# Student loans and retirement savings

Birzhan Batkeyev, Mine Ertugrul, Priya Garg, Karthik Krishnan

## Introduction

The aim of this study is to examine how student loans affect retirement saving choices. There has been a significant increase in student debt over the past two decades. Student loans now stand at $1.4 Trillion in outstanding value. Anecdotal evidence suggests that students must choose between repaying their loans or saving for the long run. This, in turn, indicates that student loans can have a negative impact on retirement savings. Unlike other types of personal loans, student loans are taken at a very young age by students or by parents of students and are non-dischargeable through personal bankruptcy procedures. Defaults on these loans can have severe negative financial impacts such as garnishment of wages, taxes, and social security payments.

Meanwhile, over the past 25-30 years, there has also been a change in the landscape in personal retirement accounts, in large part, due to transition by employers from defined benefits plans to defined contribution plans. Individuals are now given greater discretion over their decision to participate in retirement savings, amount of savings, and the risk levels of their holdings. Existing literature suggests that individuals are currently saving, on average, 15 percent lower for retirement than they need to, to maintain the standard of living while they were employed. Anecdotal evidence suggests that student loans an impact the ability of households to save for retirement. However, there is little systematic evidence that links student debt with retirement savings.

In the proposed study, will use data from Survey of Consumer Finances from 1989 to 2013 to relate household student loans to the extent of their retirement savings. To establish a causal relation between student loans and retirement savings, we will use two natural experiments to provide sources of exogenous variation: the 1992 Higher Education Amendment and the 1998 Higher Education Amendment.

## Research Questions

1. Do student loans impact the decision to save for retirement? Do student loans impact retirement savings in discretionary retirement plans, including 401(k) (for eligible individuals), IRAs, and similar accounts:
2. Is the relationship between student debt and retirement savings causal?
3. Is the relationship different for across households with differing income levels?
4. How does the propensity to become delinquent on student loans impact retirement savings?

## Data

The data we will use in our analysis is from the Survey of Consumer Finances (SCF) which is a triennial cross-sectional survey conducted between 1992 and 2013 of U.S families. The survey provides household balance sheet, income and demographic information. In relation to our analyses, it contains data regarding student debt and the various retirement savings accounts members of a household maintain.

## Methodology

We will first establish whether student debt as a fraction of financial assets of a household is related to retirement savings as a fraction of financial assets in an OLS framework. There are two estimation issues with regards to using SCF: missing data and lack of data on stratification

and clustering (to protect respondent privacy). To control for missing data, SCF provides five replicates of each observation. We then apply a multiple imputation procedure that produces five values for each missing value, to generate an approximate distribution of the missing value. With regards to stratification and clustering, SCF provides a bootstrapping file which contains replicate weights for the first implicate of each case. We control for both by running five separate regressions for each replicate and use an average of the five set of coefficients to report estimates. With regards to calculating sampling variance, we follow Pence (2001) and run 500 bootstrapped draws.

To establish casual relationships between retirement savings and student debt, we will utilize two natural experiments. An amendment to HEA in 1992 resulted in change in terms of borrowing for student loans through introduction of unsubsidized federal Stafford loans as well as increased the ease at which individuals could borrow subsidized federal Stafford loans. Before the Act, only those that demonstrated explicit financial need qualified for the federally subsidized loans. After 1992, more students became eligible for subsidized loans as home equity was removed from the financial need formula that calculated eligibility. Further, after 1992, students could also borrow without showing financial need through the unsubsidized federal Stafford loans program. We will consider those students that were were enrolled in college prior to this regulation and test how the cohorts that graduate later (in the new regime) differ from prior cohorts. In particular, such students, whose decision to enroll in college is not affected by the HEA, should experience an increase in student loans (evidence for this is shown in Krishnan and Wang (2016) and in (Batkeyev, Krishnan, and Nandy (20116)) as well as a reduction in retirement savings, consistent with greater extent of student loans leading to lower retirement savings.

The second natural experiment that we will use was the HEA in 1998 which made student debt fully non-dischargeable under personal bankruptcy. Before this, student loans were dischargeable through personal bankruptcy after 7 years but the new regulation allowed discharge only if the individual can show evidence of "undue hardship", which is very hard to establish. This setting is ideal as it exogenously increases the cost of discharging student debt at any given level of the debt. Such a law change made it more important for individuals to prioritize repaying their student loans. We expect that, after this regulation, individuals with more student debt (taken before the deregulation) will save less for retirement.

To show cross-sectional variable in our results, we will interact our student debt variable with household income and assets quintiles.

Finally, we will analyze how the likelihood of falling behind on student payment (obtained using a predictive model for actual default on student loans available through SCF) is related to the extent of retirement savings.

## Contribution

Our study will be the first to provide causal evidence on how student loans can have a long term financial impact on households by affecting their retirement savings. It will have policy implications regarding an important topic that is widely debated among policymakers and practitioners. This study answers a big question, given the level of student debt outstanding. In particular, it will help us understand what the long-term wealth implications are of such debts.

**NBER Household Finance Working Group Budget**
Proposal Title: Student Debt and Retirement Savings

| **Description** | **Amount** |
|---|---|
| Research assistants | $5000 |
| Travel (Conference) | $5000 |
| | |
| **Total** | **$10000** |

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## AREAS OF INTEREST

*Research*
Corporate Finance, Entrepreneurial Finance, Venture Capital, IPO, Corporate Governance, International Finance, Financial Intermediation, Investment Banking, and Mergers.

*Teaching*
Entrepreneurial Finance, Corporate Finance, and Financial Management.

## EDUCATION

PhD in Finance, Boston College, 2008.

B. Eng. (Electrical Engineering), Delhi College of Engineering, Delhi University, India, 2000.

## APPOINTMENTS AND AFFILIATIONS

Associate Professor of Finance, Department of Finance and Insurance, D'Amore-McKim School of Business, Northeastern University, 2015-present.

Member, Launchpad Venture Group, 2015-present.

Thomas Moore Faculty Fellow, D'Amore-McKim School of Business, Northeastern University, 2012-2017.

Special Sworn Status Researcher at the *Center for Economic Studies*, Boston Research Data Center (BRDC) of the U.S. Census Bureau and NBER, Cambridge, 2006- present.

Assistant Professor of Finance, Department of Finance and Insurance, D'Amore-McKim School of Business, Northeastern University, 2008-2015.

Instructor and Graduate Assistant, Department of Finance, Carroll School of Management, Boston College, 2003-2008.

Instructor and Graduate Assistant, Department of Finance, School of Business, University of Connecticut, 2001-2003.

Management Trainee- Power Project Development, Larsen and Toubro Limited, Mumbai, India, 2001.

Software Engineer, Mahindra British Telecom, Pune, India, 2000.

## PUBLICATIONS AND ACCEPTANCES

"Is it the Investment Bank or the Investment Banker: A Study of the Role of Investment Banker Human Capital in Acquisitions," with Thomas J. Chemmanur and Mine Ertugrul. Conditionally Accepted at the *Journal of Financial and Quantitative Analysis.*

"Do Local and International Venture Capitalists Play Well Together? The Complementarity of Local and International Venture Capitalists," with Thomas J. Chemmanur and Tyler Hull, *Journal of Business Venturing,* 2016, 31 (5), 573-594.

"Does Financing Spur Small Business Productivity? Evidence from a Natural Experiment", with Debarshi Nandy and Manju Puri. *Review of Financial Studies,* 2015, 28 (6), 1768-1809.

"The Effects of Corporate Spin-offs on Productivity," with Thomas J. Chemmanur and Debarshi Nandy. *Journal of Corporate Finance,* August 2014, 27, 72-98.

"Investment Banks in Dual Roles: Acquirer M&A Advisors as Underwriters." with Mine Ertugrul. *Journal of Financial Research,* Summer 2014, 37 (2), 159-189.

"Commercial Banks Getting Underwriting Business: Tying or Relationship Building?" *Journal of Economics and Business*, 2013, 66, 47-75.

"Heterogeneous Beliefs, IPO Valuation, and the Economic Role of the Underwriter in IPOs." with Thomas J. Chemmanur. *Financial Management*, November 2012, 41 (4), 769-811 *(Lead Article)*

"How Does Venture Capital Financing Improve Efficiency in Private Firms? A Look Beneath the Surface." with Thomas J. Chemmanur and Debarshi Nandy. *Review of Financial Studies*, December 2011, 24 (12), 4037-4090.

"Can CEO Dismissals Be Proactive?" with Mine Ertugrul. *Journal of Corporate Finance*, February 2011, 17 (1), 134-151.

"How Do Venture Capitalists Create Value for Entrepreneurial Firms? A Review of the Literature." with Thomas J. Chemmanur and Debarshi Nandy, 2010, (Book chapter in *Venture Capital: Investment Strategies, Structures, and Policies,* Douglas J. Cumming, ed., Wiley)

## WORKING PAPERS

"The Cost of Financing Education: Can Student Debt Hinder Entrepreneurship?" with Pinshuo Wang.
(Second round revise and resubmit from *Management Science)*

"Risky Lending: Does Bank Corporate Governance Matter?" with Olubunmi Faleye.

"Top Management Quality, Corporate Innovation, and Innovator Flows", with Thomas J. Chemmanur, Lei Kong, and Qianqian Yu.

"Labor Laws, Inventor Mobility, and Entrepreneurship," with Debarshi Nandy, Jean Claude Makolo, and Vikram Nanda.

"Venture Capital Backing, Investor Attention, and Initial Public Offerings," with Thomas J. Chemmanur and Qianqian Yu.

"Human Capital, Management Quality, and Firm Performance," with Thomas J. Chemmanur and Lei Kong.

"Expertise or Proximity in International Private Equity? Evidence from a Natural Experiment." with Thomas J. Chemmanur and Tyler Hull.

"Student Debt and Personal Portfolio Risk," with Birzhan Batkeyev and Debarshi Nandy.

"The Geography of Innovation and Innovator Flows: Do Unions Matter?" with Debarshi Nandy, Jean Claude Makolo, and Vikram Nanda.

"What do Crowds Really Want? Crowdfunding and Early Product Access." with Lucas Lohmer and Pinshuo Wang.

## CONFERENCE AND SEMINAR PARTICIPATION

*Presentation:*
"The Cost of Financing Education: Can Student Debt Hinder Entrepreneurship?" with Pinshuo Wang.
Western Finance Association Annual Meetings (2016), Salt Lake City
Northeastern University Seminar Series (2016), Boston

"Labor Laws, Inventor Mobility, and Entrepreneurship," with Debarshi Nandy, Jean Claude Makolo, and Vikram Nanda.
NBER Productivity Lunch Seminar (2016), Cambridge
Cleveland Federal Reserve Bank Conference (2016), Cleveland
Northeastern University Seminar Series (2016), Boston

"Top Management Quality, Corporate Innovation, and Innovator Flows", with Thomas J. Chemmanur, Lei Kong, and Qianqian Yu.
American Finance Association (AFA) annual meetings (2016), San Diego.

PBC-RFS conference on Entrepreneurial Finance and Innovations around the World (2015), China.
Financial Management Association Annual Meeting (2015), Orlando.

"Risky Lending: Does Bank Corporate Governance Matter?" with Olubunmi Faleye.
American Finance Association (AFA) annual meetings (2015), Boston
Australasian Finance and Banking Conference (2010), Sydney, Australia

"Expertise or Proximity in International Private Equity? Evidence from a Natural Experiment." with Thomas J. Chemmanur and Tyler Hull.
European Finance Association (EFA) Annual Meetings (2014), Lugano

"Human Capital, Management Quality, and Firm Performance", with Thomas J. Chemmanur and Lei Kong.
NBER Productivity Lunch Seminar (2014), Cambridge
Western Finance Association annual meetings (2014), Monterey Bay

"Does Financing Spur Small Business Productivity? Evidence from a Natural Experiment", with Debarshi Nandy and Manju Puri.
Western Finance Association annual meetings (2014), Monterey Bay
Financial Intermediation Research Society annual meetings (2013), Dubrovnik, Croatia
NBER conference on Productivity, Innovation, and Entrepreneurship (2013), Cambridge
Boston Area Finance Symposium, Waltham
SFS Cavalcade (2013), Miami

"Do Local and International Venture Capitalists Play Well Together? International Venture Capital Investments and the Development of Venture Capital Markets."
NBER conference on Changing Financing Market for Innovation & Entrepreneurship (2013), Half Moon Bay
Invited Speaker - Bentley University (2013), Waltham.
NBER preconference on Changing Financing Market for Innovation & Entrepreneurship (2012), Cambridge
American Finance Association Annual Meetings (2012), Chicago
Entrepreneurial Finance and Innovation Conference (2011), Cambridge
Financial Management Association Annual Meetings (2011), Denver
Invited Speaker - Rensselaer Polytechnic University (2011), Troy
Center for Emerging Markets Seminar (2010), Northeastern University

"How Does Venture Capital Financing Improve Efficiency in Private Firms? A Look Beneath the Surface." (with Thomas J. Chemmanur and Debarshi Nandy)
Financial Intermediation Research Society Annual Meetings (2010), Florence, Italy.
Western Finance Association Annual Meetings (2009), San Diego.
Searle Center for Law at Northwestern University, Symposium on the Economics and Law of the Entrepreneur (2009), Chicago.
Triangle Census Research Data Center Conference at Duke University, Durham (2008)
Financial Management Association Annual Meetings (2008), Dallas
Northern Finance Association Annual Meetings (2008), Calgary

NBER Entrepreneurship Working Group Seminar (2008), Cambridge

"Is it the Investment Bank or the Investment Banker: A Study of the Role of Investment Banker Human Capital in Acquisitions." with Mine Ertugrul and Thomas Chemmanur.
Financial Intermediation Research Society annual meetings (2013), Dubrovnik, Croatia
American Finance Association Annual Meetings (2012), Chicago
Northern Finance Association Annual Meetings (2009), Ontario
Financial Management Association Annual Meetings (2009), Reno
Eastern Finance Association Annual Meetings (2009), Washington D.C.

"CEO Dismissal Timing and Costs of Delayed Action: Do Some Boards Act Too Late?" (with Mine Ertugrul) (New Title: "Can CEO Dismissals Be Proactive?")
Private Equity Symposium, London Business School, London (U.K.) (2008)
Boston College Seminar (2007), Chestnut Hill
Western Finance Association Annual Meetings (2007), Big Sky
European Finance Association Annual Meetings (2007), Ljubljana
Northern Finance Association Annual Meetings (2007), Toronto
Financial Management Association Annual Meetings (2007), Orlando
Eastern Finance Association Annual Meetings (2007), New Orleans

"Heterogeneous Beliefs, Short Sale Constraints, and the Economic Role of the Underwriter in IPOs." (with Thomas J. Chemmanur)
European Finance Association Annual Meetings (2008), Athens, Greece
Financial Intermediation Research Society (FIRS) Conference (2008), Anchorage
Financial Management Association Annual Meetings (2007), Orlando
Eastern Finance Association Annual Meetings (2007), New Orleans

"Universal Banking, Private Information, and Incentive Problems: What Do Ex-Post Lending Patterns Tell Us?"
Northern Finance Association Annual Meetings (2007), Toronto
European Finance Association Annual Meetings (2006), Zurich
Eastern Finance Association Annual Meetings (2007), New Orleans
Boston College Seminar (2007), Chestnut Hill
Boston College Seminar (2006), Chestnut Hill
Invited Speaker - University of Connecticut (2006), Storrs
FDIC Doctoral Workshop (2006), Washington D.C.
Financial Management Association Annual Meetings, Doctoral Consortium & Special Session (2006), Salt Lake City

"Investment Banks in Dual Roles: Acquirer M&A Advisors as Underwriters." with Mine Ertugrul
Financial Management Association Annual Meetings (2010), New York
Eastern Finance Association Annual Meetings (2010), Miami

*Discussion:*
Western Finance Association (2015), Seattle.
Financial Intermediation Research Society (2015), Reykjavik.

Entrepreneurial Finance and Innovation Conference (2013), Waltham.
Financial Intermediation Research Society (2013), Dubrovnik, Croatia
Entrepreneurial Finance and Innovation Conference (2011), Cambridge.
Financial Management Association Annual Meetings (2010), New York
Entrepreneurial Finance and Innovation Conference (2010), Cambridge.
Financial Intermediation Research Society Annual Meetings (2010), Florence, Italy.
Financial Economics and Accounting Conference (2009), Piscataway, NJ
Eastern Finance Association Annual Meetings (2009), Washington D.C.
European Finance Association Annual Meetings (2007), Ljubljana
Northern Finance Association Annual Meetings (2007), Toronto
Eastern Finance Association Annual Meetings (2007), New Orleans
Financial Management Association Annual Meetings (2006), Salt Lake City
Eastern Finance Association Annual Meetings (2003), Orlando
Financial Management Association Annual Meetings (2003), Denver

*Session Chair:*
Eastern Finance Association Annual Meetings, New Orleans (2007)

*Program Committee:*
Entrepreneurial Finance and Innovation Around the World Conference, Beijing, China (2016)
Financial Intermediation and Research Society, Lisbon, Portugal (2016)
Entrepreneurial Finance and Innovation Conference, Cambridge (2015)
Entrepreneurial Finance and Innovation Conference, Cambridge (2014)
Entrepreneurial Finance and Innovation Conference, Cambridge (2013)
Entrepreneurial Finance and Innovation Conference, Cambridge (2012)
Financial Management Association Annual Meetings, New York (2010)
Financial Management Association Annual Meetings, Orlando (2007)

**PROFESSIONAL SERVICE**
*Editorship*
Associate Editor – Journal of Business Research (2016 – Present)

*Refereeing*
Journal of Economic Geography (2016)
Review of Financial Studies (2015)
Management Science (2015)
Journal of Comparative Economics (2015)
Review of Finance (2013)
Journal of Banking and Finance (2013, 2015, 2016)
Center for Economic Studies at the U.S. Census Bureau (Research proposal review) (2011, 2013)
Journal of Financial Intermediation (2009, 2012, 2013)
Journal of Money, Credit, and Banking (2009, 2012)
Kauffman Dissertation Fellowship Program (2012, 2014, 2015)
Financial Review (2011)
Journal of Economics and Business (2008, 2009)
Quarterly Review of Finance (2011)

Financial Management (2010)

## OTHER SERVICE

Finance Group Seminar Series Coordinator, 2008, 2012-2014.
Faculty Advisor, Finance and Investment Club, 2012-present.
Finance Group Awards Coordinator, 2011-present.
Boston Area Finance Symposium co-organizer, 2008- 2012.
Northeastern University School of Law, Entrepreneurship Panel Series Discussant, 2010.

## HONORS AND AWARDS

Thomas Moore Faculty Fellowship, Northeastern University, 2012-2017.
National Science Foundation (NSF) Grant ($300,000) for Project Titled, "Market Access and Entrepreneurship", 2012
Center for Emerging Markets Mini Research Grant, Northeastern University, 2009.
Best Doctoral Student Paper Award at the 2007 Northern Finance Association Annual Meetings.
Outstanding Corporate Finance Paper Award at the 2007 Eastern Finance Association Annual Meetings.
Kauffman Doctoral Fellowship in Entrepreneurial Finance, 2006-2007.
AFA Travel Grant Award (Sponsored by the American Finance Association), 2007
FDIC Doctoral Student Workshop, 2006
Financial Management Association Doctoral Student Consortium and Special Session, 2006
Graduate Student Fellowship, Boston College, 2003-Present
Graduate Student Fellowship, University of Connecticut, 2001-2003
Research Grant - Single Authored Study on Investor Protection, National Stock Exchange of India, 2001

## TEACHING EXPERIENCE

***Associate Professor, Northeastern University***

Entrepreneurial Finance, Innovation Valuation, and Private Equity (Undergraduate):2 semesters
Entrepreneurial Finance, Innovation Valuation, and Private Equity (Graduate): 2 semesters
Sustainability in Business: 1 semester

***Assistant Professor, Northeastern University***

Entrepreneurial Finance, Innovation Valuation, and Private Equity (Undergraduate): 2 semesters
Entrepreneurial Finance, Innovation Valuation, and Private Equity (Graduate): 3 semesters
Independent Study on Venture Capital (Undergraduate): 1 semester
Advanced Topics in Finance: Venture Capital (Graduate): 1 semester
Corporate Finance (Undergraduate and graduate): 3 semesters
Financial Management (Undergraduate): 4 semesters

***Instructor, Boston College***

Financial Management (undergraduate): 2 semesters

***Instructor, University of Connecticut***

Financial Management (undergraduate): 3 semesters
Investments (undergraduate): 1 semester

**MEDIA AND OTHER EXTERNAL COVERAGE**

1. "Bridging the Divide: How Business Ownership can Help Close the Wealth Gap" Report by Field at the Aspen Institute. January 2017.
2. "At the Extremes: Student Debt and Entrepreneurship," Report by Younginvincibles.org.
3. "Investing in Higher Education: Benefits, Challenges, and the State of Student Debt," Report by the Council of Economic Advisors to the President of the United States.
4. "Is Student Debt Hindering Entrepreneurship?" *Chicago Policy Review*, March 7, 2016.
5. "Why is Twitter Dying?" Radio Interview with WERS 88.9 program 'You Are Here.', Nov, 2015
6. "Study: Banking Deregulation Leads to Increased Business Productivity," *Heartland Institute.*
7. "Does Financing Spur Small Business Productivity," *Cato Institute Research Briefs in Economic Policy No. 15.*
8. "Human Capital, Management Quality, and Firm Performance," *Harvard Law School Forum on Corporate Governance and Financial Regulation*, July 31, 2014.
9. "Did U.S. Banks Deregulations Spur SEM's Productivity," *True Economics*, December 4, 2013.
10. "J.C. Penny Investors Cheer for Apple Retail Head as New CEO," *USA Today*, June 15, 2011.
11. "Study Finds Link Between Delayed CEO Ousters And Bankruptcy", *Dow Jones Newswires*, April 30, 2007.
12. "Early CEO Dismissal Helps Avoid Bankruptcy, Study Finds", *Bloomberg*, May 02, 2007.
13. "Benefits of a Better Image", *Financial Times*, June 19, 2006.

# MINE ERTUGRUL

University of Massachusetts Boston
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Accounting and Finance Department
Boston, MA 02125

Phone: 617-287-7678
Email: Mine.Ertugrul@umb.edu

## A. EDUCATION

| | |
|---|---|
| Ph.D. in Finance | University of Connecticut, June 2005 |
| MBA in Finance | University of Connecticut, May 2001 |
| BA in Business Administration | Marmara University, Istanbul, June 1998 |

## B. ACADEMIC EMPLOYMENT

| | |
|---|---|
| Associate Professor of Finance | UMass Boston, Fall 2016 to present |
| Assistant Professor of Finance | UMass Boston, Fall 2009 to Spring 2016 |
| Visiting Assistant Professor of Finance | Northeastern University, Spring 2009 |
| Assistant Professor of Finance | University of Toledo, Fall 2005 to 2008 |
| Instructor | University of Connecticut, Spring 2002 to 2005 |

## C. RESEARCH

### *1. Publications in Refereed Journals*

Chemmanur, T., Ertugrul, M., and Krishnan, K. Is it the Investment Bank or the Investment Banker? A Study of the Role of Investment Banker Human Capital in Acquisitions. *Journal of Financial and Quantitative Analysis*. Conditionally accepted.

Ertugrul, M, Lei, J., Qui, J., Wan, C. Annual Report Readability, Tone Ambiguity, and the Cost of Borrowing. *Journal of Financial and Quantitative Analysis*. Forthcoming.

Ertugrul, M. (2015). Bargaining Power of Targets: Takeover Defenses and Top-Tier Target Advisors, *Journal of Economics and Business,* 78, 48-78.

Ertugrul, M., Krishnan, K. (2014). Investment Banks in Dual Roles: Acquirer M&A Advisors as Underwriters. *Journal of Financial Research*, 37, 159-189.

Ertugrul, M. (2013). Employee-Friendly Acquirers and Acquisition Performance. *Journal of Financial Research*, 36, 347-370.

Ertugrul, M., Krishnan, K. (2011). Can CEO Dismissals be Proactive? *Journal of Corporate Finance*, 17, 134-151.

Ertugrul, M., Giambona, E. (2011). Property Segment and REIT Capital Structure. *Journal of Real Estate Finance and Economics*, 43(4), 505-526.

***1. Publications in Refereed Journals (Cont'd)***

Ertugrul, M., Hegde, S. (2009). Corporate Governance Ratings and Firm Performance. *Financial Management*, 38, 139-160.

Ertugrul, M., Hegde, S. (2008). Board Compensation Practices and Agency Costs of Debt. *Journal of Corporate Finance*, 14, 512-531.

Ertugrul, M., Sezer, O., Sirmans, C.F (2008). Financial Leverage, CEO Compensation, and Corporate Hedging: Evidence from Real Estate Investment Trusts. *Journal of Real Estate Finance and Economics,* 36(1), 53-80.

***2. Working Papers***

"Innovation and Product Market Value: Evidence from Brand Data" with Karthik Krishnan and Bo Xu.

"The Mediating Role of Brand Asset on the Valuation Impact of Corporate Social Responsibility" with Katsiaryna Bardos and Lucia Gao.

"Labor Unions and Non-Shareholding Stakeholders" with Dalia Marciukaityte.

## D. TEACHING EXPERIENCE

***1. Assistant/Associate Professor of Finance, University of Massachusetts Boston, Fall 2009 to Present***

BUSADM 791 Seminar in Financial Economics (PhD core): Spring 2015, Spring 2016, Spring 2017

BUSADM 979 Seminar in Corporate Finance (PhD): Fall 2015

AF 335 Investments (undergraduate elective): Fall 2009 (2 sections), Spring 2010 (2 sections), Fall 2010 (2 sections), Fall 2013 (1 section)

AF 325 Theory of Finance (undergraduate elective): Fall 2011 (2 sections), Spring 2012 (1 section), Spring 2013 (1 section)

MBA AF 620 Financial Management (graduate core): Spring 2012 (1 section), Fall 2012 (1 section), Spring 2013 (1 section)

AF 425 Topics in Corporate Financial Management (undergraduate elective): Fall 2012 (1 section), Fall 2013 (1 section)

### *2. Visiting Assistant Professor of Finance, Northeastern University, Spring 2009*

Investment and Security Analysis (undergraduate elective) (2 sections)

### *3. Assistant Professor of Finance, University of Toledo, Fall 2005 to Fall 2008*

Advanced Financial Management (undergraduate elective case course): 7 sections

Corporate Finance (MBA core course): 7 sections

### *4. Instructor, University of Connecticut, Spring 2002 to Summer 2005*

Financial Management (undergraduate core): 7 sections

Investment and Security Analysis (undergraduate elective): 1 section

Financial Risk Management and Derivatives (undergraduate elective): 2 sections

## E. PROFESSIONAL ACTIVITIES

### *1. Presentations at Professional Meetings*

"Is it the Investment Bank or the Investment Banker? A Study of the Role of Investment Banker Human Capital in Acquisitions?" (Previously titled "Advisor Skill and Acquisition Performance: Do Investment Bankers Matter?")

2013 University of Connecticut Seminar Series (Invited)
2013 Financial Intermediation Research Society Meeting (co-author presented)
2012 American Finance Association Meeting (co-author presented)
2009 Eastern Finance Association Meeting
2009 Northern Finance Association Meeting (co-author presented)
2009 Financial Management Association Meeting

"Bargaining Power of Targets: Takeover Defenses and Top-Tier Target Advisors"

2015 Eastern Finance Association Meeting

"Employee-Friendly Acquirers and Acquisition Performance"

2012 Eastern Finance Association Meeting
2011 Financial Management Association Meeting

"Investment Banks in Dual Roles: Acquirer M&A Advisors as Underwriters"

2012 Financial Management Association European Meeting
2010 Eastern Finance Association Meeting
2010 Financial Management Association Meeting (co-author presented)

"Can CEO Dismissals be Proactive?" (Previously titled "CEO Dismissal Timing and Costs of Delayed Action: Do Some Boards Act Too Late?")

2008 Private Equity Symposium at London Business School (co-author presented)
2007 Eastern Finance Association Meeting ***(Winner of the Outstanding Corporate Finance Paper Award)***
2007 Western Finance Association Meeting
2007 European Finance Association Meeting
2007 Financial Management Association Meeting

"Board Compensation Practices and Agency Costs of Debt"

2006 Eastern Finance Association Meeting
2006 Financial Management Association Meeting
2007 Financial Management Association European Meeting (co-author presented)

"Corporate Governance Ratings and Firm Performance"

2004 FMA European Meeting Doctoral Student Consortium
2005 Financial Management Association Meeting
2007 Financial Management Association Meeting

"Financial Leverage, CEO Compensation and Corporate Hedging: Evidence from Real Estate Investment Trusts"

2004 Eastern Finance Association Meeting
2004 Financial Management Association European Meeting
2004 Financial Management Association Meeting
2006 Cambridge-UNC Charlotte Symposium at the University of Cambridge (co-author presented)

### *2. Service to the Profession*

"Is it the Investment Bank or the Investment Banker? A Study of the Role of Investment Banker Human Capital in Acquisitions?" (Previously titled "Advisor Skill and Acquisition Performance: Do Investment Bankers Matter?")

2013 University of Connecticut Seminar Series (Invited)
2013 Financial Intermediation Research Society Meeting (co-author presented)
2012 American Finance Association Meeting (co-author presented)
2009 Eastern Finance Association Meeting
2009 Northern Finance Association Meeting (co-author presented)
2009 Financial Management Association Meeting

"Bargaining Power of Targets: Takeover Defenses and Top-Tier Target Advisors"
2015 Eastern Finance Association Meeting

"Employee-Friendly Acquirers and Acquisition Performance"
2012 Eastern Finance Association Meeting
2011 Financial Management Association Meeting

"Investment Banks in Dual Roles: Acquirer M&A Advisors as Underwriters"
2012 Financial Management Association European Meeting
2010 Eastern Finance Association Meeting
2010 Financial Management Association Meeting (co-author presented)

"Can CEO Dismissals be Proactive?" (Previously titled "CEO Dismissal Timing and Costs of Delayed Action: Do Some Boards Act Too Late?")

2008 Private Equity Symposium at London Business School (co-author presented)
2007 Eastern Finance Association Meeting ***(Winner of the Outstanding Corporate Finance Paper Award)***
2007 Western Finance Association Meeting
2007 European Finance Association Meeting
2007 Financial Management Association Meeting

"Board Compensation Practices and Agency Costs of Debt"
2006 Eastern Finance Association Meeting
2006 Financial Management Association Meeting
2007 Financial Management Association European Meeting (co-author presented)

"Corporate Governance Ratings and Firm Performance"
2004 FMA European Meeting Doctoral Student Consortium
2005 Financial Management Association Meeting
2007 Financial Management Association Meeting

"Financial Leverage, CEO Compensation and Corporate Hedging: Evidence from Real Estate Investment Trusts"
2004 Eastern Finance Association Meeting
2004 Financial Management Association European Meeting
2004 Financial Management Association Meeting
2006 Cambridge-UNC Charlotte Symposium at the University of Cambridge (co-author presented)

### *3. Service to the Profession*

*Discussant at Professional Meetings*

Eastern Finance Association Meeting, 2015
Financial Management Association European Meeting, 2012
Eastern Finance Association Meeting, 2012
Financial Management Association Annual Meeting, 2011
Eastern Finance Association Meeting, 2010
Eastern Finance Association Meeting, 2009
Eastern Finance Association Meeting, 2006
Financial Management Association European Meeting, 2004
Eastern Finance Association Meeting, 2004
Financial Management Association Annual Meeting, 2003

*Program Committees*

2015 Eastern Finance Association Meeting Program Committee Member
2013 Southern Finance Association Meeting Program Committee Member
2011 Financial Management Association Meeting Program Committee Member
2011 Eastern Finance Association Meeting Program Committee Member
2010 Financial Management Association Meeting Program Committee Member
2010 Eastern Finance Association Meeting Program Committee Member
2008 Eastern Finance Association Meeting Program Committee Member
2007 Financial Management Association Meeting Program Committee Member

*Session Chair at Professional Meetings*

2011 Financial Management Association Annual Meeting
2009 Eastern Finance Association Meeting

*Reviewer for Journals*

Journal of Corporate Finance
Journal of Banking and Finance
The Financial Review
Journal of Business Research
Real Estate Economics
Journal of Real Estate Finance and Economics
Canadian Journal of Administrative Sciences
Emerging Markets Finance and Trade

## G. HONORS AND AWARDS:

Donald Shephard Award for Distinguished Research, University of Massachusetts Boston, 2016
Nominated for Joan Moon Award for Excellence in Undergraduate Teaching, 2012
Nominated for Joan Moon Award for Excellence in Undergraduate Teaching, 2011
Outstanding Corporate Finance Paper Award, Eastern Finance Association, 2007
University Summer Research Award, University of Toledo, 2006
Doctoral Dissertation Award, University of Connecticut, 2005
Doctoral Student Consortium, Financial Management Association European Meeting, 2004
CIBER International Travel Grant, University of Connecticut, 2004
Stephen Messner Outstanding Ph.D. Student in Finance Award, University of Connecticut, 2004
The Wall Street Journal Outstanding MBA Finance Student Award, University of Connecticut, 2001
Beta Gamma Sigma Honor Society in Business and Management, University of Connecticut, 2001

## H. MEDIA MENTIONS:

"Corporate Governance Ratings and Firm Performance", CFA Digest, November 2009
"Study Finds Link between Delayed CEO Ousters and Bankruptcy", Dow Jones Newswires, April 30, 2007
"Early CEO Dismissal Helps Avoid Bankruptcy, Study Finds", Bloomberg, May 2, 2007

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## EDUCATION

University of Massachusetts Boston
**PhD in Business Administration- Finance Track** (expected)**2019**
Currently in second year

Witwatersrand Graduate Business School
**Masters of Management in Finance and Investment** **2015**
Graduated with distinction

University of Botswana
**Bachelor of Accountancy** **2013**
Graduated with distinction

## AWARDS

Ernst and Young, University of Botswana **2010**
**Top three Bachelor of Accountancy students in first year**

## RESEARCH INTERESTS

Finance: Personal Finance and Corporate Finance.
Accounting: Earnings Management and Value Relevance.

## COMPETENCIES

Working knowledge of STATA

## CURRENT WORKING PAPERS

"Student Debt and Retirement Savings." with Birzhan Batkeyev, Mine Ertugrul and Karthik Krishnan.

"Will Managers and Investors Miss Extraordinary Items?" with Betul Arda.

## CONFERENCES ATTENDED

Boston Area Finance Symposium, Boston (2016)

## REFERENCES

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