INQUIRE UK and INQUIRE EUROPE JOINT SEMINAR

Summarised by:
Alistair Byrne (University of Strathclyde)

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Introduction

The joint Inquire Europe and Inquire UK seminar was held at the De Vere Grand Hotel in Brighton against a background of pleasant early spring sunshine.

For the after dinner talk on Sunday evening, Nigel O'Sullivan of Goldman Sachs International discussed the pressures on institutional investors. He noted that pension investment faces a number of current challenges including the search for return, risk management, and issues in governance and organisational structure.

Monday's papers were chosen by the Inquire UK program committee and followed the theme of alternative investments. Bing Liang of the University of Massachusetts-Amherst opened proceedings with a discussion of operational risk in hedge funds. Using a unique new dataset, Professor Liang and his co-authors are able to explain and predict which hedge funds will have operational problems.

Hedge funds remained in focus for Wei Jiang's (Columbia University) discussion of hedge fund activism and its impact on corporate governance and firm performance. The results show that activism by hedge funds appears to work in terms of improving firm performance.

Denys Glushkov of the University of Pennsylvania then presented his paper on 'Sentiment beta' demonstrating that the exposure of stocks to changes in sentiment appears to be priced by the market. This means sentiment exposure can be a characteristic used by investors in portfolio construction.

Kari Sigurdsson of Barclays Global Investors presented his paper on price efficiency and short selling making use of a unique and comprehensive database on stock lending. The database includes both lending supply and lending price and enables global analysis of issues previously only investigated on US data. The key finding is that short sale constraints appear to reduce price efficiency in equity markets.

Ludovic Phalippou of the University of Amsterdam followed up his presentation at the Inquire UK autumn 2006 seminar on the performance of private equity funds with a paper investigating a new methodology for estimating the risk of private equity funds. The methodology also offers potential for investigating the risk of other asset classes where good quality price data is not available, e.g. real estate.

Robert Kosowski of Tanaka Business School brought the first day to a close with a paper looking at a trading strategy based on the holdings of 'star' mutual funds and 'star' analysts' recommendations. The research reveals some value in following the behaviour of these high profile analysts and funds – Professor Kosowski's advice is *"follow the stars"*.

The second day of the conference featured papers chosen by the Inquire Europe program committee focussing mainly on mutual fund issues. All four papers are the result of Inquire Europe funded research projects.

Tong Yao of the University of Arizona opened the day with his paper looking at the investment value of mutual fund portfolio disclosure. Similar to Robert Kosowski's paper, he finds some value in following the portfolio decisions of mutual fund managers.

Henri Servaes paper on 'mutual fund fees around the world' exploits a vast database of mutual fund characteristics to attempt to explain differences in fees across funds and across countries. After adjusting for fund characteristics he finds variation in fee levels across countries, some of which appears to be explained by differences in the regulatory environment.

Clemens Sialm of the University of Michigan continued the mutual fund theme with his investigation of the unobserved actions of mutual funds. In essence this means comparing the achieved returns of a mutual fund with the performance of the holdings disclosed at the previous quarter end – comparing the fund with 'its past self'. The gap between actual performance and the 'do nothing' portfolio appears to be persistent and helps predict mutual fund performance – in short *"mind the gap"*.

Vikas Agarwal of Georgia State University bought proceedings to a close with his analysis of risk and return in convertible bond arbitrage. This is part of a broader program of work analysing the performance and factor exposures of hedge funds. The authors identify the X-factor which is the return from a strategy of buying convertible bonds and hedging out the equity, credit and interest rate risks. The factor is able to explain part of the returns of convertible arbitrage hedge funds.

PRESSURES ON INSTITUTIONAL INVESTORS
Nigel O'Sullivan, Goldman Sachs International

For the Sunday evening after-dinner talk, Nigel O'Sullivan of Goldman Sachs discussed the pressures on institutional investment and, in particular, what he sees as the five key challenges for pension investment.

In terms of the market overview, Mr O'Sullivan noted that the good news is that recent returns have been strong following on from the 2001-2003 bear market. This has given defined benefit schemes an opportunity to de-risk by switching to bonds and means investors in defined contribution schemes have made money. But, currently, market volatility is low and this could be a worrying sign.

Pension liabilities have been inflated by low long-term interest rates. Regulation and accounting for pensions now works on a mark-to-market basis which means that long-term capital is operating with a short-term focus. There is also a need to differentiate the pensions outlook of the public and private sectors. Defined benefit schemes are 'dead' in the private sector for the foreseeable future.

Mr O'Sullivan noted that the five key challenges for pension investment in his view are:

1) The search for return: capital is not scarce; there is plenty of it around. The greater issue is securing a reasonable return on that capital.

2) The provision of advice: different parts of the pensions 'food chain' need to work together. For many schemes there is an issue of where to get good quality, impartial advice from.

3) Risk management: insurance companies are used to managing risk. But, generally risk taking has been rewarded with higher returns, making low risk strategies expensive. For example a 50 basis point increase in long-term interest rates cuts UK pension deficits by £60bn; a 15% rise in equities cuts deficits by £70bn. The key is to have an appropriate risk budget. With UK pension liabilities at £1 trillion and the index-linked gilts market at £150bn, it is not possible for all schemes to de-risk by buying indexed bonds.

4) Governance process: There has been lots of change, for example 'derivatisation' and the separation of alpha and beta. There are difficulties in recruiting people with appropriate skills and experience, e.g. a head of alternative assets. Who has real experience of managing alternative assets? Governance is a growing issue, i.e. what should schemes be spending their time on?

5) Organisation structure: Beta is cheap and alpha is expensive, but who can identify alpha and who is able to provide it.

Finally, in concluding his comments, Mr O'Sullivan noted that as investing for the long-term is uncertain, today's problems may not be tomorrow's.

OPERATIONAL RISK FOR HEDGE FUNDS
Bing Liang, Isenberg School of Management, University of Massachusetts-Amherst

Bing Liang of the University of Massachusetts-Amherst presented his paper on the operational risk of hedge funds, which is joint work with Stephen Brown (NYU Stern), William Goetzmann (Yale) and Christopher Scharz (University of Massachusetts). The paper is the result of an Inquire UK funded research project. Professor Liang introduced the paper by noting that while market risk is well documented, operational risk is less so. Operational risk can stem from issues such as personnel risk, compliance, internal controls and procedures, fund pricing and accounting. Over half of all hedge fund failures are associated with some form of operational risk.

The paper tackles three main research questions. Firstly, it looks at whether due diligence reports can be used to quantify the operational risk of hedge funds. Secondly, it looks at whether disclosures in the SEC ADV forms tell us anything about operational risk. Finally, the paper investigates whether the ADV forms provide additional information over and above what is already known by investors.

The data for the paper comes from two sources. First, there is a private dataset of 326 due diligence reports on hedge funds. These cover both quantitative and qualitative information, including information on pricing, accounting and money transfer mechanisms. Analysis of the dataset versus wider hedge fund databases shows that funds selected for due diligence are typically larger than the average, with higher returns and lower risk.

The other data source is the ADV forms that were filed with the SEC during March and April 2006. The data covers a short period because the SEC requirement for hedge funds to register was overturned by the courts after only a brief period of operation. The main omissions in the ADV database relative to wider hedge fund databases are in terms of smaller funds and non-US funds.

The ADV form is 35 pages long and covers general information including potential conflicts of interest, previous legal or regulatory issues (called "item 11"), and ownership structure. Fund managers that have filed the forms tend to have higher Sharpe ratios, lower fees, longer lockup, subscription and redemption periods, and are more likely to have a high water mark, than the average hedge fund.

Analysis of the due diligence data shows that funds that experience a problem are more likely to use an internal rather than external accountant, and to allow fund managers to price portfolios. They are also less liquid, have more OTC counterparties, and higher levels of staff departure than other funds. Finally, they are less likely to have an independent board, and are more likely to be based onshore.

Professor Liang defines a problem fund as one that answers yes to an Item 11 question in the ADV form. Approximately 15% of funds are defined as problem funds. Problem funds have lower returns, lower Sharpe ratios, are older, charge lower incentive fees, and are less likely to have a high water mark than non-problem funds. A number of conflict of interest variables, such as having other financial institutions related to the fund and dealing with related parties, are

positively related to the probability of having a problem. Problem funds also tend to have more concentrated ownership, lower levels of the owners' capital invested in the fund, and lower levels of leverage. Lower levels of leverage suggest that lenders may know some of the problems in the fund.

To test whether the ADV information is redundant in the sense that investors are already aware of the substance of the information that is disclosed, Professor Liang analysed differences in leverage between problem and non-problem funds. Problem funds tend to have less leverage, which suggests capital market participants have some insight into the potential problems even without the ADV filings.

Professor Liang noted that the operational risk of funds also seems to be linked to performance – lower quality funds have lower returns. However, investors do not seem to be able to distinguish between problem and non-problem funds before the fact. The operational risk measure does not affect the usual relationship between fund flow and performance.

Professor Liang concluded his talk by noting that the due diligence and ADV data allow for quantification of the operational risk of hedge funds. There is a strong statistical relation between problems and potential conflicts of interest. Poor internal pricing, accounting and monitoring systems are a precursor of problems. Operational risk is related to fund performance. The ADV data appears to be redundant for equity investors and lenders. However, hedge fund investors appear unable to distinguish between high and low operational risk funds without the ADV filings. Hence the ADV filings may be helpful to them. In short, lenders and equity investor appear to know quality, but fund investors chase past returns.

Seminar attendees discussing the paper noted that the analysis was original and insightful. Professor Liang was asked whether the Item 11 questions merely pick up funds that are part of large financial conglomerates that would be likely to have had a problem somewhere across their (extensive) operations. In answering, he noted that he had attempted to control for size. Another comment from the floor noted that the SEC forcing non-US managers to register was a controversial move, particularly given evidence that non-US funds have tended to be less problematic. Professor Liang observed that this notion is confirmed by the evidence – the due diligence data covers both onshore and offshore funds and there are fewer problems at offshore funds.

HEDGE FUND ACTIVISM, CORPORATE GOVERNANCE AND FIRM PERFORMANCE
Wei Jiang, Columbia University

Wei Jiang of Columbia University presented her paper on hedge fund activism, which is joint work with Alon Brav (Duke University), Frank Partnoy (University of San Diego), and Randall Thomas (Vanderbilt University). Professor Jiang began the presentation by considering the existing evidence on activism by institutional investors. In theory, informed shareholder monitoring can reduce agency problems with listed companies, but there are problems in getting collective action across shareholders. Activism by institutional investors, mainly public pension funds, appears to have a positive impact on performance – both share price and operational performance – but the results tend not to be statistically significant. Professor Jiang motivated her analysis of hedge fund activism by suggesting that hedge funds have lower agency conflicts than public funds and have less strict holding limits than mutual funds. This may mean that their activism is more effective.

The data used in the study comes from SEC '13D filings' that funds must file when their holding of a stock goes above a certain percentage limit. The form must be filed when a fund's holding exceeds 5% of the company's capital and further filings are required when the holding changes by 1% or more. Filing must take place no later than 10 days after the trade.

The data includes 781 instances of activism, involving 134 funds and 683 companies. In 42% of cases the fund manager cites on the form a specific issue being targeted for correction. Approximately one third of cases are hostile. Where specific issues are mentioned, success varies by category. The most successful intentions are to improve the company's tax efficiency, to halt a pending acquisition, and to oust the CEO. The funds' tactics vary from relatively friendly to aggressive. At the friendly end, some funds merely "communicate with the managers" or seek board representation. At the more aggressive end, funds hold proxy contests, file lawsuits, or launch takeover bids.

Professor Jiang noted that funds appear to attempt to influence companies, but not to take control. The median stake at the outset of a case of activism is just over 6% and this rises to just under 10% at the maximum during the case. At the 95th percentile, the starting holding is 25%, rising to a maximum during the case of 40%. The activism can take a relatively long time to come to fruition – the median holding period in exited cases (defined as period from when the holding goes above 5% to when it falls below again) is 400 days. The 95th percentile is 1500 days.

Analysing the activism targets relative to the broader market via a matching sample shows that targets tend to be smaller and have lower valuations. They also tend to have higher return on assets, but lower dividend payouts. They are more likely to be conglomerate in nature and to have takeover defences in place.

Professor Jiang explained that the evidence shows the market perceives value in hedge fund activism. When the activism starts – the effective date of the 13D filing – the company in question begins to experience abnormal returns. These continue, on average for a further 20 days. Volumes are also typically high. Analysis of longer term trends shows no reversals, suggesting the initial positive effect is not overreaction.

One explanation of the positive performance could be that hedge fund managers are successful stock pickers and make well-timed purchases of undervalued stocks. However, the results show that the operational performance of targeted companies improves following the onset of the activism: analysts stop revising down forecasts and more revise up. Furthermore, returns are higher where hedge funds exit having achieved what they wanted than when they withdraw and exit without achieving what they desired. Based on a matched sample, the data also show that targeted firms achieve substantial increases in return on assets and return on equity in the two years following the activism. Dividends also increase over the two years following the activism.

However, Professor Jiang noted, not all stakeholders benefit. Again based on matched pairs analysis, the results show that the CEO's pay falls from almost $1m above average to just below average over the year following the activism. CEO turnover also rises significantly in comparison with the matched pairs.

Finally, analysis of the results through time shows that returns on targeted stocks during activism were highest in 2001 to 2003, but dropped back in 2004 and 2005, albeit they are still positive.

Professor Jiang concluded her talk by noting that this is the first large sample analysis of hedge fund activism on regular companies. The positive results have implications for informed investor monitoring and a new form of market-based governance. Overall, market participants seem to believe that hedge fund activism adds value. Furthermore, hedge fund activism has a positive impact on firm performance.

In discussion, questions were asked on why the share prices of targets move ahead of the t+10 announcement date. Given that there is no reversal, it is unlikely that price pressure is responsible. It may be that there is some 'tipping off' by the funds. An alternative explanation is the filings may take place earlier than t+10. Another question asked why the median holding period was roughly one year when value creation seemed to occur on a much shorter horizon, nearer 20 days. Professor Jiang said that the answer was that liquidity may be an issue and if funds acquired a reputation for 'pump and dump' their activism would cease to be effective.

SENTIMENT BETA
Denys Glushkov, University of Pennsylvania

Denys Glushkov of the University of Pennsylvania introduced his paper by noting that classical theory leaves no role for investor sentiment in asset pricing. The traditional view is that competition amongst rational investors leads to equilibrium prices and even if some investors are irrational, their demand will be offset by arbitrageurs. However, recent evidence suggests that sentiment does matter for asset pricing.

Professor Glushkov's noted that his research seeks to determine whether the returns of some stocks are more sensitive to investor sentiment than others and to understand the drivers of differences in sensitivity. One hypothesis is that stocks that are hard to value and difficult to arbitrage may be more sensitive to investor sentiment. A second, related, question addressed by the research is whether investors get compensated for holding stocks with greater exposure to shifts in investor sentiment – in short, whether sentiment risk is priced. The final question addressed by the paper is who tends to hold sentiment-sensitive stocks. The research tests the hypothesis that sentiment-sensitive stocks tend to be held more by individual investors.

In the paper, Professor Glushkov first constructs and validates an aggregate measure of investor sentiment based on a composite index following the method of Baker and Wurgler (JF 2006). The index contains variables such as the Investor Intelligence 'bull-bear' survey, the closed-end fund discount, and the volume of, and return on, initial public offerings, amongst others. He then uses the sentiment index to measure the sentiment 'beta' of individual stocks using a sample of US stocks for the period 1975 to 2003. The sentiment beta calculation takes account of the Fama-French factors and liquidity. In turn, the calculated sentiment beta is used to test the hypotheses about varying exposure to sentiment, the pricing of sentiment beta, and the nature of the holders of sentiment-sensitive stocks.

Professor Glushkov noted that the results of the analysis show that smaller, younger and more volatile stocks, with low dividend yields, tend to be most sensitive to sentiment. This is after controlling for the Fama-French and liquidity factors. After controlling for size and volatility, extreme sentiment beta stocks have more analyst following, higher turnover, greater short-sale constraints and lower dividend yields. Professor Glushkov also noted that growth stocks tend to be more sensitive to sentiment than value stocks, after holding size and volatility constant.

Professor Glushkov explained that the results show an inverted U-shape pattern in returns, whereby stocks with extreme high or low values of sentiment beta earn lower risk adjusted returns relative to near-zero sentiment beta companies, of the order of 4.5% per year.

Interestingly, institutions appear to have changed their approach to high sentiment beta stocks, avoiding them in the 1980s, but holding more of them in the 1990s. This suggests that institutional investors may well have been exacerbating sentiment-driven mispricing instead of countering the actions of sentiment traders, as traditional theory would suggest.

In concluding, Professor Glushkov noted that the results are robust to the exclusion of outliers and the exclusion of NASDAQ stocks, and smaller stocks. They are also robust in sub-periods, although more pronounced in the 1989-2003 period. He argued that his work provides an

implementable methodology for assessing a stock's sensitivity to shifts in sentiment. This is relevant in portfolio construction for understanding potential sources of excessive stock co-movement. Importantly, holding stocks with extreme sentiment betas may hurt returns and investors may benefit from holding stocks with near-zero loadings on sentiment beta.

Discussion and questions from the floor centred on the non-linearity of the relationship between sentiment beta and return, and the relationship between sentiment beta and the various Fama-French factors. Professor Glushkov noted that his analysis had controlled for the Fama-French factors and that the relationship was non-linear which argues against the interpretation of sentiment beta as a risk factor.

PRICE EFFICIENCY AND SHORT SELLING
Kari Sigurdsson, Barclays Global Investors

Kari Sigurdsson of Barclays Global Investors presented his paper which is joint work with Pedro Saffi of London Business School. Dr Sigurdsson introduced his paper by noting that previous research on short sales had mainly looked at the impact on returns. This primarily US-based work shows that stocks sold short have lower subsequent returns. Research has also looked at the impact of short selling on price efficiency and the distribution of returns, i.e. the possibility that information is not efficiently reflected in stock prices where short sales are restricted.

Dr Sigurdsson noted that the contribution of his work was to take an international perspective – using a unique new dataset – to look at stock-level issues. In addition, they use new measures of short sale constraints, including stock availability and borrowing fees. The first research question addressed by the study is whether short sale constraints affect price efficiency. The results suggest that this is the case and that stocks with short sale constraints reflect information with a lag. The second research question is whether short sale constraints affect the return distribution. There is little evidence that this is the case, for example there is not an increased probability of crashes for constrained stocks. There is, though, some weak evidence of a lower frequency of extreme positive events.

The data from the study has been collected from several large custodian banks. It contains lending availability and transactions for over 17,000 stocks and $5 trillion of available lending supply. Across the markets involved, the data covers available lending on stocks representing 93% of market capitalisation and 64% of listed companies. The average lending supply is just under 9% of each company's market capitalisation, but the dispersion of supply across stocks is also high. In terms of transactions, on average just under 2% of each company's market capitalisation is on loan, but again there is high dispersion across companies. The average lending fee on an equally weighted basis is 117 basis points. The borrowing fee tends to spike around dividend dates suggesting a significant proportion of lending is for dividend tax arbitrage.

Dr Sigurdsson noted that short sale constraints appear to be less for companies with ADRs or GDRs and for larger companies. Illiquid companies tend to be more constrained. Stocks with high levels of family, government, or corporate cross-holding ownership tend to be constrained, while companies with high levels of ownership by investment companies and pension funds have more lending supply. In terms of measures of constraint, taking a June 2006 snapshot, 60% of the market trades on borrowing fees of less than 60 basis points per annum, i.e. "general collateral". Just over 30% of the market trades at "special" rates above 100 basis points per annum.

Dr Sigurdsson explained that where a stock is constrained for short selling, market participants cannot express trading views as freely as for unconstrained stocks. The main measure for price efficiency is looking at the stock's correlation with lagged market returns. In terms of measures of the return distribution, the main ones are skewness and kurtosis together with the frequency of extreme returns, which are defined as those greater than +/- two standard deviations. In the analysis, Dr Sigurdsson estimates a regression of the price efficiency measure against lending supply, borrowing fee and a range of control variables. A similar regression is run for the distribution measures. The analysis finds that stocks with limited lending supply and / or high borrowing fees respond more slowly to market-wide shocks than other stocks do. However,

lower short sale constraints do not lead to a higher frequency of extreme negative returns. They do, though, lead to a lower frequency of extreme positive returns, although the economic magnitude is small. The results are robust to time period, region, and use of alternative lending supply measures. They also still hold when lending around dividend payments is removed from the sample.

Dr Sigurdsson concluded his presentation by summarising that short sale constraints appear to reduce price efficiency. The constraints do not increase the likelihood of extreme negative returns, but they do reduce the extreme positive returns. Future research could usefully concentrate on the impact of short sale constraints on post earnings announcement drift.

In discussion, questions were asked about whether the measure of price efficiency was related to liquidity, but Dr Sigurdsson noted his analysis had controlled for liquidity. Another question asked about the correlation between lending supply and the level of fee. The answer was that the correlation was 0.4, which is not as high as might be expected. There was a question about whether the results were different between positive and negative shocks. The authors had thought this might be the case, but found it was not. There was also discussion about the impact of short selling done via options and contracts for differences. While some of this trading would be netted out, any hedging transactions undertaken by banks should appear in the lending data. One suggestion for further analysis was that, given there could be correlations between the different moments, perhaps quantile regression could be used.

ESTIMATING THE RISK OF PRIVATE EQUITY FUNDS, A NEW METHODOLOGY
Ludovic Phalippou, University of Amsterdam

Ludovic Phalippou of the University of Amsterdam presented his paper, which is joint work with Joost Driessen and Tse-Chun Lin, also of the University of Amsterdam. The paper is the result of an Inquire UK funded research project. Professor Phalippou began his presentation by noting that private equity funds invest mainly in venture capital and leveraged buyouts. Investors commit capital to the fund and investments (takedowns) are made during the first, say, 5 years, distributions are paid irregularly during the life of the fund, and fund net asset values (NAVs) are reported on a quarterly basis. The NAVs usually record investments at cost rather than market value.

Professor Phalippou's previous research – presented at the recent Inquire UK seminar at Bristol - shows that private equity funds on average earn returns below those of public equity markets after adjustments and net of fees. Private equity funds are not publicly traded and hence there is no direct return data available, only cash flows and net asset values. Thus, there is a need to infer returns and risk from this data as they cannot be observed directly.

Professor Phalippou noted that the key research question addressed in his work is how to estimate performance (alpha) and risk exposures (beta) for private equity funds. Existing work either assumes betas equal to one, uses self-reported NAVs to construct returns, or uses project data. Professor Phalippou's methodology uses only cash flow data and does not rely on the stale and noisy NAVs. Furthermore no assumptions are required about the return distribution. While the methodology is applied in this case to private equity, it has potential applications for other thinly-traded assets such as real estate.

Using the new method on cash flow data for 941 private equity funds from 1980 to 2003, the research finds that venture capital funds have high market beta and resemble small growth stocks. Buyout funds exhibit low market beta and resemble large value stocks. This second result is slightly puzzling given that buyouts typically use leverage and could be expected to have high betas as a result. In general there is negative alpha and returns exhibit behaviour similar to call options.

In the research, Professor Phalippou models the growth of fund value using standard linear factor pricing models. Risk loadings are then estimated using the generalized method of moments on a set of cross-sectional pricing restrictions. The idea is that the expected value of all investments made by a fund should equal the expected value of all dividends (net of fees) paid out by the fund. Using the cross-section of funds, the parameters in the pricing model (the alpha and factor exposures) can then be estimated from these moment conditions.

Some researchers have tried to use a NAV-based approach to estimate the beta of private equity funds. They tend to use the Dimson approach to account for the fact that NAVs contain book costs rather than market values. However, Professor Phalippou demonstrated that the Dimson approach produces biased estimates when NAVs are stale. The simulation that demonstrates this also shows that the GMM method produces accurate estimates in the presence of stale prices.

Describing the results in detail, Professor Phalippou outlined that using a dataset comprising 23,296 cash flows from 941 private equity funds between 1980 and 2003, they find a CAPM-beta of 1.05. In addition and importantly, they find that the CAPM-beta decreases with positive stock-market performance. This indicates that funds offer a similar risk profile as call options. This finding is also consistent with the results of Agarwal and Naik (2004) for hedge funds.

Separating venture capital and buy-out funds, the research finds that venture capital funds have a CAPM-beta of 1.23, while buy-out funds have a CAPM-beta of 0.66. Including the Fama-French factors (SMB and HML), the results show that venture capital funds resemble small growth stocks (with a positive loading on SMB and negative on HML) whereas buyout funds resemble large value stocks. Based on the CAPM, the authors find negative alphas for buyout and venture capital funds, which are economically and statistically significant. However, when adjusting for SMB and HML factors, and the option-type behaviour of these funds, the alphas are closer to zero and insignificant.

Professor Phalippou concluded by summarising that they had developed a new method for assessing the alpha and beta of private equity funds and other thinly-traded assets such as real estate. The approach does not rely on NAVs or require any distributional assumptions. It also has good small sample properties. The empirical results show that venture capital funds resemble small growth stocks, while buyout funds resemble large value stocks. After fees, most of the funds generate negative alpha.

In discussion, one question focused on whether the nature of private equity was changing through time. Professor Phalippou noted that while this was a valid point, the method used in the analysis required the assumption that the nature was constant.

COMPARING STARS – TRADING ON STAR MUTUAL FUNDS' HOLDINGS AND STAR
ANALYSTS' RECOMMENDATIONS
Robert Kosowski, Tanaka Business School, Imperial College, London

Robert Kosowski of Tanaka Business School presented his paper which is joint work with Lily
Fang of INSEAD. Introducing the paper Professor Kosowski noted that each year institutional
fund managers elect an "All-American" team of star sell-side analysts. An interesting question is
whether fund managers 'put their money where their mouth is' in terms of following these
analysts' recommendations. Another interesting question is whether the managers add anything
over and above the value delivered by the analysts. This question is relevant in practice given the
growth of 'alpha capture' networks that track sell-side investment ideas.

Professor Kosowski noted that the research finds that top funds are more likely than average to
hold stocks that are recommended by star analysts. Funds with low alpha are more likely to own
stocks correlated with public information such as consensus forecasts. He noted that it is possible
to generate alpha of 7% per annum net of trading costs from a trading strategy based on star
analysts' recommendations and star funds' holdings.

Previous literature looks at the performance of star analysts' recommendations, while other
papers look at the performance of star funds and the use of private information by fund managers.
There is also a literature that looks at links between fund flows and performance. Professor
Kosowski noted that one contribution of his paper was to combine these three strands of
literature.

Professor Kosowski explained that the analysis is done by combining data on analyst
recommendations with data on US mutual fund returns and holdings, and US stock returns. The
first analysis looks at the sensitivity of fund holdings to star analyst or consensus
recommendations. The additional analysis looks at the out-of-sample performance of trading
strategies based on the recommendations of star analysts and the holdings of star funds. The data
spans the period 1994 to 2004 and covers over 30,000 recommendations on over 4000 stocks per
year.

The results show that the buy and sell decisions of top funds are more correlated with star analyst
upgrade and downgrade recommendations than are the trades of the average fund. Funds with
high exposures to the recommendations of star analysts tend to be somewhat smaller than the
average, but with higher average fees. Analysis of fund performance shows that high reliance on
public (consensus) information is negatively related to fund alpha. High reliance, or exposure to,
stocks with recommendations from All-American analysts is positively associated with alpha.

The analysis shows that star analyst recommendations can be used to create profitable trading
strategies. However, fund holdings do not appear to have the same predictive power. Combining
information from top fund holdings and top analyst ratings increases the profitability of the
strategies. Notably, the results are also stronger when concentrated on top performing small
funds. When adjustment is made for trading costs, strategies using information from all funds and
all analysts generate negative alphas, while strategies using top funds and top analysts give
positive alpha on the long side, but not the short side. The results appear to be robust to

alternative formation and rebalancing frequencies, meaning they are not driven by lags in disclosure of recommendations or fund holdings.

In concluding, Professor Kosowski noted that the research finds top funds are more likely to buy stocks recommended by star analysts. Use of public information tends to be correlated with negative fund alpha, while use of star analysts' recommendations is correlated with high fund alpha. Trading strategies based on star analyst recommendations and top fund holdings can be profitable.

In discussion, it was noted that alpha capture strategies such as Marshall Wace TOPS rely to an extent on being quick to capitalise on information, but it is less clear that other market participants would be able to benefit in the same way. One question asked whether the results were simply due to momentum, but Professor Kosowski noted that he had used a four factor model – including momentum – in the analysis to account for this. Another possibility raised was that star analysts might, in fact, be following the actions of star fund managers. This was thought to be a possibility. There were also questions about the trend in the results through time, but Professor Kosowski noted he had yet to look at that.

THE INVESTMENT VALUE OF MUTUAL FUND PORTFOLIO DISCLOSURE
Tong Yao Eller College of Management, University of Arizona

Tong Yao of the University of Arizona presented his paper which is joint work with Russ Wermers (University of Maryland) and Jane Zhao (University of Arizona). The paper is the result of a research project funded by Inquire Europe. Professor Yao began by noting the distinction between quantitative and fundamental analysis approaches to stock selection. The quantitative approach dates from the 1980s and involves a computer-assisted attempt to take advantage of investor mis-reaction to public information. Fundamental analysis has a longer history and is based on personal experience and judgement. The paper asks the question, can fundamental analysis be quantified? The appeal of this is that it may generate return-predictive information that is orthogonal to existing quantitative signals. The main difficulty is that fundamental analysis is usually regarded as more of an art than science: there is no magic formula. An alternative question, which may be more tractable, is whether it is possible to transform information produced by fundamental fund managers into quantitative signals.

Professor Yao noted that the study extracts fundamental managers' information from their disclosed portfolio holdings. The intuition is that stocks picked by skilled managers should outperform stocks picked by unskilled managers. The research takes as a positive signal a stock being overweighted by a skilled manager or being underweighted by an unskilled manager. Since 2004, managers have been required to disclose their stock holdings on a quarterly basis with a 60 day lag, enabling this analysis to be done.

The paper uses three models of performance based on weighted average alphas, generalised inverse alphas and Bayesian alphas. These approaches are designed to get around the problem of having many stocks to analyse, but fewer funds. The authors aggregate the entire cross-section of fund ownership data and combine fund holdings with fund past performance.

The results of the research show that the weighted average alpha model performs well, with the long-short decile portfolio returning 3% in the first quarter and 8% over the first year. The other two models perform similarly. An alternative approach of using changes in portfolio weights shows that fund buys are informative, but sells are not. Importantly, the profits are not subsumed by 12 typical quantitative signals such as momentum, value, and earnings quality.

Professor Yao explained that the data is taken from a sample of actively-managed domestic US equity funds. Most funds pick stocks using fundamental analysis. Quarterly and semi-annual portfolio holdings are obtained from Thomson Financial and CRSP. The sample period is from 1980 to 2002 and the number of funds varies from 200 to 1000+ each year. Past fund alpha is measured using a Carhart four-factor model based on rolling 12 month regressions.

The approach taken is to estimate at the end of each quarter three versions of stock alphas and then form equal-weighted decile portfolios based on the estimated alphas and hold the portfolios for the following four quarters. Long-short decile portfolios formed on this basis show significant positive returns on a net basis. Analysis of fund trades shows significant information in fund buys, but not in sells.

An important consideration, Professor Yao noted, is whether this information is correlated with the signals typically used in quantitative models. The analysis shows some correlation with momentum-type signals, but not to others, and the results are robust to inclusion of the momentum variables.

A final analysis looks at conditional alpha based on fund characteristics and stock characteristics. The argument is that persistence may vary and the ability to pick certain types of stocks may vary. The results of the analysis are strengthened by these adjustments.

In concluding, Professor Yao noted that his work shows that mutual fund holdings present a strong stock selection signal which is potentially useful for quantitative managers because the predictive power is maintained after adjusting for popular quantitative signals. The performance is further improved by conditioning on fund and stock characteristics.

In discussion, one question was whether the results could be improved by looking at relative stock weights rather than absolute ones. Professor Yao answered that while this would be desirable in theory, in practice it is difficult to get the benchmark information.

MUTUAL FUND FEES AROUND THE WORLD
Henri Servaes, London Business School

Henri Servaes of London Business School presented his Inquire Europe funded paper which is joint work with Ajay Khorana (Georgia Institute of Technology) and Peter Tufano (Harvard Business School). Professor Servaes introduced the paper by explaining that by way of motivation, total management fees in 2002 in their sample of about 47,000 mutual fund share classes across 18 countries amounted to $63bn. Total expenses amounted to $85bn based on 40,000 funds and expenses including load charges amounted to $106bn across 34,000 funds. These substantial amounts represent the price paid by investors for fund services and the top line income of fund management companies.

Professor Servaes noted that the goal of the research was to understand the drivers of these fees, focusing in particular on differences in fees across countries. This is particularly relevant in the light of current litigation in the US suggesting fund fees are too high. The analysis requires that proper adjustments are made to enable valid cross country comparisons, particularly adjusting for fund type.

Professor Servaes noted that the first part of the analysis was descriptive, asking how high are the fees. This, in itself, is important because there is little systematic evidence on the topic. The second stage of the analysis is an attempt to understand why fees differ across countries. The analysis looks at effects from both domicile and country-of-sale.

The data for the analysis comes from Lipper Fitzrovia, Morningstar Research plus, Morningstar, and Financial Research corporation. The database is at the fund class level and many funds have different fund classes with different fee levels. The unit of observation in the analysis is the fund class domiciled in country i, that is sold in country j. In the analysis share classes are combined into funds to account for lack of independence and the fact that economies of scale may exist at the fund level. It is also important to combine funds into complexes (or management companies) to measure economies of scale at the complex level.

The funds are classified into 10 broad categories, mainly at the asset class level. They are then further classified by type, e.g. small cap stocks, and region. This results in 122 narrow categories. The variables of interest are the management fee, the total expense ratio (TER), which is the management fee plus other expenses, and the total expense ratio including loads. The load is computed using an assumed five year holding period.

The data show that 55% of funds are domiciled and offered for sale in the same country. In terms of 'offshore' locations, Luxembourg is domicile for 36% of funds, while Dublin hosts 5%. Cross country competition from onshore markets is very limited. The highest fees are seen in Canada (TER 2.9% for equity funds) Italy and Spain, while the UK, US and Australia are relatively low (TERs of 1.7%).

The analysis of cross country characteristics requires ensuring that the comparisons are of like-for-like funds. The authors estimate a regression model that controls for fund characteristics, and has dummy variables for various investment objectives, domiciles and countries of sale. The key question is whether the country effects remain important after controlling for fund characteristics.

The controls cover economies of scale (size of fund and complex), types of investors, fund age, number of countries where distributed, and categories such as index funds, funds of funds, and funds with guarantees. These characteristics do vary significantly across countries.

The results show that there are economies of scale at the fund and complex level in that larger funds and complexes are cheaper. Older funds are also cheaper as are funds with larger minimum investments. There are also effects by fund types, in that index funds are cheaper (47bp) and funds of funds are cheaper. Foreign funds tend to be cheaper, but funds domiciled in offshore locations such as Luxembourg and Dublin tend to be more expensive, by c. 50bp.

Importantly, after controlling for these effects and for the 122 narrow fund objectives, there are still large differences across countries. Funds sold in the US are cheapest (average 79bp), and Denmark, Belgium and the UK are also competitive. Canada remains the most expensive (208bp) followed by Australia and Japan.

Regulatory effects may have an impact on costs. On the one hand, complying with regulation is costly. On the other hand, regulations may keep costs down particularly if they relate to conflicts of interest and disclosure. Furthermore, two levels of regulation are relevant – that where the fund is domiciled and that where it is sold. Measures of regulation used in the study include a general judicial quality index, the requirement for regulatory approvals for the fund, the need for an independent custodian, and procedures for managing conflicts of interest between the fund company and the investor.

Competition should also keep costs down. The competition measures used in the study include the level of concentration in the country's banking sector. However, some practitioners argue that more competition increases fees by raising the cost of acquiring customers. Professor Servaes noted that another view was that factors such as country wealth and investor sophistication – measured as GDP per capita and education - could increase demand and lead to higher fees. On the other hand, more informed customers may be more price-sensitive. We might also expect higher fees in countries with higher savings rates.

The results show that more investor protection generally leads to lower fees. Fees are lower in countries with older fund industries and in smaller markets, which is surprising. Management fees are lower in wealthier countries, countries with more educated populations and areas where banking is less concentrated.

In concluding, Professor Servaes noted that there are substantial cross country differences in fees charged for mutual funds. Economies of scale explain fund charge differences as do fund type and foreign and offshore effects. However, large differences still exist at the country level, with higher levels of regulation associated with lower fees.

In discussion, one question asked about trends in fees. Professor Servaes noted they would like to look at this, but have only one year of data. Other questions revolved around whether all investors in a fund pay the same fees, the answer being that load charges may vary. It was noted that it would be interesting to look at the link between fees and performance. Another observation was that the fund distribution system has a large impact on fees, for example with part of the mutual fund fee paid to advisers.

UNOBSERVED ACTIONS OF MUTUAL FUNDS
Clemens Sialm, Stephen M Ross School of Business, University of Michigan

Clemens Sialm of University of Michigan presented his paper, which is joint work with Marcin Kacpercckyk (University of British Columbia) and Lu Zheng (University of Michigan). The research has been funded by Inquire Europe. Introducing the paper, Professor Sialm noted that while mutual funds have to make numerous disclosures to investors and regulators, many actions by mutual fund managers are not observed by fund investors. In this paper, the authors propose a new performance measure that captures the impact of unobserved actions on fund returns and that predicts future fund returns.

In essence, the authors' return gap measure compares the fund to its 'former self'. It could also be termed performance relative to the 'do nothing' portfolio. The return gap is defined as the return on the fund minus the return of previously disclosed holdings adjusted for the disclosed fund expense ratio. The gap comprises hidden benefits and hidden costs. The benefits come from profitable interim trading, IPO allocations and revenues from security lending. The hidden costs include trading commissions, market impact and any trades made at non-market prices.

Professor Sialm outlined that the data used in the study covers 2543 equity mutual funds over the period 1984 to 2003 on a monthly basis. Bond, balanced and international funds are excluded because of poorer data on fund holdings. The average return gap across the sample is close to zero. However, there is evidence of persistence in the gap: high gap funds (the top decile) in one month have a 0.27% higher gap in the following month relative to low gap funds (bottom decile). This persistence holds over the longer term, but with some mean reversion possibly due to the attrition of bad funds.

Since the return gap is persistent, one might expect that the lagged fund gap predicts future fund performance. In the analysis, Professor Sialm explained, the authors follow a trading strategy based on the lagged return gap and compute risk- and style-adjusted returns. The analysis includes an additional three-month implementation lag because mutual fund holdings are disclosed 60 days after the month end. Returns are calculated using CAPM, Fama-French, Carhart, and Daniel et al. factor adjustments. High gap funds outperform low gap funds by between 0.06% and 0.32% per month depending on the type of adjustment. However, the analysis is only illustrative as you cannot short sell the low gap funds to achieve the long-short return. The difference between high gap and low gap funds is not explained solely by the level of fees. Equally, trading costs do not explain the difference.

In concluding, Professor Sialm noted that there is substantial cross-sectional variation and time series persistence in the return gap. Furthermore, the return gap predicts future performance. Regulators and investors can use the return gap to identify funds that create or destroy value for their investors. In short, '*mind the gap!*'

Discussion of the paper focused on the time horizon used in the analysis. There was also a question about the impact of window dressing, i.e. that period end holdings do not reflect what was actually held in the period, or have some bias. This was not thought to be a major issue.

RISK AND RETURN IN CONVERTIBLE ARBITRAGE: EVIDENCE FROM THE
CONVERTIBLE BOND MARKET
Vikas Agarwal, Georgia State University,

Vikas Agarwal of Georgia State University presented his Inquire Europe funded paper which is
joint work with William Fung (London Business School), Yee Cheng Loon (Georgia State
University) and Narayan Naik (London Business School.) Introducing the paper, Professor
Agarwal noted that there was a general lack of good quality data on the convertible bond market
and the role of hedge funds in providing market liquidity. Convertible bonds provide a source of
financing for companies facing difficult market conditions. The market has a capitalisation of
$300bn, which compares to $1.5 trillion for the US equity market. Convertible bonds trade on an
over the counter basis and convertible bond arbitrage hedge funds have emerged as liquidity
providers.

Professor Agarwal explained that the paper seeks to answer a number of research questions. The
first is what are the risks and rewards for hedge funds that provide liquidity in the convertible
bond market. The second is what is the nature of the arbitrage that these funds engage in.
Additional questions include, how do extreme market events affect the liquidity providers'
management of inventory risk, and how are the hedge funds affected by mismatches between
liquidity demand by convertible bond issuers and the risk capital provided by investors.

Professor Agarwal noted that the risk in convertible bonds takes three forms: equity risk, credit
risk, and interest rate risk. Convertible arbitrage hedge funds usually hold a net-long inventory of
convertible bonds. However, unlike mutual funds, they typically hedge the equity, credit and
interest rate risk they have taken on.

In the analysis, the authors compute the returns to the basic trading strategy using the market
prices of the underlying assets. This trading strategy can be construed as a risk factor, referred to
as an asset-based style (ABS) factor. The asset-based style factor represents a portfolio of
conventional assets defined by a simplified proxy of a particular class of hedge fund strategies.
This has the advantage of being able to explain risk in terms of conventional asset classes and is
investable and transparent. The downside is that it is data and time consuming, and there can be
multiple ABS factors.

The research, Professor Agarwal explained, defines the 'X-factor' as the returns from actively
managing a delta-neutral position in convertible bonds while hedging out equity, credit and
interest rate risks. This is similar to the Fama-French or Carhart factors. The data used in the
analysis covers 1646 US dollar convertible bonds and 585 Japanese yen convertible bonds
together with the associated stocks, for the period 1993 to 2003. This is combined with the
monthly returns of 155 convertible arbitrage hedge funds taken from the CISDM, HFR and
TASS databases. The average dollar bond is $323m, while the average yen bond is $172m. Some
are from serial issuers.

The X-factor is calculated by creating an issue-size weighted portfolio by buying each new
convertible bond issue and holding to maturity or the end of the sample period, while hedging the

equity, credit and interest rate risk. The hedge ratios are estimated using 30-day rolling regressions.

The hedge fund returns can be split into active and passive components. The passive components come from the net-long inventory of convertible bonds and can be captured by measures such as the returns on convertible bond mutual funds. The active components can be captured by the X-factors. The active and passive components explain between 21% and 52% of hedge fund returns depending on which database is used, which is better than existing models.

Professor Agarwal noted that the research also investigates the impact of market-wide liquidity events on the returns of the hedge funds. Prior to the LTCM crisis, funds generally appear to engage in arbitrage activities, while holding some passive inventory. Post the LTCM crisis, passive exposure to inventory disappears, suggesting an increase in risk aversion after the stressful market conditions.

Professor Agarwal noted that, as providers of liquidity, convertible arbitrage funds are sensitive to mismatches between the demand for and supply of convertible bonds. In the analysis they compute the supply of bonds each month and the demand from the dollar flows into each of the 155 funds. The results show a growing supply-demand imbalance over the 1999 to 2002 period.

Convertible bonds are underpriced at issue in the same manner as has been documented for stocks. The analysis links fund alphas with the original issue discount. The results suggest that convertible arbitrage funds do not buy all deals, the lower realised alphas for investors reflect the high fees charged by funds, and that the funds do not have perfect foresight, or possibly they participate in some expensive deals in order to get access to attractive ones.

In concluding, Professor Agarwal noted that the active arbitrage strategy explains a significant proportion of the variation in returns from convertible arbitrage hedge funds. It appears that the hedge funds actively manage inventory risk. Market-wide liquidity shocks and asset-specific demand and supply affect the management of inventory risk. The alphas earned by the funds are of a magnitude that is consistent with the original issue discount in the convertible bond market.

In discussion it was noted that a fund's beta on the X-factor can give an indication of cross-sectional dispersion in leverage.