Sharpe ratio or the price-dividend ratios. The discussant, **Pietro Veronesi** (University of Chicago), pointed out that it was not clear if the complicated structure of the model was necessary as he had derived some insight into the matter using a simple two-period model. He also suggested that the authors discuss further the justifications for the incentive function.

Igor Makarov (London Business School) presented the second paper of the day, 'Rewarding trading skills without inducing gambling' co-authored with Guillaume Plantin, also from LBS.

They studied incentives in the money managing industry paying special attention to hedge funds. As this industry is very lightly regulated, there exists ample room for agency problems to develop as, in particular, fund managers may secretly gamble in order to manipulate their reputation and attract more funds. The main question is whether it is possible to restrain risk-shifting and how. In their model, three factors are conducive to risk-shifting: the difference between the Sharpe ratios of a skilled and an unskilled trader; the scalability of trading skills; and the fact that reputation can only be manipulated temporarily. Under this setting, the lower the reputation of the manager or the greater her impatience, the greater the incentive for risk-shifting. After characterizing what factors induce risk-shifting, they then studied the optimal contract that addresses this friction and described contracts that produce no risk-shifting in equilibrium. **Andrea Prat** (FMG, LSE) commented on their paper and identified its main contribution to be that it states the conditions under which an equilibrium with no risk-shifting occurs. It is important however to analyse what an equilibrium with risk-shifting would look like. According to Prat, the authors need to address the question of whether it is optimal to eliminate gambling.

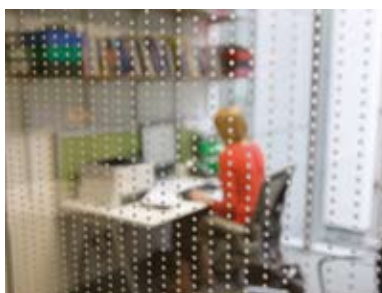
Russell Jame (Goizueta School of Business) presented his paper entitled 'Organizational structure and fund performance: pension funds vs. mutual funds'. His work analysed whether additional layers of delegation within the defined benefit pension fund industry hurt the performance of the funds. The main theory behind it is that career concerns and legal liability prompt corporate managers into hiring managers with low tracking errors, which in turn might restrict fund managers in their ability to pursue certain profitable strategies. Consistent with this hypothesis, he found that relative to mutual funds, pension funds engage in less active management and are less aggressive in implementing momentum strategies. Moreover, they are more likely to tilt their trading towards stocks against their benchmark, which weakens the performance

of their trades by roughly 30 basis points per year.

Ian Tonks (University of Exeter Business School) in his discussion, suggested that Jame analyse why such a difference exists. He suggested a few explanations: diversification; the selection effect (pension funds and mutual could be catered to different investors); or more directly, just the remuneration of the manager.

Under the framework of 'Delegated Portfolio Management – Empirics', **Christopher Polk** (FMG, LSE) presented 'Connected Stocks', co-authored with Miguel Antón, also from FMG, LSE. Polk explained in detail how commonalities in holdings are a powerful predictor of return covariances. The authors connected stocks through common active mutual fund ownership, and used different measures of these connections to forecast cross-sectional variation in return covariance, controlling for similarity in style, such as industry size, value, and momentum, common analyst coverage, and other pair characteristics. They disentangled the sources of this effect and proposed that this covariance is due to several factors: contagion based on return decomposition evidence, cross-sectional heterogeneity in the extent of the effect, and the magnitude of average abnormal returns to a cross-stock reversal trading strategy. Information in these connections are exploited in trading strategies. Interestingly, the typical long/short hedge fund covaries negatively with this strategy, suggesting that hedge funds may potentially exacerbate the price dislocation instead of correcting it.

Giovanni Favara (HEC Lausanne, Swiss Finance Institute, IMF) presented the paper 'Credit Supply and the Price of Housing'. The paper, co-authored with Jean Imbs (HEC Lausanne, Swiss Finance Institute, and CEPR), showed that since 1994, branching deregulations in the US have significantly affected the supply of mortgage credit, and ultimately house prices. The authors argued that the deregulation acts to relax access to mortgage credit, and consequently pushed the demand for house ownership upwards. They found that the fraction of securitised mortgage



loans remained unchanged through the process. The paper also contained evidence to support the case that house prices rose with branching deregulation, particularly in Metropolitan Areas where construction was inelastic for topographic reasons. The discussant, **Jack Favilukis** (FMG, LSE), built a simple equilibrium model that supported the findings of the paper. However, he questioned the authors' presumption that the mortgage companies' behaviour will remain stable despite the change in bank regulation.

Anton Korinek (University of Maryland) presented 'Managing Credit Booms and Busts: A Pigouvian Taxation Approach'. The paper, co-authored with Olivier Jeanne (Johns Hopkins University), studied a dynamic model in which the interaction between debt accumulation and asset prices magnified credit booms and busts. The authors showed that these feedback effects created an externality since borrowers do not internalise their contribution to aggregate volatility and therefore take on excessive leverage. As a result the economy suffered from excessive volatility, ie, large booms and busts in both credit flows and asset prices. The authors proposed a Pigouvian tax on borrowing that induces agents to internalise their externalities. The discussant, **Dimitri Vayanos** (FMG, LSE), compared the model in this paper with those in standard finance literature in terms of the form of collateral constraints and welfare implications thereof. He also suggested that the authors could undertake further research into the implications of asset-pricing, eg, the impact on price when the risky asset is used as collateral.

The first paper in the final session of the conference was 'Risk-sharing or risk-taking? Financial innovation, margin requirements and incentives' by **Bruno Biais** (Toulouse School of Economics) and co-authored with Florian Heider and Marie Hoerova both from the European Central Bank. The paper analysed the benefits and costs of financial innovation in terms of risk-sharing and financial stability. In particular, the paper focused on credit default swaps and argued

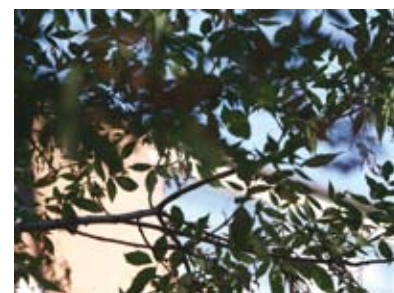
that whilst hedging would enhance risk-sharing, it could also reduce the protection seller's incentive to properly manage risk. That is, when adverse information on the underlying asset of the CDS contract is revealed, the protection seller's financial condition worsens and hence will be less willing to exert a costly effort to manage risk. This in turn increases counter-party risk. Hence the risks of the protection buyer and the protection seller become endogenously correlated due to a moral hazard problem. Moreover, the authors showed that margin requirements would exacerbate such trade-offs and hence may not be always optimal.

The second paper of the final conference session was 'Optimal Interventions in Markets with Adverse Selection' by **Thomas Philippon** (NBER and CEPR), co-authored with Vasiliki Skreta (New York University). The paper studied the problem of interventions when financial markets fail because of adverse selection. The adverse selection problem arises from the asymmetric information about the riskiness of the investment opportunities of firms who seek financing. Markets break down because good banks are unwilling to borrow at the prevailing market rate. The paper considered three government programmes: equity injection, asset buy-back, and debt guarantee. The authors found that while all three programmes could lead to the optimal outcome with symmetric information at the participation stage, such a programme which attracts only the good banks cannot exist given the availability of asymmetric information at the participation stage. They proceeded to show, given asymmetric information, that debt guarantees attracting all banks are optimal among all conceivable mechanisms.

In the last presentation of the conference, **Markus Brunnermeier** (Princeton University) presented a paper written jointly with Martin Oehmke (Columbia Business School) entitled 'The Maturity Rat Race'. In the paper, the authors developed a model of endogenous maturity structure for financial institutions that borrow from multiple creditors. They essentially showed that the following maturity rat race can occur: an

individual creditor can have an incentive to shorten the maturity of their own loan to the institution, allowing him to adjust his financing terms or pull out before other creditors can. This, in turn, causes all other lenders to shorten their maturity as well, leading to excessively short-term financing. The rat race occurs when interim information is mostly about the probability of default rather than the recovery in default, and is most pronounced during volatile periods and crises. In the model presented by Brunnermeier, the maturity mismatch is inefficient, which stands in contrast to a number of other existing theories of maturity mismatch. Brunnermeier claimed that to the extent that maturity mismatch is driven by the forces outlined in the presented model, it may be desirable to include limits on maturity mismatch in future financial regulations.

Conference organised by: **Bruno Biais** (Toulouse School of Economics), **Amil Dasgupta** (FMG, LSE), **Thierry Foucault** (HEC Paris), **Itay Goldstein** (University of Pennsylvania), **Denis Gromb** (LSE), **Christopher Polk** (FMG, LSE), **Dimitri Vayanos** (FMG, LSE), **Paul Woolley** (FMG, LSE) and **Kathy Yuan** (FMG, LSE)



NONPARAMETRIC AND SEMIPARAMETRIC METHODS IN ECONOMICS AND FINANCE (NAMSEF) WORKSHOP

21-22 June 2010



Oliver Linton (FMG, LSE)

This conference discussed recent advances in semiparametric econometric methods and their applications in economics and finance. The conference was opened by **Oliver Linton** (FMG, LSE) who briefly discussed the objectives of the corresponding NAMSEF research programme.

The first presentation by **Miguel Delgado** (Universidad Carlos III de Madrid) addressed the problem of 'Testing Conditional Monotonicity in the Absence of Smoothness'. This work, which is jointly authored with Juan Carlos Escanciano (Indiana University), proposes a test for the monotonicity of the conditional distribution function and its moment. The authors' approach does not require the estimation of the derivatives of nonparametric curves, and hence can be implemented even when probability densities do not exist. The authors derived the asymptotic properties of their test, and examined the finite-sample performance of their test using a Monte Carlo experiment.

The second paper, 'Nonparametric Estimation of a Polarisation Measure', was presented by **Yoon-Jae Whang** (Seoul National). It is co-authored with Gordon Anderson (University of Toronto) and Oliver Linton (FMG, LSE). The paper was discussed by **Javier Hidalgo** (LSE). In this paper, the authors developed a nonparametric kernel estimation methodology of a polarisation measure which was previously proposed in

the literature. The authors also derived the asymptotic distribution of their estimator, and showed how to conduct feasible and consistent inference. In addition, the paper included an application to the study of polarisation within China in recent years.

The third paper, 'On the Efficiency of the Functional Neyman-Pearson Lemma in Semiparametric Models', was presented by **Juan Carlos Escanciano** (Indiana University). The paper formalised and clarified the efficiency results for the Functional Neyman-Pearson Test (FNPT), previously claimed in the literature. The author proved a general result on the efficiency of the FNPT, in the classical semiparametric sense, and considered some applications of this general principle.

Anastasios Magdalinos (University of Nottingham) presented his paper entitled 'Econometric Inference in the Vicinity of Unity', co-written with Peter Phillips (Yale University). The paper developed a new econometric approach to inference in co-integrating regression that is robust to the persistence characteristics of the regressors. The approach developed in the paper overcomes the pitfalls of conventional approaches to the estimation and testing of co-integrating regressions when the regressors are nearly integrated. The authors' approach employed mildly integrated instruments, one using system regressors and internally generated instruments, the other using external instruments. By using mildly integrated instruments, the authors provided a mechanism for linking the conventional treatment of endogeneity in simultaneous equations with the econometric methodology for co-integrated systems.

The fifth presentation of the day was delivered by **Valentina Corradi** (University of Warwick). Entitled 'Nonparametric Nonstationary Autoregression and Nonparametric Co-integrating Regression: Automated Bandwidth Selection' it was based on her paper, co-authored by Federico Bandi (Johns Hopkins, Carey Business School) and Daniel Wilhelm (University of Chicago, Booth School of Business). The authors of this paper proposed an automated bandwidth selection procedure for nonparametric nonstationary

autoregressions and nonparametric co-integrating regressions. The procedure was carried out in two stages. In the first stage, the bandwidth was chosen by minimising a set of moment conditions constructed using nonparametric residuals. The second stage hinged on a randomised procedure based on conditional inference and it is this stage that guaranteed a zero asymptotic bias. The authors also provided a Monte Carlo evaluation of their procedure and showed that it compared favourably to cross-validation.

'The Generalized Dynamic Factor Model: Causal Representation and Estimation', presented by **Paolo Zaffaroni** (Imperial College), and co-authored with Mario Forni (Modena e Reggio Emilia/CEPR/RECent), Marc Hallin (ECARES/Bruxelles) and Marco Lippi (Roma/EIEF), built on recent work on stochastic processes whose spectral density is rational and singular. They derived a finite autoregressive representation for the common components in general dynamic factor models.

The final presentation of the day by **Piotr Fryzlewicz** (LSE) addressed the 'Haar-Fisz Estimation of Time-Varying Volatility Matrices'. In this work the author proposed an estimation method that is a computationally efficient, theoretically tractable estimator of the correlation matrix, that accurately reacts to significant changes and does not over-smooth short-lived changes in the correlation. In order to achieve higher efficiency, the author's method also attempted to estimate constant correlations as constant (with a high probability), and estimate insignificant correlations as zero (again, with a high probability). The method was based on Haar wavelets and Fisz transform.

Arthur Lewbel (Boston College) presented 'The Nonparametric Euler Equation Identification and Estimation', which showed that the Euler pricing equations can actually be written in a form that equals Fredholm integral equation of the second kind. The development of the model extends the usual method of solving Fredholm integral equations of the second kind to allow for the presence of habits. Using these results, the marginal utility functions and pricing kernels are locally nonparametrically identified with few low

level assumptions, and the conditions for finite set and point identification of these functions are given. In addition, the limiting distribution theory for the nonparametric estimators should be relatively standard.

Enno Mammen (Mannheim University) presented 'Nonparametric Regression with Nonparametrically Generated Regressors'. This paper analysed the properties of nonparametric estimators of a regression function when some covariates are not directly observed, but have only been estimated nonparametrically. The author provided general methods to derive asymptotic properties, such as asymptotic normality or rates of consistency in numerous econometric applications, including nonparametric estimation of simultaneous equation models, sample selection models, treatment effect models, and censored regression models.

Dennis Kristensen (Columbia University) presented his paper 'Semi-Nonparametric Estimation and Misspecification Testing of Diffusion Models'. The paper proposed misspecification tests of semiparametric and fully parametric univariate diffusion models based on the estimator developed in his previous research. The procedure provided information to further investigate if a given parametric specification of the drift and diffusion function is correct and can be used to test drift and diffusion specification separately from each other. This is in contrast to existing methods that test correct specification of drift and diffusion term simultaneously. The asymptotic distribution of the estimators and tests under the null are derived, and the power properties are analysed by considering contiguous alternatives. Markov Bootstrap versions of the test statistics are proposed to improve on the finite-sample approximations. The finite sample properties of the estimators are examined in a simulation study.

Over the past two decades, a lot of literature focusing on the inconsistency between the theories of diffusion processes and the actual

stylised facts of the data have been proposed in the literature. To address this issue, **Bonsoo Koo** (LSE) presented 'Locally Stationary Diffusion Models with Structural Breaks', which focuses on Lévy or other stochastic processes. This paper took a novel approach, exploiting the explanatory potential of diffusion processes with breaks in the drift or the diffusion function. The paper proposed estimators of the locations and sizes of structural breaks in the drift or the diffusion function of a class of locally stationary diffusion processes, where the structural breaks are located at given periods of time. Asymptotic theory of the estimators of the locations and sizes are proposed and finite-sample properties of the proposed estimators are provided by the Monte Carlo study. The paper also considered an empirical application using historical financial data, which can shed light on how policy changes or exogenous shocks manifest themselves in the data processes within the historical financial data.

Francesca Rossi (LSE) presented 'Improved Testing Procedures for SAR Models'. Spatial Auto-Regression (SAR) models offer a useful framework to describe observations that are recorded on irregularly-spaced points in a geographic space. This paper developed more accurate tests for a lack of spatial correlation than one based on the usual central limit theorem. The nullity of the lag parameter in a pure SAR has been tested based on Least Squares estimation and Gaussian Maximum Likelihood estimation. The rate of convergence of the estimate can be slower than \sqrt{n} , where \sqrt{n} is the sample size depending on assumptions on the spatial weight matrix. Correspondingly, the error in the normal approximation can be larger than the usual parametric order, which provides strong motivations to employ refined statistics. In Monte Carlo simulations, the paper demonstrated that the new tests (and tests based on a bootstrap, which are expected to have similar properties) outperform tests based on the usual normal approximation in small and moderate samples.

The final presentation of the workshop was given by **Dajing Shang** (FMG, LSE) on 'Efficient Estimation of Risk Measures in a Semiparametric GARCH Model'. Moment constraints are often used to identify and estimate the mean and variance parameters but are discarded when estimating error quantiles. In order to prevent this efficiency loss in quantile estimation, the paper proposed and investigated new efficient conditional VaR and ES estimators in a semiparametric GARCH model. The new estimators were found to achieve large efficiency gains and quantified this magnitude in Monte Carlo simulation results. Asymptotic theory for one period ahead of VaR and ES forecasts were also provided. The theory can also be used as guidance in constructing confidence intervals for point risk measure forecasts. Both variance parameters and error quantiles can also be extended for use in more complicated parametric volatility models.

Workshop organised by:
Oliver Linton (FMG, LSE)



AXA-BANK OF ENGLAND-HEIF4 CONFERENCE FINANCIAL INNOVATION AND MARKET PERFORMANCE

8-9 June 2010



Kevin James (Bank of England and FMG, LSE)

Kevin James (Bank of England and FMG, LSE) presented 'Measuring Financial Market Performance: the Proof of the Pudding is in the Eating' in which he discussed financial innovation and market performance. The financial sector plays a vital role in promoting economic growth and development and therefore it would be good if financial market performance could be measured to ensure that the maximum benefit is obtained.

Financial markets are socially useful because they perform essential tasks for people and firms in the real economy. For example, when an entrepreneur wishes to start a new business, the financial markets provide the means to raise the required capital. One must therefore judge the performance of the financial markets from the perspective of the people and businesses in the real economy. The question that needs to be asked from this perspective is whether markets are getting better over time?

Fierce competition coupled with an enormous investment in intellectual and physical capital has completely transformed the financial markets from the perspective of the financial services firms themselves. For example, the cost of trading

a share has plummeted and the amount of trading has soared. Yet, from the perspective of the people and firms in the real economy using those services, there has been little improvement in performance over the last 20 years.

Out of the following: monetary stability; financial stability; and market efficiency, focus tends to be on monetary and financial stability instead of market performance. This may be because it is believed that performance will improve 'naturally'. The core financial markets examined suggest, however, that this is not the case.

Better financial markets produce enormous benefits for the real economy. Better markets make first order contributions to growth, and may also be more stable. Therefore, governments and regulators should consider placing a higher priority on improving the performance of the financial markets that matter the most.

Ross Levine (Brown University) talked about the joint endogenous evolution of financial and technological innovation in his speech entitled 'Financial Innovation and Endogenous Growth'. Historically, financial innovation has been a ubiquitous characteristic of expanding economies. Whether it is the development of new financial instruments, the creation of new corporate structures, the formation of new financial institutions, or the development of new accounting and financial reporting techniques, successful technological innovations have typically required the invention of new financial arrangements.

He started by discussing a Schumpeterian endogenous growth model which allows entrepreneurs to earn monopoly profits by inventing better goods with financiers screening potential entrepreneurs. Financiers themselves engage in the costly and risky process of inventing better processes for screening entrepreneurs. Successful financial innovators are more effective at screening entrepreneurs which results in monopoly rents but is the economic motivation for financial innovation. Each particular screening process becomes obsolete as technology advances. Consequently, technological innovation and economic growth will eventually stop unless financiers continue to innovate.



Charles Goodhart (FMG, LSE)

The predictions emerging from the model, in which financial and technological entrepreneurs interact to shape economic growth, fit historical experiences and cross-country data better than existing models of financial development and growth. Rather than stressing the level of financial development, they highlight the vital role of financial innovation in supporting economic growth. Institutions, laws, regulations, and policies that impede financial innovation slow both technological change and economic growth.

Isabel von Koeppen-Mertes (European Central Bank) explained the role of Asset Backed Securities (ABS) as collateral for repo-financing with the European Central Bank (ECB) in 'Central Banks and ABS: an Overview of the Issues'. She started out by outlining the external and internal factors that shape the design of the operational and collateral framework of the ECB compared to the US Federal Reserve and the Bank of England. According to her, an important difference between the Eurozone and the United States in particular is the different fragmentation and development of financial markets – the Eurozone market being much more fragmented and less developed – which necessitated the large scale acceptance of ABS as collateral by the ECB even before the crisis of 2007 and 2008.

During the crisis, as other (re)financing opportunities dried up and the market for ABS broke down, all central banks saw themselves forced to massively extend the scale and the scope of accepting ABS. On the one hand, this response seems to have played an important role in preventing an outright meltdown of the financial system and in mitigating the crisis. On the other hand, the ECB was – and still is – left as the market maker for these securities, having to determine prices and 'haircuts' without being able to rely on knowledge that the information

finding mechanism of a proper market for ABS could provide. Ms von Koeppen-Mertes concluded her talk with an outlook into the future policies and challenges facing the ECB with respect to ABS – most importantly noting that there is now a consensus that central banks have to provide liquidity insurance to commercial banks along these lines, but that the exact conditions under which this should be the case (haircuts, volumes accepted and pricing) are still very much unclear.

In his discussion of the paper, **Charles Goodhart** (FMG, LSE) made an important and potentially controversial point. In referring to the historical development of the loan/deposit ratio in the UK, he argued that unless markets for ABS were resuscitated and brought closer to the levels before the crisis, credit extension in the major economies would fall over the next decade or so which would bring with it all the known adverse consequences on growth and economic performance. This point sparked a lively debate in the room with most contributors agreeing with Goodhart's analysis.



David Webb (FMG, LSE)

Bruno Biais (Toulouse School of Economics) presented theoretical research on 'Rents, Learning and Risk in the Financial Sector and Other Innovative Industries', which he developed together with Jean Charles Rochet (Toulouse School of Economics) and Paul Woolley (FMG, LSE). Their model tries to address questions about three features of the financial sector which were prominent during the last five to ten years: Why did it grow so much and crash so heavily?; Why did finance managers earn such high rents?; And why did risk taking follow initial success?

In order to explain these important features, they developed a model which takes into account occupational choice, moral hazard, and an

innovative industry although it not clear whether the latter is fragile (prone to adverse shocks) or not. The extent to which moral hazard persists is dependent on whether managers in the financial industry exert the proper effort required to monitor investments. This, together with the managers' limited liability, leads to a situation where they have to be paid enough to actually act diligently and thus rents for working in the financial sector result. In a situation where the innovative industry has been blessed with good performance (lucky draws from the probability distribution) in the past, this setup can lead to a situation where agents strongly believe that the innovative industry is not fragile and pay rates for the managers to act diligently would become exorbitant. In such a case, there appears to be a tipping point at which investors are not willing to pay the required rates to induce diligence anymore. Consequently, managers may cease acting diligently and an adverse shock may lead to a severe crisis. Biais concluded by outlining several policy implications that such a setup may have for regulators.

Rhiannon Sowerbutts (Bank of England) discussed this paper, pointing out that in the model everything that happens is at second-best efficiency, despite the influence of asymmetric information about managers' actions. Thus there is no reason for the regulator to step in at all.

Conference organised by: **Kevin James** (Bank of England and FMG, LSE) and **Charles Goodhart** (FMG, LSE)

DEUTSCHE BANK – HEIF4 CONFERENCE ASSESSING THE EFFECTIVENESS OF THE NEW REGULATORY ARCHITECTURE

18 October 2010



Ron Anderson (FMG, LSE)

The Financial Markets Group and Deutsche Bank hosted this one day event, bringing together some of the key financial regulators, bankers and academics, to assess the recent changes to the regulatory regime in the financial sector, and to propose new ideas for future change.

This conference took stock of recent efforts in the US and the European Union to reform financial regulation. The changes implemented, and the reaction of the markets to these changes and the crisis as a whole, are likely to change the financial architecture in a fundamental way. A widely held view, as endorsed by the G-20 Leaders and demonstrated by the signing of the new Basel III Capital Accords, is that there is a need for greater international co-ordination and macroprudential regulation. However, compliance and implementation of policies at a domestic level are necessary to make this possible. The conference explored whether there is a coherent pattern emerging for the regulatory environment that global banks, investors and other financial institutions will face in the future.

‘The New Regulatory Architecture: A Critical Assessment of Basel III’ by **Rafael Repullo** (CEMFI) offered a critical analysis on the new proposed regulatory scheme under Basel III. He divided his presentation into five main parts: capital requirements; liquidity risk requirements; countercyclical capital buffer; cyclical capital requirements; and Systemically Important Financial Institutions (SIFIs).

On the structure of capital requirements, Repullo presented the proposals of the Basel Committee: on the capital side, a more restrictive definition and a higher requirement (2 per cent to 4.5 per cent) of common equity, a higher requirement for Tier1 Capital (4 per cent to 6 per cent), an additional 2.5 per cent of common equity and 2.5 per cent of Tier1 as a capital conservation buffer; on the asset side, a higher proportion of trading assets and structured products. This would amount to a non-risk-based leverage ratio of $(\text{Tier1 Capital} / (\text{Total Assets} + \text{Off-balance sheet exposures})) > 3\%$. Repullo agreed with the proposals of the Committee that these capital requirements proposals are long overdue.

Repullo then examined the proposals on liquidity risk requirements. He reminded the audience that the main aim of the Washington Summit, held in November 2008, was to create strong liquidity buffers. He then proceeded to describe the main proposal by the Basel Committee, contained in the chapter ‘International Framework for Liquidity Risk Measurement’ in the ‘Basel Committee Consultative Document’ from December 2009. This consisted of two regulatory benchmarks for liquidity risk: the Liquidity Coverage Ratio (LCR) – liquid assets should be greater or equal to unstable funds; and the Stable Funding Ratio (SFR) – stable funds should be higher or equal to illiquid assets. Repullo suggested the proposal on liquidity risk requirements should be abandoned and instead an additional capital charge should be used to handle liquidity risk. His main criticisms on the liquidity proposals were: he is not sure whether liquidity risk acts as a negative externality, as Central Banks may easily provide liquidity at zero cost; the proposal ignores funding liquidity; the two requirements are actually only one requirement;

and it will generate a very high demand for government bonds, distorting their prices.

The third part drew on countercyclical capital buffers. According to Repullo, the ‘Countercyclical Capital Buffer Proposal’ in the ‘Basel Committee Consultative Document’ from July 2010, proposed the use of a buffer of capital in order to protect the banking sector from periods of excess credit growth that are often associated with the build-up of system-wide risk. In quantitative terms, the Committee suggested that the additional capital should vary in a linear way between 0 per cent (if the credit-to-GDP gap over its trend is below 2 per cent) and 2 per cent (if the gap is above 10 per cent). Again, Repullo advocated abandoning the proposal and proposed instead to handle excessive credit growth by applying Pillar 2 capital surcharges and some other macroprudential tools, such as loan-to-value ratios. He was very sceptical of the actual correlation between the credit-to-GDP gap and GDP growth. Whilst the correlation coefficient that fits the proposal would be positive, an exercise by Repullo based on the UK finds a negative correlation. He is particularly worried that this would reduce capital in good times and increase it in bad times, the contrary of what the proposal aims to achieve. In addition, he acknowledged a lack of academic work on this subject and suggested that more papers and resources should be devoted to the study of this theme.

The pro-cyclicality in regulatory policy of capital requirements was then evaluated. The ‘Basel Committee Consultative Document’ from December 2009 contains this part of the proposal, in the chapter ‘Strengthening the Resilience of the Banking Sector’. Against the amplification of business cycle fluctuations caused by the risk-sensitivity of capital requirements, the Committee recommended to smooth the inputs of the Basel II formula: Downturn Losses Given Default (LGDs) and Through-The-Cycle (TTC) Probabilities of Default (PD). Repullo did not consider this the right approach as there was no consensus on what TTC means and it would create excessive supervisory discretion. Instead, he suggested computing capital requirements by the Point-In-

Time (PIT) approach, which is better defined and verifiable. He also recommended the smoothing of outputs instead of inputs of Basel II formula, by adopting automatic stabilizers.

The final part of Repullo's review discussed the Systemically Important Financial Institutions (SIFIs). He described the proposal by the Financial Stability Board (FSB), on its Report to G-20 Leaders in June 2010 'Reducing the Moral Hazard Posed by SIFIs', whose main recommendations were: effective resolution regimes; prudential requirements on capital and liquidity surcharges; structural constraints; and effective supervisory oversight. He criticised the document by remarking that moral hazard risks are not well defined and that it does not contain enough detail, and suggested that in the final version of the document, regulators should pay attention to the possibility of regulatory arbitrage, the limits of supervisory capabilities and the danger of introducing very complex rules.

The final part of the conference was devoted to a panel discussion, chaired by **Ron Anderson** (FMG, LSE) on 'Solving the 'Too Big To Fail' Problem: Living Wills, Crisis Management and Special Resolution Regimes'.

After the initial remarks by Anderson, the panel was opened by **Wilson Ervin** (Credit Suisse), who presented 'Bank Resolution and Too Big to Fail: Is Bail-in the best answer?'. According to him, in 2008 policymakers had only two options when handling a potential failure of a large financial institution: bankruptcy; or bail-out. While the former might bring the whole financial system to collapse, the latter is very costly to the taxpayer, as it involves the government buying the assets of the troubled financial institution. Ervin proposed a third, better option: bail-in, which would give regulators the authority to force banks to recapitalise from within, using private capital, not the taxpayers'. He reinforced this with a quantitative example of what the proceedings would be in Lehman, if it were not allowed to go bankrupt or bailed out. Investor losses would amount to only 25 billion dollars instead of the 150 billion dollars (in current market value) due to liquidation. To reinforce the bail-in, top management would have been removed and a liquidity plan relying on other large financial institutions providing a special funding facility would be in place. The 'New Lehman' would be the best capitalised bank in the US, without any help from the taxpayer and the whole financial

system would be under much less stress. However, Ervin reinforced that the legal process must be very convincing and quick to restore confidence in the market.

The panel discussion proceeded with **David Wright** (EU Commission) who started his presentation by mentioning that all roads lead to resolution. According to him, the costs of the recent crisis for developed countries were massive, amounting to an average debt increase of 40 per cent of GDP and a 26 per cent decrease in G-20, if one considers the total loss in growth due to the crisis. The policies that the G-20 prescribed for the SIFIs are: first, structural separation; second, an increase in the capital of SIFIs; and third, a more efficient resolution system. While Wright did not completely agree with the first two policies, he was of the view that the third policy is fundamental. He acknowledged that Barnier's bank fund plan for the European Union that sets basic rules and a common set of tools and procedures, is urgently needed. He then prescribed a four pillar structure as a suggestion for a new regulatory structure: first, prevention: the use of living wills and more transparency; second, early intervention: in bailing in and removing managers; third, resolution: firms should have an ex-ante plan at which working capital should be used in order to stabilise confidence in the markets; fourth, insolvency and winding-up, which he considered to be the most difficult step.

The last presentation, 'Too Big To Fail: what is the issue to solve?' was delivered by **Christian Lajoie** (BNP Paribas). He challenged the 'Too Big To Fail (TBTF)' proposition for the financial system stability concern, considering instead the size and business mix to be protective, as they bring diversification. Next, he made it clear that the most important issue regulators should focus on is contagion rather than increasing capital requirements. He then described what he considered to be the best way to achieve more stability in the financial system. On the prevention side, he remarked that Basel III and Pillar II should lead financial institutions to be better capitalised and better managed and that the European System of Financial Supervisors should enhance the micro and macro supervision. On the remedy side, he advocated the need for a bifurcated regime: liquidation, if it does not bring too much turbulence to the financial system, and restructuring otherwise. The liquidation should be done in an orderly way, with an eventual shortage covered by an industry



Josef Ackermann (Deutsche Bank)

Josef Ackermann (Deutsche Bank and LSE) gave the keynote speech on 'The New Architecture of Financial Regulation: Will it prevent another Global Crisis?'. He analysed the importance of regulation as a possible force to both create and destroy an industry. Meanwhile the essential contribution of a healthy market comes from the resilience of individual participants. In the discussion of Basel III, Ackermann agreed that it is the right direction to go with a high requirement on asset quality as well as quantity; leverage ratio and liquidity requirement can be a practical tool in risk management. However, he also pointed out that the regulatory changes may significantly influence capital profitability and have a cumulative impact on the banking system. Without sound profitability, the stability of the industry could remain a problem. He expressed concern that insufficient work had been done before the regulations are imposed, and suggested that systematic importance be recognised, well defined and known. To conclude, Ackermann advocated broader international coordination, more effective and transparent supervision, and a new financial architecture.

The third session, chaired by **Alan Morrison** (Oxford University), focused on building shock absorbers into key markets, clearing systems and institutions.

Jean-Pierre Landau (Banque de France) made two main points in his discussion. Firstly, he stated that the banking system needed bigger buffers to support itself in crisis and absorb shock. However, the critical reason for the crisis was not only due to insufficient buffers. On the contrary, in the context of larger buffers, banks have to either exert more financial innovation by taking more risks, or employ leverage. Therefore, regulators and banks have to recognise the relationship between buffers and creative risk management. Moreover,



Jacques de Larosière (BNP Paribas)

robustness and sustainability of financial institutes should be designed in a broader way with both buffers and incentives being considered. Secondly, central counterparty clearing house as a risk absorber eliminates in net, a lot of risks, especially those associated with counterparty risk. Nevertheless, at the same time it also eliminates a mount of financial activities, which begs the question whether in the end clearing house is beneficial. Furthermore, very strong risk management within clearing house is needed.

Thomas Book (Eurex) agreed with Jean-Pierre Landau that clearing house ought to be well designed on risk management (strict market-to-market), collateral and liquidity management (liquidity buffer and sensible haircut approach), and liquidation procedures. He emphasised the positives that clearing house can bring about, such as: ensuring liquidity; reducing systematic risk; creating transparency; reducing transaction costs; and strengthening safe and real-time risk controls.

Jacques Aigrain (LCH Clearnet) stated from the perspective of clearing house, that there are two critical elements that make default manageable:

one is the access to relevant information – therefore, real traded prices are needed; the other is the access to real market making, which is more challenging in OTC. He also made an important point that marginal profit should never be the area that clearing houses compete on. To ensure stability especially systematic stability, clearing houses should assume responsibility and work collectively.

David Webb (LSE, FMG) chaired Session 4: ‘Wrap-up Panel: Comprehensive Global Reform of Financial Regulation: What’s right and what’s not?’

Peter Praet (National Bank of Belgium) recalled the G-20 September 2009 meeting back when ‘micro and macro failure’ was admitted, and one year on he stated that he still could not see any improvement. He raised his concerns about market incentives at a micro level, and urged the need for market confidence to be restored.

Hugo Banziger (Deutsche Bank) worried more about the unknown cost of regulatory change. With higher requirements on assets while operating under a low return environment, banks face a severe challenge in attracting deposit/investment. Some banks even cancel capital raising because they cannot afford returns. Banziger also urged for better regulation and supervision.

Charles Goodhart (FMG, LSE) raised three points: firstly, there is a high likelihood that Basel III may fail; secondly, even though topics such as financial stability and systematic risk have been widely discussed, there is a lack of tools to evaluate these; and thirdly, resolution is the key.

Conference organised by: **Ron Anderson** (FMG, LSE) and **Malcolm Knight** (Deutsche Bank)

NEW MEMBERS OF STAFF



Mikhail Chernov

joined the Department of Finance and the FMG in August 2010 as Professor of Finance. He received his PhD in Business Administration (Finance) from Pennsylvania State University, and also holds

an MS in Statistics and a BS in Mathematics, both from Moscow State University.

Chernov's research interests are in the areas of asset pricing, derivatives, fixed income and financial econometrics. He has recently published papers on 'Understanding Index Options Returns', 'Unspanned Stochastic Volatility in Affine Models' and 'Model Specification and Risk Premia'.

His research has been published in a number of economics and finance journals, such as the Review of Financial Studies, the Journal of Econometrics and the Journal of Finance. Chernov is also Associate Editor for the Journal of Financial and Quantitative Analysis, the Journal of Business and Economic Statistics and the Journal of Econometrics.

He was a Visiting Scholar at the Economics Department of the NYU Stern School of Business, the Federal Reserve Board, and the Oxford-Man Institute of Quantitative Finance.

Chernov teaches asset markets to MSc Finance students at LSE.



Sorawoot Srisuma

joined the FMG as a Research Officer in July 2010. He was awarded a PhD in Economics and a BSc in Mathematics and Economics from LSE.

Srisuma's research focuses on theoretical

and applied econometrics. His recent work includes a new estimation methodology for a class of Markov decision processes. The class of dynamic models of interest are prevalent in many branches of economics, including health, labour and industrial organisation. He also shows that the same strategy can be applied to estimate a popular class of Markovian games. His unifying approach shows that various control problems (the control variable can be continuous, discrete and/or mixed) can be estimated in the same way. Srisuma is also interested in other general estimation problems, especially those using semiparametric and nonparametric methods in economics and finance. His current research with Oliver Linton (FMG, LSE) includes developing nonparametric techniques to estimate asset pricing models.



Andrea Vedolin

joined the Finance Department at LSE in June 2010. She holds a PhD in Finance from the University of Lugano.

Vedolin's research interests are in the area of empirical and

theoretical asset pricing. Her current research is mostly focused on general equilibrium models where agents have incomplete information about the growth rates of fundamentals in the economy. In her dissertation she solved and empirically tested these models for different asset markets. In her job market paper she studied volatility risk premia in the cross-section of individual stocks. She developed an economy with multiple assets where each firm is subject to default and the profitability of each firm is unknown. Pessimistic and optimistic agents agree to disagree on the expected growth rate of firms. Calibrating the model, the results showed that the interplay between leverage and agents' uncertainty added a crucial component to the understanding of both the time-series and cross-section of individual volatility risk premia. In a recent project, Vedolin studied the impact of real and nominal risk factors for the joint pricing of stocks and bonds in a quadratic affine setting. Estimating the model showed that both factors have a bearing on first and second moments of asset prices including the conditional correlation between assets.



JOB MARKET CANDIDATES



Miguel Antón is a PhD student and LSE fellow in the Department of Finance at LSE, and has been a member of the FMG since 2006. He graduated from the University of Navarra and completed a MSc in Finance and Economics at CEMFI.

During his PhD studies, he was a visiting fellow at Harvard University in 2009.

His main research interests include empirical asset pricing, behavioural finance, and the role of mutual funds in financial markets.

In his job market paper he studies the sources of change in the systematic risks of stocks added to the S&P 500 index. Firstly, using vector autoregressions (VARs) and a two-beta decomposition, he measures the different components of beta before and after the addition. He finds that a good portion of the well-known change in beta comes from the cash-flow news component of a firm's return. Secondly, he studies fundamentals of included firms directly to reduce any concerns that the VAR-based results are sensitive to his particular specification. This analysis confirms that post inclusion, the profitability of a company added to the index varies significantly more with the profitability of the S&P 500. These results challenge previous findings by showing that the change in beta does not come from sentiment, but from fundamentals. M.Anton1@lse.ac.uk



Vincent Fardeau is a PhD student in the Department of Finance at LSE, and has been a member of the FMG since 2006, when he joined as a Deutsche Bank fellow. Before starting his PhD, he completed a MSc degrees in Management at

HEC, Paris and in Economics at the Paris School of Economics. He also graduated in Philosophy from Sorbonne University.

His research focuses on asset pricing with frictions, in particular theories of liquidity and delegated portfolio management. He is especially interested in the implications of imperfect competition among

arbitrageurs for liquidity and asset prices.

His job market paper studies predatory trading, a strategy in which some large arbitrageurs attempt to eliminate a financially-constrained rival by making her a forced seller. That is, predatory arbitrageurs take advantage of their price impact to trigger adverse price movements against the positions of their rival, in the hope of inducing a firesale and benefiting from the resulting price swings. In his model, the large, strategic arbitrageurs trade a risky asset with competitive investors seeking to offload their inventory risk. Doing so, the strategic arbitrageurs supply liquidity to competitive investors. The competitive investors' reaction to the possibility of predatory trading is a particular focus of his paper. He finds that there is a two-way relationship between competitive investors' demand for liquidity and the possibility of predatory trading. He shows, in particular, that competitive investors' behaviour can make predatory trading cheaper and reduce the financially constrained arbitrageur's staying power. He is looking to enter the academic sector. V.Fardeau@lse.ac.uk



Dragana Cvijanovic is a PhD student in the Department of Finance at LSE. She has been a member of the FMG since September 2008. She completed her undergraduate studies in Computer Science at UCL as a UCL Friends' Trust Fellow,

going on to obtain a MSc Finance degree from the University of Belgrade.

Her main research interests include empirical finance, with a special focus on empirical corporate finance and real estate finance.

In her job market paper she examines the impact of real estate prices on firm capital structure decisions. Using the run up in US land prices between 1996 and 2006, she identifies the exact mechanism through which asset market swings facilitate corporate borrowing and can help alleviate informational asymmetries and agency problems in securing financing relationships. She finds that for a typical US listed company, a one standard deviation increase in collateral value translates into a 5.5 per

cent increase in total leverage. Consequently, for every 1 per cent increase in collateral value, a firm's cost of long term debt drops by 5 basis points on annual basis and lenders are less likely to impose new financial covenants or restrictions. Collateral value appreciation improves financially constrained firms' access to arm's length financing and results in the substantial change in the structure and the maturity of their debt composition. She is looking to enter the academic sector.

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Zijun Liu is a PhD student in the Department of Finance at LSE and a Paul Woolley Centre Scholar at the FMG. Prior to his PhD, he received a BA in Maths and a MSc in Financial Economics from Oxford University.

He is interested in theoretical research on topics related to asset price bubbles and financial crises as well as their regulatory implications. He has written papers on credit default swaps, credit rating agencies, mutual funds and sub-prime mortgages.

His job market paper examines the implications of Credit Default Swaps (CDS) on systemic risk. He shows that CDS can contribute to systemic risk in two ways: through counter-party risk and through sharing of default risks. A central clearing house, which can only reduce counter-party risk, is by no means a panacea. Moreover, excessive risk taken by one reckless institution may spread to the entire financial system via the CDS market, even in the absence of counter-party risk. This could potentially explain the US government's decision to bail out AIG during the recent financial crisis. He concludes that policies enhancing market transparency would be desirable. He is looking to work in the private sector. Z.Liu@lse.ac.uk



Daniel Metzger is a PhD student in the Department of Economics at LSE, and has been a member of FMG since 2007. Before starting his PhD he received a Diplom (MA) in Economics from the University of Bonn and a MSc in Mathematics from

the University of Warwick.

His main research interests include corporate finance and personnel economics. He is currently working on projects about CEOs and executive careers. His other research interests include corporate governance in general and governance of financial institutions in particular.

His job market paper 'How do CEOs matter? Value Creation and Value Capture – Evidence from Mergers & Acquisitions', co-authored with FMG Research Associate Claudia Custodio, examines how CEOs add to shareholder value. More specifically, he shows that the bargaining ability of the CEO appears to be an important determinant for corporate performance, and this ability varies amongst CEOs. Analysing the performance of mergers and acquisitions, he shows that the bidders' abnormal announcement returns are between 2 and 3 times higher (> \$100 million) when a CEO has experience in the target industry. He provides evidence in favour of value capturing. Industry experts pay a lower premium on average. Bargaining also affects how resources, like corporate control, are allocated within the economy. In particular, CEOs with higher bargaining ability engage in lower synergy deals on average. He is looking to enter the academic sector. D.Metzger@lse.ac.uk



Sitikantha Parida is a PhD student in the Department of Finance at LSE, and has been a member of the FMG since January 2008, when he joined as a Premia Capital Fellow. He graduated from LSE with a distinction in MSc Accounting and Finance. His

research interests include: Empirical Asset Pricing; Mutual Funds; and Behavioural Finance.

In his job market paper (co-authored with FMG colleague, Terence Teo) he analyses the impact of more frequent portfolio disclosure on mutual fund performance. Since 2004, SEC requires all U.S. mutual funds to disclose their portfolio holdings on a quarterly basis from semi-annual previously. This change in regulation provides a natural setting to study the impact of disclosure frequency on the performance of mutual funds. Prior to the policy change, he finds that the semi-annual funds with high abnormal returns in the past year outperform the corresponding quarterly funds by 17-20 basis points a month. This difference in performance disappears after 2004. The reduction in performance is higher for semi-annual funds holding illiquid positions than those holding liquid positions. Also prior to 2004, he finds that the difference in performance increases with the assets under management of the successful funds. These results lend credence to the hypothesis that funds with more frequent disclosure suffer more from activities such as front running and this adversely affects their performance. He is looking to enter the academic sector. S.Parida@lse.ac.uk



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Gyuri Venter is a PhD student in the Department of Finance at LSE, and has been a member of the FMG since 2008, where he is a Paul Woolley Centre Scholar. He obtained his BSc and MSc in Economics from the

Corvinus University of

Budapest, and he studied Mathematics at ELTE. His research focuses on asset pricing theory with market frictions, market microstructure and information economics.

His job market paper examines how short-sale constraints influence the information content of market prices, and how they affect beliefs and actions of decision makers who learn from prices. More specifically, he studies a coordination game among creditors of a distressed financial institution, who would like to provide capital only if others do, because the bank remains solvent in this case, and withdraw capital if others do. They have private information about the bank's quality and observe the price of an asset that the bank trades. He shows that short-sale constraints make high prices less informative than low prices, and this varying informativeness can provide more information to creditors with high private signals, because they learn that a low price realisation is the result of a low demand shock and not of weak fundamentals. The increase in transparency for a subset of creditors creates multiple equilibria in the coordination game. In the sunspot equilibrium, creditors with medium signals are more willing to provide capital, hence banks with lower quality assets remain solvent. Short-sale constraints can mitigate the adverse effect of the coordination externality, and increase economic efficiency. He is looking to enter the academic sector.

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FMG EVENTS

Conferences

FMG, Bank of England, AXA and HEIF4 Conference: Financial Innovation and Market Performance
8-9 June 2010

Paul Woolley Centre 3rd Annual Conference
10-12 June 2010

FMG, Deutsche Bank and HEIF4 Conference: Assessing the effectiveness of new regulatory architecture
18 October 2010

FMG, Bank of England and HEIF4 Conference: Macroprudential Policy: Issues and Challenges
2 November 2010

Public Lectures

A Manifesto for Giant Funds – Resolving the Dysfunctionality of Finance
Paul Woolley (FMG, LSE)
25 May 2010

Too Big to Fail: The Aftermath and What Next?
Christopher Polk (FMG, LSE)
30 June 2010

Private Equity: Leverage expertise or leveraged bets?
Ulf Axelson (FMG, LSE)
27 September 2010

Capital Markets Workshops

Uncertainty about Government Policy and Stock Prices
Pietro Veronesi (University of Chicago Booth School of Business)
26 May 2010

Risk Aversion and the Elasticity of Substitution in general Dynamic Portfolio Theory
Richard Kihlstrom (University of Pennsylvania)
2 June 2010

Trend and Cycle in Bond Premia
Monika Piazzesi (Stanford University)
16 June 2010

Twin picks: disentangling the determinants of risk-taking in household portfolios
Paolo Sodini (Stockholm School of Economics)
6 October 2010

Is the financial sector too big?
Tano Santos (Columbia University)
13 October 2010

How wise are crowds? Insights from Retail Orders and Stock Returns
Paul Tetlock (Columbia University)
20 October 2010

Rational price-contingent trading and asset price dynamics
Katrin Tinn (Imperial College)
27 October 2010

Policy Options for State Pensions Systems and their Impact on Plan Liabilities
Josh Rauh (Kellogg School of Management, Northwestern University)
3 November 2010

A Comparative-Advantage Approach to Government Debt Maturity
Robin Greenwood (Harvard University)
10 November 2010

Lunchtime Workshops

Non-Exclusive Competition under Adverse Selection – The Two-Type Case
Thomas Mariotti (Toulouse School of Economics)
26 May 2010

Xiaoji Lin (FMG, LSE)
2 June 2010

Pietro Veronesi (University of Chicago)
9 June 2010

Monika Piazzesi (Stanford University)
16 June 2010

Yves Nosbusch (FMG, LSE)
30 June 2010

Splitting the Value Pie: CEO Bargaining ability and Rent Distribution – Evidence from Mergers and Acquisitions
Daniel Metzger (LSE)
6 October 2010

Credit Default Swaps – Default Risk, Counter-party Risk and Systemic Risk
Zijun Liu (LSE)
13 October 2010

Cash-flow Driven Covariation
Miguel Anton (LSE)
20 October 2010

Strategic Liquidity Provision and Predatory Trading
Vincent Fardeau (LSE)
27 October 2010

Short-sale constraints and creditor runs
Gyuri Venter (LSE)
3 November 2010

Complex Securities
Yuki Sato (LSE)
10 November 2010

London Financial Regulation Seminars

Overcoming Too-Big-to-Fail
Stefano Micossi (CEPS-Assonine)
24 May 2010

Firm Stability and System Stability: The Regulatory Delusion
Geoffrey Wood (CASS)
28 June 2010

Stabilizing Intermediation: Re-engineering Financial Structures
Robert Leeson (Stanford University)
8 November 2010

PhD Seminars

Patent award and information production in stock market
Xiaoxia Hao
20 May 2010

Re-intermediation: Credit Lines and Market Frictions
Elizabeth Foote
27 May 2010

Demand-based Corporate Bond Pricing and CDS Basis Trading
Qi Shang
3 June 2010

Competition and Excess Volatility
Pragyan Deb
7 October 2010

Locally Stationary Diffusion Processes with Structural Breaks
Bonsoo Koo
14 October 2010

Endogenous information acquisition by agents facing stochastic costs
Sean Lew
21 October 2010

Credit Lines and Capital Adequacy
Elizabeth Foote
28 October 2010

Explaining Sovereign Bond-CDS Arbitrage Violations During the Financial Crisis 2008-09
Nathan Foley-Fisher
4 November 2010

An Institutional REE Model with Relative Performance
Zhigang Qiu
11 November 2010

DISCUSSION PAPERS

DP 645

Technology Adoption Vintage Capital and Asset Prices

Xiaoji Lin

We study technology adoption, risk and expected returns using a dynamic equilibrium model with production. The central insight is that optimal technology adoption is an important driving force of the cross section of stock returns. The model predicts that technology adopting firms are less risky than non-adopting firms. Intuitively, by preventing firms from freely upgrading existing capital to the technology frontier, costly technology adoption reduces the flexibility of firms in smoothing dividends, and hence generates the risk dispersion between technology adopting firms and non-adopting firms. The model explains qualitatively and in many cases quantitatively empirical regularities: (i) The positive relation between firm age and stock returns; (ii) firms with high investment on average are younger and earn lower returns than firms with low investment; and (iii) growth firms on average are younger than value firms, and the value premium is increasing in firm age.

DP 646 (AXA 1)

Stronger Risk Controls Lower Risk Evidence from US Bank Holding Companies

Andrew Ellul and Vijay Yerramilli

In this paper, we investigate whether U.S. bank holding companies (BHCs) with strong and independent risk management functions had lower aggregate risk and downside risk. We hand-collect information on the organization structure of the 75 largest publicly-listed BHCs, and use this information to construct a Risk Management Index (RMI) that measures the strength of organizational risk controls at these institutions. We find that BHCs with a high RMI

in the year 2006, ie, before the onset of the financial crisis, had lower exposures to mortgage-backed securities and risky trading assets, were less active in trading off-balance sheet derivatives, and generally fared better in terms of operating performance and lower downside risk during the crisis years (2007 and 2008). In a panel spanning eight years, we find that BHCs with higher RMIs had lower aggregate risk and downside risk, and higher stock returns, after controlling for size, profitability, a variety of risk characteristics, corporate governance, executive compensation, and BHC fixed effects. This result holds even after controlling for any simultaneity bias. Overall, these results suggest that strong internal risk controls are effective in lowering risk at banking institutions.

DP 647 (AXA 2)

Risk Appetite and Endogenous Risk

Jon Danielsson, Hyun Song Shin and Jean-Pierre Zigrand

This paper studies the correlation and volatilities of the bond and stock markets in a regime-switching bivariate GARCH model. We extend the univariate Markov-Switching GARCH of Haas, Mitnik and Paoletta (2004) into a bivariate Markov-switching GARCH model with Conditional Constant Correlation (CCC) specification within each regime, though the correlation may change across regimes. Our model allows separate state variable governing each of the three processes: bond volatility, stock volatility and bond-stock correlation. We find that a separate state variable for the correlation is needed while the two volatility processes could largely share a common state variable, especially for the 10-year bond paired with S&P500. The 'low-to-high' switching in stock volatility is more likely to be associated with the 'high-to-low' switching Risk is endogenous. Equilibrium risk is the fixed point of the mapping that takes perceived risk to actual risk. When risk-neutral traders operate under Value-at-Risk constraints, market conditions exhibit signs of fluctuating risk appetite and amplification of shocks through feedback effects. Correlations in

returns emerge even when underlying fundamental shocks are independent. We derive a closed form solution of equilibrium returns, correlation and volatility by solving the fixed point problem in closed form. We apply our results to stochastic volatility and option pricing.

DP 648 (AXA 3)

On Dividend Restrictions and the Collapse of the Interbank Market

Charles Goodhart, MU Peiris, Dimitros Tsomocos and Alexandros Varadoulakis

Until recently, financial services regulation remained largely segmented along national lines. The integration of financial markets, however, calls for a systematic and coherent approach to regulation. This paper studies the effect of market based regulation on the proper functioning of the interbank market. Specifically, we argue that restrictions on the payout of dividends by banks can reduce their expected default on (interbank) loans, stimulate trade in this market and improve the welfare of consumers.

DP 649 (AXA 4)

Modelling a Housing and Mortgage Crisis

Charles Goodhart, Dimitrios Tsomocos and Alexandros Vardoulakis

The purpose of this paper is to explore financial instability in this case due to a housing crisis and defaults on mortgages. The model incorporates heterogeneous banks and households. Mortgages are secured by collateral, which is equal to the amount of housing which agents purchase. Individual default is spread through the economy via the interbank market. Several comparative statics illustrate the directional effects of a variety of shocks in the economy.

DP 650 (PWC 9)

Limits of Arbitrage: The State of the Theory

Denis Gromb and Dimitri Vayanos

We survey theoretical developments in the literature on the limits of arbitrage. This literature investigates how costs faced by arbitrageurs can prevent them from eliminating mispricings and providing liquidity to other investors. Research in this area is currently evolving into a broader agenda emphasizing the role of financial institutions and agency frictions for asset prices. This research has the potential to explain so-called 'market anomalies' and inform welfare and policy debates about asset markets. We begin with examples of demand shocks that generate mispricings, arguing that they can stem from behavioural or from institutional considerations. We next survey, and nest within a simple model, the following costs faced by arbitrageurs: (i) risk, both fundamental and non-fundamental, (ii) short-selling costs, (iii) leverage and margin constraints, and (iv) constraints on equity capital. We finally discuss implications for welfare and policy, and suggest directions for future research.

DP 651 (PWC 10)

Connected Stocks

Miguel Anton and Christopher Polk

By connecting stocks through common active mutual fund ownership, we forecast cross-sectional variation in return covariance, controlling for similarity in style (industry, size, value, and momentum), the extent of common analyst coverage, and other pair characteristics. We argue this covariance is due to contagion based on return decomposition evidence, cross-sectional heterogeneity in the extent of the effect, and the magnitude of average abnormal returns to a cross-stock reversal trading strategy exploiting information in these connections. We show that the typical long/short hedge fund covaries negatively with this strategy suggesting that hedge funds may potentially exacerbate the price dislocation we document.

DP 652 (PWC 11)

The Price Impact of Institutional Herding

Amil Dasgupta, Andrea Prat and Michela Verardo

In this paper we develop a simple theoretical model to analyse the impact of institutional herding on asset prices. A growing empirical literature has come to the intriguing conclusion that institutional herding positively predicts short-term returns but negatively predicts long-term returns. We offer a theoretical resolution to this dichotomy. In our model, career-concerned money managers interact with profit-motivated proprietary traders and security dealers endowed with market power. We show that the reputational concerns of fund managers imply an endogenous tendency to imitate past trades, which impacts the prices of the assets they trade. In our main result, we show that institutional herding positively predicts short-term returns but negatively predicts long-term returns. Our theory thus provides a simple and unified framework within which to interpret the empirical literature on the price impact of institutional herding. In addition, our paper generates several new testable predictions linking institutional herding behaviour, trading volume, and the time-series properties of stock returns.

DP 653

Credit Rating and Competition

Nelson Camanho, Pragyan Deb and Zijun Liu

In principle, credit rating agencies are supposed to be impartial observers that bridge the gap between private information of issuers and the information available to the wider pool of investors. However, since the 1970s, rating agencies have relied on an issuer-pay model, creating a conflict of interest – the largest source of income for the rating agencies are the fees paid by the issuers the rating agencies are supposed to impartially rate. In this paper, we explore the trade-off between reputation and

fees and find that relative to monopoly, rating agencies are more prone to inflate ratings under competition, resulting in lower expected welfare. Our results suggest that more competition by itself is undesirable under the current issuer-pay model and will do little to resolve the conflict of interest problem.

DP 654

Aversion to the Variability of Pay and Optional Incentive Contracts

Pierre Chaigneau

In a moral hazard setting with a performance additive in effort and a symmetrically distributed noise term, I show that compensation contracts which are convex in performance are suboptimal when the agent has mean-variance preferences. With step contracts, I show that sticks are more efficient than carrots: an exogenously given lower bound on payments is binding at the optimum. Intuitively, the variance of the agent's pay conditional on a high effort should be as low as possible, while it should be as high as possible conditional on a low effort. From an ex ante perspective, which is relevant for effort inducement, this maximizes the rewards associated to high effort, and the punishments associated to low effort. These results call into question the widespread use of stock-options and contracts with rewards-like features to provide incentives to risk averse executives.

DP 655

Signalling in Tender Offer Games

Mike Burkart and Samuel Lee

We examine whether a bidder can use tender offer terms to signal post-takeover security benefits. Neither restricted bids nor cash-equity offers allow the bidder to reveal private information. Since atomistic shareholders extract all the gains in

security benefits, signalling equilibria are subject to a constraint that is absent from bilateral trade models: The bidder must enjoy gains from trade that are excluded from bargaining (private benefits) but can nonetheless be relinquished. Dilution, debt financing, and toeholds are viable signalling devices because they imply private benefits that depend on security benefits in a predictable manner. In these signalling equilibria, lower-valued types must forgo a larger fraction of their private gains, and these costs can prevent some takeovers. Strikingly, the separation of cash flow and voting rights overcomes the asymmetric information problem. Offers that include derivatives allow for a complete separation and can therefore implement the symmetric information outcome.

DP 656 (PWC 12)

Trading and Voting in Distressed Firms

Konstantinos E Zachariadis and Ioan F Olaru

We investigate the effect of the ability of ‘non-traditional’ funds to short-sell the equity of their debtors. This enables them to vote on restructuring proposals of distressed firms, while at the same time they separate their voting rights from their economic exposure. The effect depends on the discrepancy between the markets for debt and equity, discrepancy in how each assesses the probability of a proposal being accepted. We show that if the assessments between the two markets are different then the presence of a non-traditional fund decreases firm value. Firm value, however, is unaffected if the assessments are the same.

DP 658

Value of Information in Competitive Economies with Incomplete Markets

Piero Gottardi and Rohit Rahi

We study the value of information in a competitive economy in which agents trade in asset markets to reallocate risk. We characterize the kinds of information that allow a welfare improvement when portfolios can be freely reallocated. We then compare competitive equilibria before and after a change in information. We show that generically, if markets are sufficiently incomplete, the welfare effects are completely arbitrary: there typically exist changes in information that make all agents better off, or all agents worse off.

DP 659 (PWC 13)

Innovations, rents and risk

Bruno Biais, Jean-Charles Rochet and Paul Woolley

We offer a rational expectations model of the dynamics of innovative industries. The fundamental value of innovations is uncertain and one must learn whether they are solid or fragile. Also, when the industry is new, it is difficult to monitor managers and make sure they exert the effort necessary to reduce default risk. This gives rise to moral hazard. In this context, initial successes spur optimism and growth. But increasingly confident managers end up requesting large rents. If these become too high, investors give up on incentives, and default risk rises. Thus, moral hazard gives rise to endogenous crises and fat tails in the distribution of aggregate default risk. We calibrate our model to fit the stylized facts of the MBS industry's boom and bust cycle.

DP 660

The Optimal Timing of Executive Compensation

Pierre Chaigneau

We propose a new continuous-time principal-agent model to study the optimal timing of stock-based incentives, when the effects of managerial actions materialize with a lag and are only progressively understood by shareholders. On the one hand, early contingent compensation hedges the manager against the accumulation of exogenous shocks. On the other hand, the fact that initial information asymmetries between the manager and shareholders are progressively resolved suggests that contingent compensation should be postponed. We introduce two possible types of managerial short-termism, and show that they both result in lower-powered incentives and more deferred compensation.

SPECIAL PAPERS

SP 188

Living Wills

Thomas Huertas

In medicine, contagion is defined as 'disease transmission by direct or indirect contact'. In finance contagion is said to result from the exposures that other banks may have to a bank that fails, either directly or indirectly through infrastructures such as payments, clearing and settlement infrastructures. Through such exposures or interconnectivity, the failure of one bank poses the risk of setting off a chain reaction that will cause other banks to fail.

Although such effects are important, they are not the only source of financial instability. An equally, and perhaps even more important, source of instability is radical changes in resolution policy, such as occurred in the United States in September 2008 when the US authorities ordered Lehmans to file for bankruptcy. This event abruptly reversed the pattern of support for systemically important institutions that the US authorities had followed during the crisis, notably with respect to Bear Stearns, Fannie Mae and Freddie Mac. This reversal in resolution policy radically changed market expectations with respect to the loss that a creditor would suffer, if the authorities had to intervene to resolve a troubled financial institution. That in turn increased risk premia and led to a general flight to quality and a run away from weaker institutions. These runs resulted in the failure of additional institutions, even though such institutions had limited exposure to Lehmans. As a consequence, reforming resolution policy is likely to be as important, or perhaps even more important, than limiting interconnectivity as a means of preventing future financial crises. Just as we need an exit strategy from monetary and fiscal stimulus, so too do we need an exit strategy from 'too big to fail'.

SP 189

BCrash 08: a regulatory debacle to be mended

Giorgio Szego

The major financial crises of the last 30 years are analysed and some common features brought to light: lax supervision, easy money, risk appetite, legislative follies and regulatory mistakes. The current crisis contains all these elements. The current disaster were brewed in USA in the '80ies by some regulatory acts aimed at proving that, contrary to the opinion of most economists troublemakers, free lunches do exist. The US money market has shown a complete reversal since 1981 with falling average rates and a growing market 'intolerance' to interest rates increases. This change has been largely caused by the introduction in 1981 of Adjustable Rate Mortgages that enhanced the effects of the rate rises. The many recent studies and regulatory proposals are then compared. While there is an amazing general consensus on the causes of the crash, regulatory proposals, ranging from the UK Conservative Party 'white paper', to the disappointing US plan, present some differences.

SP 190

British Monetary Targets, 1976 to 1987: A view from the fourth floor of the bank of England

Anthony Hotson

Broad money and its credit counterparts played a key role in the conduct of British monetary policy in the period 1976 to 1987. This paper examines the Labour Government's introduction of published targets for M3 and then £M3 in 1976, their impact on policy until the election of 1979, the Conservative Government's retention of £M3 as the centrepiece of its Medium-Term Financial Strategy (MTFS), the evolution of the MTFS and the move to shadowing the Deutschmark in

1987. There is already a vast literature on the conduct of monetary policy in the 1970s and 1980s, encompassing decision making in the upper echelons of government and the more prosaic debates of economists on the rationale for intermediate targets and the stability, or otherwise, of the demand for money. This is an account of the debates which took place between officials at the time from the perspective of a then junior economist working at the Bank of England.

SP 191

Too big to fail – too big to manage

Michael von Brentano

In the wake of the financial crisis of 2007 many questions have been left un-answered until now. Of particular concern to the general public and the authorities is the problem how to avoid in future the need to spend huge public funds to support failing banks.

One proposal is to prevent banks from becoming so large that their failure would inevitably lead to a crisis of such dimensions as to force the authorities to rescue them. Discussions about this topic, generally under the heading Too big To Fail, appear to be ongoing. Possibly, they are still at an early stage, because no one seems to know how to define exactly a banking organization that is too big to fail. What does 'big' mean in this context? And what context is relevant? Obviously an important bank in a large country must be bigger to serve its economy than a bank in a smaller country. Does this mean that banks from smaller countries must remain smaller, and if so, how small?

I wonder whether other criteria might be more relevant to address the fundamental problems of public support for failing banks. In particular, one question should be given more thought: Have banks, or some banks, become too big to manage? What are the consequences of the structures of the global banks of today for their managements, their boards, their regulators, and

their investors? Some light has been shed on these aspects lately. In particular, investigations carried out by a committee of the US senate have led to some astonishing revelations.

This paper intends to deal further with the question why some financial institutions may be 'Too Big to Manage'. It also tries to sketch out a few ideas about possible remedies for some of the weaknesses in the governance of banks that have played a part in the history of the banking crisis.

SP 192

The role of the IMF as a global financial authority

Rosa M Lastra

The financial crisis has taught us many lessons. One of them is that financial institutions are only global in good times, they retrench to national frontiers when things turn sour. However, this state of affairs has to change if financial institutions and markets can credibly claim to be global. This suggests that international solutions are needed for international problems. In this context, I contend that the International Monetary Fund, the institution at the centre of the international monetary and financial system, is best placed to adopt a role as a 'global sheriff' (echoing the words of George Soros in the 2010 Davos meeting) with regard to international financial stability.

This paper focuses on the surveillance function, leaving aside other functions that should also be coordinated at the international level, such as dispute settlement and rule-making (regulation).

FORTHCOMING PAPERS

Bank Bailout Menus

Sudipton Bhattacharya and Kjell G Nyborg

Executive Pay and Performance in the UK

Paul Gregg, Sarah Jewell, Ian Tonks

Covariance-based Characteristics

Xiaoji Lin and Lu Zhang

Brand capital, Risk and Returns

Xiaoji Lin, Frederico Belo and Maria Ana Vitorino

Stock prices under pressure: How tax and interest rates drive returns at the turn of the tax year

Christopher Polk, Johnny Kany, Tapio Pekkala and Ruy Riberio

Trading Frenzies and Their Impact on Real Investment

Kathy Yuan, Itay Goldstein and Emre Ozdenoren

The Information Content of Revealed Beliefs in Portfolio Holdings

Kathy Yuan, Tyler Shumway and Maciej Szeffler

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FMG Review

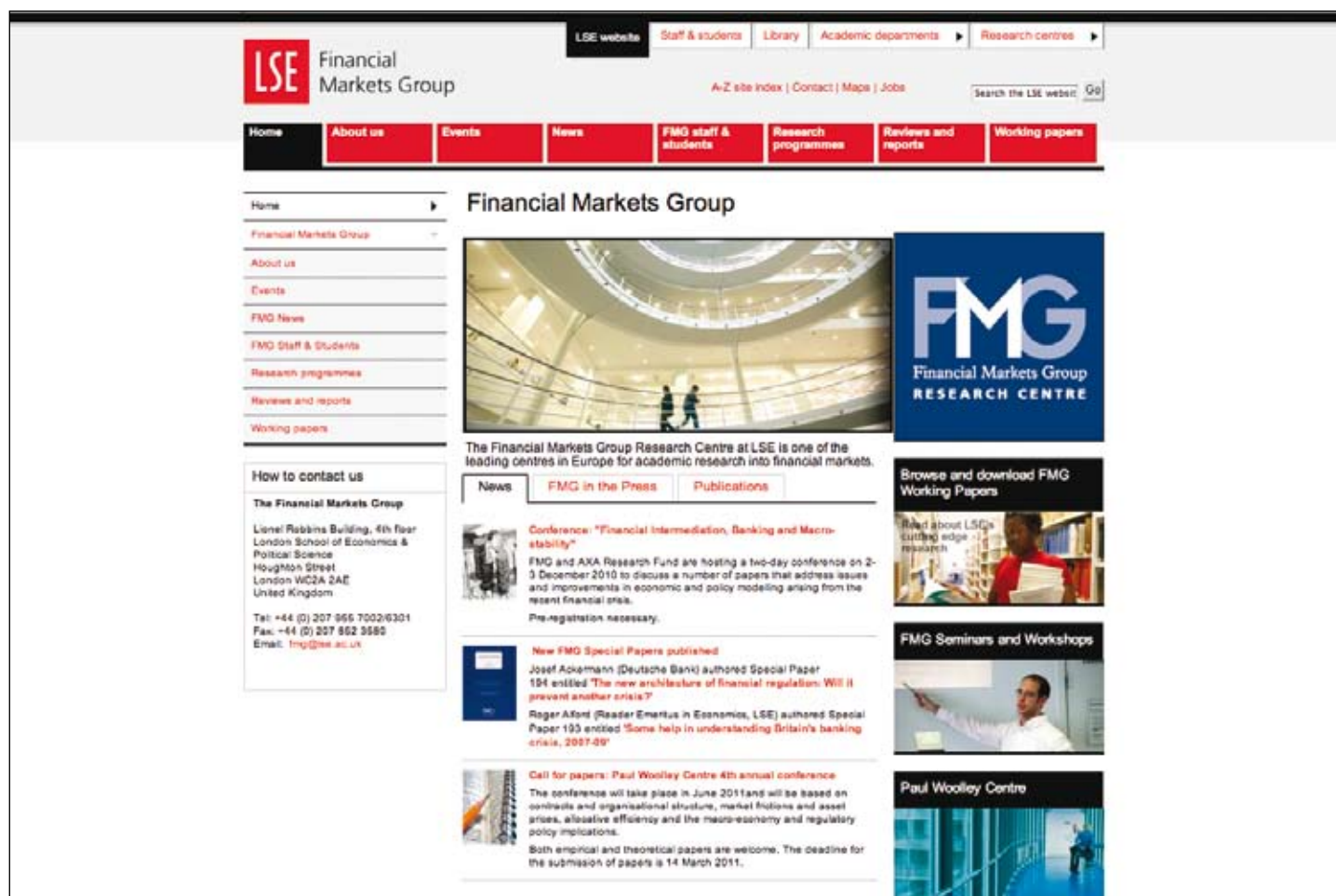
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