The Exchange

NEWS FROM THE FINANCIAL ECONOMICS INSTITUTE AT CLAREMONT MCKENNA COLLEGE

A Successful First Year for FEI

Janet Kiholm Smith
FEI DIRECTOR

AS THE NEWEST Institute at CMC, the Financial Economics Institute has had a significant impact on students during its first year in existence. The FEI introduced the Financial Economics Sequence, a carefully designed course of study that provides students with a solid educational foundation relevant to finance. In the first year, over 40 students have indicated that they plan to complete this new sequence which aims to build recognition of CMC as the premier liberal arts provider of financial economics education.

The FEI has also sponsored several activities to enrich the educational experience for CMC students. In addition to hosting a speaker series that featured two nationally prominent lecturers, *Richard Thaler*, the Robert P. Gwinn Professor of Behavioral Science and Economics at the University of Chicago, and *Kenneth French*, the Carl E. and Catherine M. Heidt Professor of Finance at the Tuck School of Business at Dartmouth College, the FEI also coordinated and funded the New York City Networking Trip, a week-long visit to the financial capital of the world. Students on the NYC Networking Trip had the opportunity to meet senior level executives at Banc of America Securities, Bear Stearns, Goldman Sachs, KKR (Henry Kravis hosted the group), Merrill Lynch, and Onyx Capital Management.

Research activities have created additional opportunities for student involvement with the FEI. In the past year, the Institute has hired thirteen Student Research Analysts who have worked in conjunction with economics faculty members on research projects that are being developed into papers that will be published in notable journals. Students have also benefited from the Institute's purchase of state-of-the-art databases including WRDS, Compustat, CRSP, and Thomson Financial in order to facilitate and enhance research projects and senior theses. In fact, CMC is the only liberal arts college in the country to subscribe to these databases that are used by nearly every major research university.

The FEI staff is pleased with the Institute's progress in the first year and we hope to enhance our contributions to the educational experience of CMC students. We encourage anyone interested in learning more about the FEI to contact us via phone at (909) 607-0042 or at FEI@ claremontmckenna.edu. We also invite you to come visit us in Bauer Center 321 to see the Institute's new laboratory and library. We look forward to seeing you soon! ▲

Henry Kravis '65 with students during FEI's 2005 New York City networking trip to KKR.

New York City Networking Trip

January 10-14, 2005

THE FINANCIAL ECONOMICS Institute sponsored a trip to New York City last January that allowed sixteen CMC students to visit some leading financial institutions. The students met with CMC alumni, who graciously hosted the group and provided significant first-hand knowledge of their firms and the financial services industry.

The group visited six financial firms: Kohlberg, Kravis, Roberts, & Co. (KKR), Banc of America Securities, Merrill Lynch; Bear Stearns; Goldman Sachs; and Onyx Capital Management. In addition, the students visited the factory of Fresh Direct, an online grocery business founded by CMC Trustee Perry Lerner '65.

Henry Kravis hosted the group at KKR, which was a major highlight of the trip. Kravis

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CLAREMONT MCKENNA COLLEGE

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The Financial Economics Institute fosters education and research in financial economics by offering a unique undergraduate curricular program, the Financial Economics Sequence, supporting state-of-the-art databases, and encouraging student-faculty interaction on research.

▲ **William O. Brown Jr.** is an Associate Professor of Economics at Claremont McKenna College where he serves as the Associate Director of the Financial Economics Institute and Chair of the Economics Department.

▲ **Richard Burdekin** is the Jonathan B. Lovelace Professor of Economics at Claremont McKenna College and the former Chair of the department. He specializes in money and banking.

▲ **Marc Weidenmier** is an Assistant Professor of Economics at Claremont McKenna College and an NBER Research Fellow, who specializes in monetary and financial history.

Volatility in an Era of Reduced Uncertainty: Lessons from Pax Britannica

Forthcoming, *Journal of Financial Economics*
William Brown, Richard Burdekin, and Marc Weidenmier
Summarized by Brent Glover '06, FEI Student Research Analyst

THE AUTHORS POINT OUT THAT the current approaches to accounting for volatility in financial markets is relatively limited. Significant research has been done on the reactions of financial markets to the news of political and economic changes. Though this research has established a relationship between news and financial market volatility, the authors contend that, "there is little evidence that news can explain more than a small fraction of the movement in financial markets ex-post". Additionally, the authors note that macroeconomic variables, such as unemployment and inflation, do little to explain the volatility observed in financial markets.

From this point, the paper suggests political and economic stability as a means of explaining levels of volatility over longer periods of time. In other words, though economic and political shocks can explain a limited amount of volatility change over a relatively short time horizon, what can explain long-term trends in financial market volatility?

While the stability of economic and political institutions has long been recognized as a requisite for economic growth, the authors propose it may also explain financial market volatility. To test this hypothesis, that political and economic stability can explain much of the underlying volatility observed in financial markets, the paper examines British consol returns dating back to 1729. The consol is a British financial instrument like a typical coupon bond, but with no date of maturity. In other words, the holder of a consol is entitled to periodic coupon payments by the British government for as long as the government is in place and recognizing its debt obligations. Consequently, the price of a consol is exactly inversely related to interest rates.

The paper identifies a significant decrease in the volatility of consol returns for the period of Pax Britannica, 1816-1913, an era in which Britain was at the height of its imperial dominance. This heightened dominance reduced the uncertainty of the continuance of both the British Empire as well as its financial markets. Through regressions of historical consol returns, the authors have shown that this kind of reduced uncertainty manifests itself, in part, through reduced volatility in financial markets.

> "...macroeconomic variables, such as unemployment and inflation, do little to explain the volatility observed in financial markets."

The authors separate the effects of political stability associated with the period of Pax Britannica (1816-1913) from the effects of the period of Britain's classical gold standard (1880-1913). The paper shows that the gold standard was not the primary reason for the reduction in the volatility of consol returns. Instead, it gives credit to the general political and economic environment, showing that perhaps some of the stabilizing effects of the gold standard have been overestimated.

Ultimately, the paper is significant in that it takes a step towards sorting out many of the possible causes for financial market volatility and the general idea of the paper can be applied to other studies of volatility. For example, the paper notes that volatility during periods like the Great Depression may not come entirely from economic shocks as much as a general uncertainty regarding the future of the United States government and its institutions. Additionally, there is the possibility that analysis of regulation, technology change, and other sources of uncertainty could explain the underlying volatility of various markets. ▲

Company Stock in Pension Plans: How Costly Is It?

Forthcoming, *Journal of Law and Economics*
Lisa Meulbroek
Summarized by Jeff Manassero '06, FEI Student Research Analyst

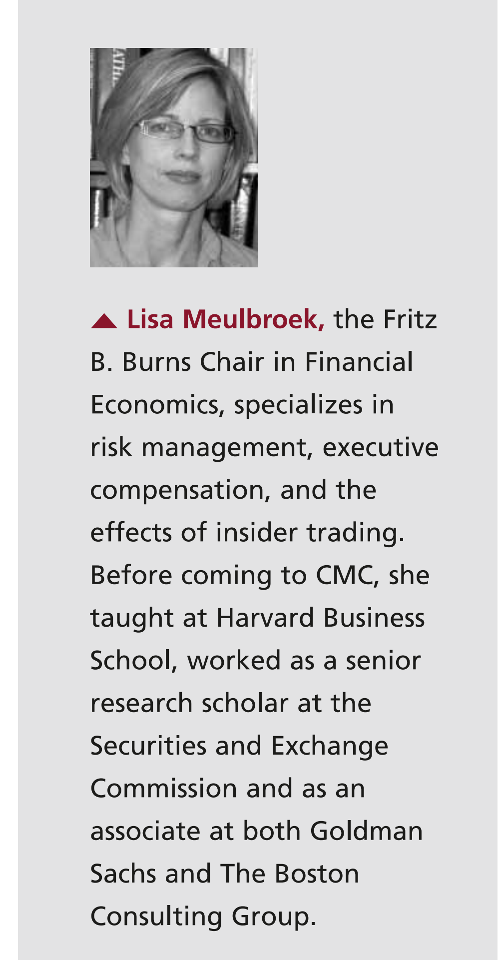
SAVVY INVESTORS UNDERSTAND the merits of diversification. The properly diversified "market portfolio" maximizes investment return for any given level of risk tolerance. However, many individuals and pension plans continue to over-invest in company stock.

The collapse of Enron should have dramatically illustrated the risk to employees of investing in their employer's stock. By continuing to invest heavily in company stock, employees are exposing themselves to firm specific risk that could otherwise be "diversified away." The average NYSE firm has twice the volatility of the well-diversified portfolio, and the average NASDAQ firm has three and a half times the risk of the well-diversified portfolio. Exposure to greater risk without commensurately greater returns means that company stock will be worth less than its market value to employee investors. Despite this risk, many companies even mandate such investment behavior. A recent Hewitt Associates survey found that twenty-eight percent of employers dictated that matching 401(k) contributions be invested exclusively in company stock. How much value do employees sacrifice by investing their retirement savings in company stock? CMC's Professor Lisa Meulbroek concluded the lost value is significant in her study, "Company Stock in Pension Plans: How Costly Is It?" (Journal of Law and Economics, fall 2005).

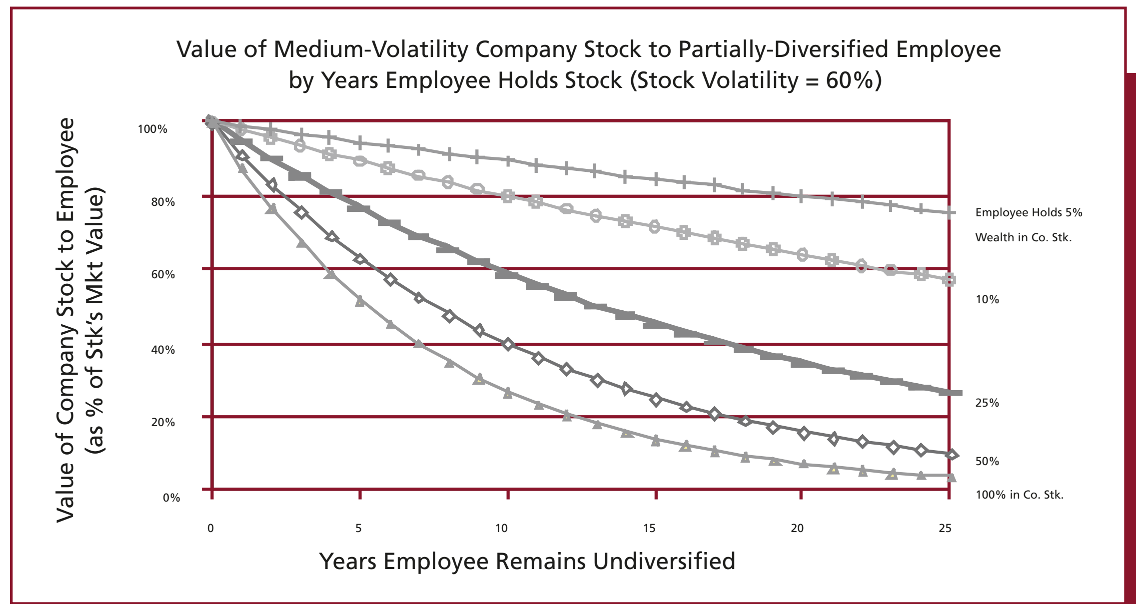
To estimate how much value employees sacrifice by investing their retirement savings in company stock, Meulbroek asks how great a return undiversified employee investors would need to be indifferent to holding only their employer's stock versus holding an efficiently diversified portfolio levered to a volatility equal to that of the firm's stock. Since it is reasonable to assume that even people with high risk tolerance prefer the higher expected return produced by a fully-diversified portfolio to the lower expected return of a single stock portfolio of equal risk, the value lost by failing to diversify can be estimated. The risk to return ratios of the market portfolio and a single stock portfolio would have to be equal for an investor to be indifferent between the two portfolios. From this assumption, the additional required return premium for holding company stock and, subsequently, the implied value lost over an investment period can be calculated.

The results from analyzing a sample of over 3700 firms shows that the value lost due to under-diversification is substantial. For example, if half of an employee's wealth is invested in a firm's pension plan and 25% of the pension plan's assets are invested in company stock, over a ten-year investment horizon, an average 27% of the stock's market value will be sacrificed by failing to diversify. This figure is smaller for employees of the average NYSE firm (16%) and higher for Internet-based firms (48%). An employee with a larger percentage of pension-plan wealth in company stock, say 50% (meaning that 25% of the employee's total wealth is invested in company stock), forgoes on average 42% of the stocks value by failing to diversify. Most employees who invest their retirement savings in company stock begin doing so more than ten years before they plan to make cash withdrawals, therefore losing even more value than the numbers listed above would indicate. The figure below shows how much value is sacrificed over time for partially diversified employees holding medium-volatility company stock.

Meulbroek concludes that market value alone is a poor way for less-than-fully diversified employees to estimate the current value of their retirement savings. If employees underestimate the risk of company stock, they will overestimate the value of their retirement savings. Even if the company offers employees stock at a discount to the market price, the discount must be sufficiently large to offset the lost value of diversification. Employees should be aware of these facts as they make future savings and consumption decisions. ▲



▲ **Lisa Meulbroek,** the Fritz B. Burns Chair in Financial Economics, specializes in risk management, executive compensation, and the effects of insider trading. Before coming to CMC, she taught at Harvard Business School, worked as a senior research scholar at the Securities and Exchange Commission and as an associate at both Goldman Sachs and The Boston Consulting Group.



Upcoming Events

❑ FEI "Boundaries of SEC Regulation" conference

FEBRUARY 3, 2006

The FEI in conjunction with the *Journal of Corporate Finance* will bring together academics, policymakers, and practitioners to discuss the law and economics of financial market regulations, with particular emphasis on the SEC. The conference will feature a keynote address by **Professor Jonathan R. Macey** of Yale Law School, presentations of accepted papers, and a discussion format for participants.

❑ Financial Economics Speaker Series

John Paulos

"A Mathematician Plays the Stock Market"

SEPTEMBER 19, 2005

John Allen Paulos, Professor of Mathematics at Temple University in Philadelphia, has written on a variety of subjects, ranging from the philosophy of science to humor. In his lecture at the Athenaeum, Dr. Paulos' remarks will focus primarily on arguments from his recent book, *A Mathematician Plays the Stock Market*.

Gary Smith

"The Real Estate Bubble"

MARCH 22, 2006

Professor Gary Smith, the Fletcher Jones Professor of Economics at Pomona College and FEI affiliated faculty member, specializes in investments, financial markets, and statistics. His research interests specifically deal with financial markets, especially the stock market, and the application of statistical analysis to finance and sports.

❑ New York City Networking Trip

JANUARY 9-13, 2006

Fifteen CMC students will visit prestigious firms in NYC to gain exposure to various job opportunities in the financial markets and to establish relationships with CMC alumni working at these companies. Applications for the trip will be available from Bauer Center 321 in October.

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explained how his firm developed the process of management buyouts and has managed to stay at the top of the industry. Today, when buyouts are a "commodity business" and anyone can find the money to buy a company, KKR differentiates itself, Kravis said, by "act[ing] and think[ing] like industrialists". When it comes to hiring, Kravis looks for people with a well-rounded, liberal arts education, and demonstrated integrity, passion, curiosity, and creativity. ▲

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