

Seokwoo Lee

CONTACT INFORMATION George Mason University
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ACADEMIC EMPLOYMENT GEORGE MASON UNIVERSITY, SCHOOL OF BUSINESS, FAIRFAX, VA
Assistant Professor of Finance, August 2013 - present

UNIVERSITY OF PENNSYLVANIA, THE WHARTON SCHOOL
Visiting Scholar, September 2017 - December 2017

EDUCATION UNIVERSITY OF MICHIGAN, ANN ARBOR
ROSS SCHOOL OF BUSINESS
Ph.D., Finance (August, 2013)
DISSERTATION TITLE: Knightian Uncertainty and Capital Structure
(Advisor: Professor Uday Rajan, Ross School of Business)

UNIVERSITY OF CHICAGO
M.S., Statistics (May, 2008)
THESIS TITLE: Bayesian Stochastic Volatility Model with non-Gaussian Errors
(Advisor: Professor Hedibert Lopes, Booth School of Business)

UNIVERSITY OF MICHIGAN, ANN ARBOR
COLLEGE OF ENGINEERING
M.S., Computer Science and Engineering (August, 2005)
B.S., *Summa Cum Laude*, Computer Science (April, 2003)

RESEARCH INTERESTS Financial Contracting, Financial Intermediation and Banking,
Capital Structure and Real Option

HONORS AND AWARDS 2017 Research Grant Award (George Mason University)
"Stability in Financial Institutions"

2016 Research Grant Award (George Mason University)
"Robustness in Financial Contracting and Banking"

2015 FMA-Asia Conference **Best Paper Award**

Mitsui Award for Best overall Performance in 2nd year (University of Michigan, 2010)
Graduate Student Research Assistant Fellowship (University of Michigan, 2008-2012)
Ross School Fellowship (University of Michigan, 2008-2013)

Graduate Student Research Assistant Fellowship
(University of Chicago, Booth School of Business, 2007-2008)
Department Financial Award (University of Chicago, Statistics, 2006-2008)

Graduate Research Assistant Fellowship
(University of Michigan, Computer Science, 2003-2005)

University Honors (University of Michigan, 2002)

**WORKING
PAPERS**

**Knightian Uncertainty and Capital Structure: Theory and Evidence.
(under review)**

I derive the optimal capital structure of a firm when its manager is ambiguity-averse. My model predicts substantially lower leverage for such firms, in comparison to traditional static trade-off models. I use the 1982 Voluntary Restraint Agreement (VRA) on steel import quotas between the U.S. government and the European Community as an exogenous reduction in Knightian uncertainty faced by firms in the U.S. steel industry. Using a difference-in-difference methodology, I find that when uncertainty is resolved, a median firm in the U.S. steel industry increases its market and book leverage by approximately 12% relative to a matched control firm from another industry. The results are not explained away by changes in traditional risk factors or by a change in expected future profitability.

Robust Security Design (with Uday Rajan).

We consider the optimal contract between an entrepreneur and investors in a single-period model when both parties have limited liability, are risk-neutral toward cash flow risk, and are ambiguity-averse. Ambiguity aversion is modeled by multiplier preferences for robustness toward model uncertainty, as in Hansen and Sargent (2001). Efficient ambiguity-sharing implies that the first-best contract consists of either convertible debt or levered equity. As is customary, in the second-best contract, moral hazard is alleviated by giving more cash to investors in low cash flow states. Under many settings in our model, the optimal security has an equity-like component in high cash flow states, providing a contrast to the results in Innes (1990).

Knightian Uncertainty and Dynamic Capital Structure.

I incorporate ambiguity-averse equity-holders who are uncertain about the distribution of a firm's assets into the dynamic capital structure model of Leland (1994). My model shows the optimal default threshold increases with Knightian uncertainty, whereas it decreases with risk. When the effect of uncertainty dominates that of risk, a firm optimally defaults earlier than predicted by a traditional dynamic model with risk alone. My ambiguity-augmented model predicts substantially lower leverage ratios, in comparison to the benchmark model of Leland (1994).

**WORK IN
PROGRESS**

A Model of Bank Run with Fragile Belief.

We study Diamond and Dybvig (1983) bank-run model when agents face model uncertainty. The key result is that the feedback effect due to agents' model uncertainty accelerates runs on banks, which aggravates the financial instability.

Fire Sales Externality in Shadow Banking System.

We study fire sale externality in the interbanking network. We argue that the optimal regulation of an interconnected banking system depends on the structure of its network. Our paper adds to the systemic risk and macroprudential policy literature.

**INVITED
CONFERENCES
& SEMINARS**

2017 UNC Jackson Hall Finance Conference* (Jackson, WY)
Midwestern Finance Association Annual Conference (Chicago, IL)
Federal Deposit Insurance Corporation (Washington D.C.)
Board of Governors of the Federal Reserve System (Washington D.C.)
European Finance Association (Mannheim, Germany)
Northern Finance Association (Halifax, Canada)

2016 Corporate Finance Conference (University of Minnesota)
The International Monetary Fund (Washington D.C)
Finance Theory Group (Imperial College, London)
Arison School of Business, IDC Herzliya (Israel)
Red Rock Finance Conference 2016* (Zion National Park, Utah)
The 13th Annual Meeting of the Financial Research Association* (Las Vegas, NV)

2015 European Winter Finance Conference* (LBS, St. Anton in Austria)
The 12th Annual Napa Conference on Financial Markets Research*
2015 FMA-Asia Conference (Seoul National University, Seoul)
2015 China International Conference in Finance (Shenzen, China)
Red Rock Finance Conference 2015 (Zion National Park, Utah).

2014 Research in Behavioural Finance Conference 2014 (Erasmus University)
27th Australasian Finance and Banking Conference (UNSW, Sydney)
The 11th Annual Meeting of the Financial Research Association (Las Vegas)*.

2013 Leeds School of Business, University of Colorado - Boulder
School of Business, George Mason University
SKK GSB
Korea University Business School

* invitation only

DISCUSSIONS **2017** Quantifying the Impact of Moral Hazard: Evidence from a Structural Estimation by Hengjie Ai, Dana Kiku, and Rui Li (Midwestern Finance Conference 2017)

2015 Asset Pricing with Horizon-Dependent Risk Aversion, by Marianne Andries, Thomas M. Eisenbach, and Martin C. Schmalz (EWFC 2015)

2014 Consumption and Portfolio Choice Under Loss Aversion and Endogenous Updating of the Reference Level, by Servaas van Bilsen, Roger Laeven, and Theo Nijman (AFBC 2014)

UNIVERSITY SERVICE Co-organizer of GMU finance research seminars, 2015 – present

A member of the Junior faculty hiring committee, 2016.

PROFESSIONAL SERVICE **Referee for** Management Science, Journal of Financial and Quantitative Analysis, Journal of Banking and Finance, Journal of Financial Intermediaries, Journal of Business and Economic Statistics, The Scandinavian Journal of Economics, Asia-Pacific Journal of Financial Studies.

Member of American Finance Association, Member of European Finance Association, Society for Financial Studies, Asian Finance Association.

TEACHING SCHOOL OF BUSINESS, GEORGE MASON UNIVERSITY
Advanced Financial Management, FNAN 401 (Spring 2014 - present), Rating: 4.5/5.0.
Managerial Economics and Decisions of the Firm, MBA 603 (Fall 2013).

ROSS SCHOOL OF BUSINESS, UNIVERSITY OF MICHIGAN
Financial Management, FIN 300 (Winter 2011)

GRADUATE SCHOOL OF BUSINESS, UNIVERSITY OF CHICAGO
Bayesian Econometrics, GSB 41913 (Fall 2007)
(Teaching Assistant for Prof. Hedibert Lopes)

REFERENCES

Professor Uday Rajan (Chair)
Department of Finance
Ross School of Business
University of Michigan
Ann Arbor, MI 48109-1234
Phone: (734) 764-2310
Email: urajan@umich.edu

Professor Amiyatosh Purnanandam
Department of Finance
Ross School of Business
University of Michigan
Ann Arbor, MI 48109-1234
Phone: (734) 764-6886
Email: amiyatos@umich.edu

Assistant Professor Ing-Haw Cheng
Tuck School of Business
Dartmouth College
100 Tuck Hall
Hanover, NH 03755
Email: ing-haw.cheng@tuck.dartmouth.edu

U.S. PATENT

Recovery from errors in a data processing apparatus, U.S. Patent Number: 20050207521.

**NON-FINANCE
PUBLICATION
(Computer
Science and
Engineering)**

A Self-Tuning DVS Processor Using Delay-Error Detection and Correction (with S. Das; D. Roberts; D. Blaauw; T. Austin; T. Mudge; and K. Flautner). *Journal of Solid State and Circuits (JSSC)*. 2005.

A Self-Tuning DVS Processor Using Delay-Error Detection and Correction (with S. Das; D. Roberts; D. Blaauw; T. Austin; T. Mudge; and K. Flautner). *Symposium on VLSI Circuits*. 2005.

Razor: Circuit Level Correction of Timing Errors and for Low-Power Operation (with D. Ernst; S. Das; D. Blaauw; T. Austin; T. Mudge; N. Kim; and K. Flautner). *Micros Top Picks, IEEE MICRO Journal*. November/December, Volume 24, Number 6, 2004.

Reducing Pipeline Energy Demands with Local DVS and Dynamic Retiming (with S. Das; T. Pham; T. Austin; D. Blaauw; and T. Mudge). *International Symposium on Low Power Electronics and Design (ISLPED-2004)*. August 2004.

Circuit-Aware Computer Architecture Simulator (with S. Das; V. Bertacco; T. Austin; D. Blaauw; and T. Mudge). *41st Design Automation Conference (DAC-2004)*. June 2004.