

## Lulu Zeng

### CONTACT INFORMATION

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### RESEARCH INTERESTS

Asset Pricing; Portfolio Choice; DSGE; Real Estate Finance.

### EDUCATION

**Carnegie Mellon University**, Pittsburgh, Pennsylvania, USA

Ph.D. Candidate, Finance (expected graduation date: May 2008)

M.S.I.A., Finance, 2003

**Ohio State University**, Columbus, Ohio, USA

M.A., Economics, 2001

**Tsinghua University**, Beijing, China

M.A., Economics, 1999

B.S., MIS, 1997

### RESEARCH PAPERS

#### *Optimal Consumption and Portfolio Choice for Retirees*

I solve the optimal consumption and portfolio choice problem of a retiree with recursive preferences and bequest motive. The retiree is endowed with both liquid assets and pre-annuitized wealth in Social Security and/or defined benefit pension plans. He chooses from an investment menu including an equity index, a risk-free asset, a private variable life annuity, and term life insurance with borrowing and short-sales constraints. Due to adverse selection, annuitization is irreversible, and the retiree's fraction of pre-annuitized wealth is an important endowment characteristic that determines his optimal consumption profile, equity-bond mix, and annuitization schedule. In the model the retiree can annuitize his liquid wealth anytime during his retirement life, and the option to defer annuitization can be valuable. Unlike fixed annuity, variable annuity allows the retiree to hedge longevity risk and earn an equity premium at the same time, and the gain is substantial for a retiree with relatively low risk aversion. Given the existing Social Security benefits, the irreversibility of future life annuity purchase incurs little utility loss. However, the utility loss due to the irreversibility of existing Social Security benefits can be big. I show that a transition from the current pay-as-you-go Social Security system to a personal investment-based system benefits retirees with high fraction of pre-annuitized wealth the most because the flexibility of choosing the optimal equity-bond mix for one's annuity portfolio reduces the cost of over-annuitization. Purchasing life insurance can also reduce the adverse effect of over-annuitization. However, it is effective only for impatient retirees with low Elasticity of Intergenerational Substitution.

#### *Long-Run Consumption Risk and the Cross-Section of Expected Stock Returns*

I show that the pure-exchange economy with Epstein-Zin recursive utility as in Bansal and Yaron (2004) implies that the cross-section of expected returns depends on three factors: consumption growth, change in expected consumption growth, and change in conditional volatility of consumption growth. I test the model using both quarterly and annual data. At *annual* frequency the model explains up to 80% of the variation in average returns across the 25 Fama-French size and book-to-market sorted portfolios. The performance is comparable to that of the Fama-French 3-factor model. Unlike the Fama-French 3-factor model, the model performs equally well across the two annual subsamples, and the parameter estimates are more stable. Among the three factors, the change in expected consumption growth, which captures the risk of long-run growth prospect, is the most important for explaining the difference in the measured risk premia across assets.



**Graduate  
Coursework**

Doctoral Coursework at OSU:

*Course*

Econometrics I  
Econometrics II (Time Series)  
Econometrics III (Micro Econometrics)  
Econometrics IV (Nonparametric Estimation)  
Microeconomics  
Mathematical Economics  
Macroeconomics  
Statistics

*Instructor*

Masao Ogaki  
Nelson Mark  
Lungfei Lee  
Stephen R. Cosslett  
Hajime Miyazaki, James Peck  
Jingang Zhao  
Pok-sang Lam, Paul Evans  
J. Huston McCulloch

Doctoral Coursework at CMU:

Finance I (Asset Pricing Theory)  
Finance II (Game Theory in Finance)  
Finance III (Behavioral Finance)  
Finance IV (Empirical Asset Pricing)  
Game Theory  
Contract Theory  
Competitive General Equilibrium  
Dynamic Competitive Analysis  
Real Analysis  
Intermediate Lebesgue Integral  
Estimation of Continuous Time Models  
Advanced Probability (Stochastic Calculus)

Chris Telmer  
Christine Parlour  
Bryan R. Routledge  
Burton Hollifield  
Uday Rajan  
Gian Luca Clementi  
Steve Spear  
Daniele Coen-Pirani  
Juan Jorge Schäffer  
Juan Jorge Schäffer  
Fallaw Sowell  
Lan Zhang

Computational Finance Classes I sat in at CMU:

Term Structure Models  
Stochastic Calculus for Finance  
Credit Derivatives  
Statistical Arbitrage  
Simulation for Option Pricing  
Dynamic Asset Management

Pierre Collin-Dufresne  
Steve Shreve  
Antje Berndt  
John Lehoczky  
John Lehoczky  
Reha Tütüncü