
**FALL JOIM CONFERENCE SERIES
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The program emphasized the **Future of Risk Management** and focused on the issues raised by the recent turmoil, the prospective directions and changes that are anticipated. We learned from practitioners, academics and regulators as they sort through the challenges going forward. The following are selected abstracts from the presentations.

**Jerome Detemple, Boston University
School of Management**

Speaker

Life-Cycle Finance and the Design of Pension Plans

This article reviews recent scientific literature on consumer financial decisions over the life cycle outlining its implications for the design of pension plans. It begins with a review of advances in the theory of rational financial planning and wealth management. It then summarizes the recent empirical literature on the actual behavior of households regarding saving, investing, and insuring their

consumption in old age. Finally, it briefly comments on the practical implications of the theory for the design of pension systems and outlines areas of future research.

Martin L. Leibowitz, Morgan Stanley

Speaker

Stress Betas Early Conjectures and Sorry Experience

On both a theoretical and historical basis, the typical diversified fund exhibits volatility characteristics that are strikingly similar to a traditional 60/40 allocation. An even more surprising finding was that, in severe market declines, the diversified should theoretically tend to underperform the 60/40. This latter “stress beta” effect derives from diversification—with its multiple asset classes—being more vulnerable to correlation tightening than the two-asset 60/40. 2008 provided an (unwelcome) opportunity to test these stress effects. The diversified portfolio’s 2008 correlation-based beta proved to be indeed much higher than in normal

times. Moreover, 2008 has proved to be the first period where diversified portfolios performed materially worse than the 60/40's. Thus, the typical model of institutional diversification should be viewed not as reducing risk in the short-term, but rather as a source of longer-term benefits in the form of greater return accumulation and wider divergence of outcomes.

Andrew W. Lo, MIT Sloan School of Management

Speaker

Systemic Risk and the Refinancing Ratchet Effect

The confluence of three trends in the U.S. residential housing market rising home prices, declining interest rates, and near-frictionless refinancing opportunities led to vastly increased systemic risk in the financial system. Individually, each of these trends is benign, but when they occur simultaneously, as they did over the past decade, they impose an unintentional synchronization of homeowner leverage. This synchronization, coupled with the indivisibility of residential real estate that prevents homeowners from deleveraging when property values decline and homeowner equity deteriorates, conspire to create a "ratchet" effect in which homeowner leverage is maintained or increased during good times without the ability to decrease leverage during bad times. If refinancing-facilitated homeowner-equity extraction is sufficiently widespread as it was during the years leading up to the peak of the U.S. residential real estate market the inadvertent coordination of leverage during a market rise implies higher correlation of defaults during a market drop. To measure the systemic impact of this ratchet effect, we simulate the U.S. housing market with and without equity extractions, and estimate the losses absorbed by mortgage lenders by valuing the embedded put-option in non-recourse mortgages. Our simulations generate loss estimates of \$1.5 trillion from June 2006 to December 2008 under historical market

conditions, compared to simulated losses of \$280 billion in the absence of equity extractions.

Ananth Madhavan, Barclays Global Investors

Speaker

The Dynamics of Leveraged and Inverse Exchange-Traded Funds

Leveraged and inverse Exchange-Traded Funds (ETFs) have attracted significant assets lately. Unlike traditional ETFs, these funds have "leverage" explicitly embedded as part of their product design. While these funds are primarily used by short-term traders and hedge funds, they are gaining popularity with individual investors placing leveraged bets or hedging their portfolios. The structure of these funds, however, creates both intended and unintended characteristics not seen in traditional ETFs. This paper provides a unified framework to better understand the underlying dynamics of leveraged and inverse ETFs, their impact on market volatility and liquidity, unusual features of their product design, and questions of investor suitability.

Hong Yan, Moore School of Business at the University of South Carolina

Speaker

Financial Distress and the Cross Section of Equity Returns

In this paper, we provide a new perspective for understanding cross-sectional properties of equity returns. We explicitly introduce financial leverage in a simple equity valuation model and consider potential shareholder recovery upon the resolution of financial distress. Our model demonstrates the amplifying effect of leverage on the book-to-market effect and generates two novel predictions about the cross section of equity returns: (i) the value premium is hump-shaped with respect to default probability, and (ii) momentum profits are concentrated among high credit-risk firms with significant expected shareholder recovery upon financial distress. These results are robust in a more general

model with endogenous dynamic investment and financing decisions and are supported by our empirical analysis. Using data simulated from a calibrated version of the general model in which a conditional CAPM holds, we illustrate how our framework can accommodate the appearance of significant alphas in the cross section of stock returns.

Hao Zhou, Federal Reserve Board

Speaker

A Framework for Assessing the Systemic Risk of Major Financial Institutions

In this paper we propose a framework for measuring and stress testing the systemic risk for a group of major financial institutions. The systemic risk is

measured by the price of insurance against financial distresses, which is based on *ex ante* measures of default probabilities of individual banks and forecasted asset return correlations. Importantly, using realized correlations estimated from high-frequency equity return data can significantly improve the accuracy of forecasted correlations. In addition, our stress testing methodology, as an integrated micro-macro model, takes into account dynamic linkages between the health of major US banks and the macro-financial condition. Our results suggest that the insurance premium to protect against losses that equal or exceed 15% of total liabilities of 12 major US financial firms stands at 110 billion in March 2008 and has a projected upper bound of 250 billion in July 2008.