

## **Debt collection in the courts: Implications for households**

Ing-Haw Cheng, Felipe Severino, and Richard Townsend<sup>1</sup>

February 2016

US households have substantially increased their leverage over the past 20 years, from 320 billion dollars in 1994 to 1060 billion dollars in 2010, according to Federal Reserve Flow of Funds data. The Great Recession has brought renewed attention among academics not only to the consequences of this credit expansion, but also to the process of household deleveraging and debt resolution (Dyan, 2012; Mian and Sufi, 2011; Mian, Rao, and Sufi, 2013). Evidence examining foreclosure and personal bankruptcy emphasizes that debt resolution mechanisms matter for many real and financial outcomes (Dobbie and Song, 2015; Mian, Sufi, and Trebbi, 2015; White, 2005).

A large number of households, however, face debt collection outside of foreclosure and bankruptcy, particularly for unsecured debt. Aggregate statistics suggest that many households who find it hard to keep up with payments face collection outside of bankruptcy. Approximately 14 percent of consumers have been under third party debt collection in recent years (Federal Reserve Bank of New York, 2015), and the industry collected over \$55 billion in 2013 (Ernst and Young, 2013).

However, there is little micro-level evidence on debt collection outside bankruptcy and how collection affects household outcomes, largely owing to limited data (Zinman, 2015). Anecdotal evidence suggests that how collection is resolved, through civil litigation in particular, matters greatly not only because it affects many households, but because the consequences can be severe (Kiel and Waldman, 2015). For example, a court judgment in favor of the creditor may lead to garnished wages for extended periods, directly impacting earnings. How does this affect the household over the long-run? The literature provides little empirical guidance.

Our project aims to fill this gap and provide a systematic micro-level empirical analysis of debt collection in civil courts and how it affects household outcomes.<sup>2</sup> We focus on court cases, as opposed to renegotiation outside of courts, both because of the large number of households affected but also because of their important consequences. Our goal is twofold. First, we aim to provide a comprehensive empirical description of the process, comparing both the magnitude of debt involved, number of cases, and types of outcomes to cases in the bankruptcy system. Given the paucity of extant evidence, this description contributes by characterizing the relative importance of debt collection litigation. Second, we aim to tease out how these judgments affect subsequent

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<sup>2</sup> Dawsey, Hynes, and Ausubel (2013) and Hynes (2008) examine debt collection from a legal perspective. Fedaseyeu (2014) examines credit supply, and Fedaseyeu and Hunt (2014) provide stylized facts about the debt collection industry.

household outcomes. This is economically important not only because of the number of households involved, but because collection judgments may influence households through distinct channels from bankruptcy judgments. Whereas a household endogenously initiates a bankruptcy case to gain relief, collection cases are initiated by collection agencies. Losing such a case is more likely to be an unexpected shock to household finances.

We focus on providing a fine description within a limited number of states rather than a coarse description at an aggregate level, as the laws for debt collection vary significantly across states. As an initial step, we examined data for Missouri – a state with many households, and fairly complete state court data – and found that the number of collection cases was much greater than the number of federal bankruptcy cases every year between 2008 and 2011, as reported in Table 1. In 2008, nearly 135,000 households faced collection in civil court, compared with 25,000 households filing for bankruptcy. Among cases with a judgment in favor of creditors, the median judgment amount was 5,750 dollars. Assuming that households enter bankruptcy with 15,000 dollars (Dobbie and Goldsmith-Pinkham, 2015b), the aggregate amount awarded in judgment is if anything larger than the notional amount in bankruptcy. We plan on summarizing this data in greater detail to meet our first goal.

To meet our second goal, we plan on relating the effect of a civil judgment on several future outcomes, including whether households become homeowners, or take out auto loans, using credit registry data. We are exploring obtaining other government data to examine income and geographic mobility. Of course, relating the effect of a collection judgment to household outcomes is challenging due to unobserved heterogeneity. If borrowers who lose in court are systematically different than those who win, differences in subsequent outcomes may be attributable to the underlying characteristic of the borrower rather than the judgment. We plan to use variation in judge leniency as an instrument for the court decision to isolate the casual effect of a civil judgment. This strategy relies on random assignment of judges to cases. Our empirical strategy has been successfully employed in several other contexts (Chang and Schoar 2008; Dobbie and Song 2015; Doyle 2007, 2008; Kling, 2006). Preliminary analysis of 1,000,000 Missouri cases between 2000 and 2013 suggests that there is significant variation in judge leniency and that there is clear evidence in favor of this approach.

This preliminary analysis suggests not only that households facing debt collection in the court system are a large, previously understudied population, but that there is a path towards understanding how debt resolution in the court system affects their long-term financial health and real outcomes. These results have potential implications for the slow post-crisis growth of the economy and income inequality. More research on these households, and debt collection more generally, is a fruitful and important area for research.

## References

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- Kiel, Paul, and Annie Waldman. "The color of debt: how collection suits squeeze black neighborhoods." *ProPublica*, 2015.
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- White, Michelle J. Economic analysis of corporate and personal bankruptcy law. No. w11536. National Bureau of Economic Research, 2005.
- Zinman, Jonathan. "Household debt: facts, puzzles, theories, and policies." *Annual Review of Economics* 7 (2015): 251-276.

**Table 1. Number of Bankruptcy Filings and Debt Collection Summary Statistics for Missouri.**

	n bankruptcy filings	n collection cases	ratio of collection to bankruptcy	total judgment amounts (000s)	mean judgment amount (000s)	median judgment amount (000s)
2008	24,720	134,693	5.45	328,479	5.75	2.25
2009	30,470	136,435	4.48	399,167	6.70	2.55
2010	32,525	95,291	2.93	286,170	5.99	2.59
2011	47,135	82,169	1.74	178,250	6.18	2.69

The first column show yearly aggregates for Missouri of PACER filing of nonbusiness. Columns 2 to 6 use information from ProPublica in collection cases reported by state between 2008 and 2011. Column 2 shows the number of collection cases in that year, column 3 report the ratio for collection cases to bankruptcy cases, column 4 shows the total amount of dollars granted to collection agencies via judgment, column 5 and 6 show the mean and median judgment amounts.

## Budget Description

The biggest challenge for our project requiring funding is data collection. We envision an ambitious data collection effort that brings together new data from state court databases and household data about long-term outcomes. Although we are exploring ways to expand data on long-term outcomes using government data such as Census or tax data, our current focus for data on long-term outcomes is data from the credit registry.

State court data are publicly available via the web, and we have internal resources to scrape the relevant webpages. We are open to making this part of the data publicly available if the project is ultimately successful and published. The largest expense comes in our plan to purchase credit registry data that can be matched to our court case data. Based on estimates from Experian, the cost of archived credit registry data is 5,000 dollars for each of the first five years, then 4,000 dollars for each year beyond. We aim to purchase ten years of data. The bulk of the grant funding would go towards helping fund this expense, with the remainder of the expense coming from internal research budgets and potentially other grants. Our itemized budget looks particularly simple:

- Cost of acquiring credit registry data: > \$20,000
- Total requested amount: \$20,000

The principal investigators in this project are Ing-Haw Cheng, Felipe Severino, and Richard Townsend, Assistant Professors of Business Administration, Tuck School of Business, Dartmouth College. Briefly, Professor Cheng received his Ph.D. in Economics from Princeton University in 2009. He has published in leading academic journals such as the American Economic Review and Journal of Finance. Professor Townsend received his Ph.D. in Economics from Harvard University in 2011, and is conducting research in issues in empirical finance with an eye towards entrepreneurship among households. Professor Severino received his Ph.D. in Financial Economics from the Massachusetts Institute of Technology in 2014 and has written extensive current research on issues in household finance and personal bankruptcy. We have no relevant or material financial interests that relate to the research discussed in this proposal.

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Citizenship: US  
Native Language: English

**Appointments:** Dartmouth College, Tuck School of Business  
Assistant Professor of Business Administration, July 2013 – Present  
Harvey H. Bundy III T'68 Faculty Fellow, 2015-2016  
University of Michigan, Ross School of Business  
Assistant Professor of Finance, July 2009 – June 2013

**Education:** Ph.D., Economics, Princeton University, June 2009  
M.A., Economics, Princeton University, June 2006  
B.S. (Honors), Mathematics, University of Chicago, June 2001

**Research Interests:** Financial Institutions and Incentives

## **Papers**

1. Convective Risk Flows in Commodity Futures Markets, with Andrei Kirilenko and Wei Xiong (2015), *Review of Finance*, 19(5), 1733-1781.
2. Yesterday's Heroes: Compensation and Risk at Financial Firms (2015), with Harrison Hong and José Scheinkman, *Journal of Finance*, 70(2), 839-879.
3. Why Do Hedgers Trade So Much? (2014), with Wei Xiong, *Journal of Legal Studies*, 43(S2), S183-S207.
4. Wall Street and the Housing Bubble (2014), with Sahil Raina and Wei Xiong, *American Economic Review*, 104(9), 2797-2829.
5. The Hazards of Debt: Rollover Freezes, Agency, and Bailouts (2012), with Konstantin Milbradt, *Review of Financial Studies*, 25(4), 1070-1110.
6. The Effect of the Run-Up in the Stock Market on Labor Supply (2000), with Eric French, *Economic Perspectives (Federal Reserve Bank of Chicago)*, 48-65.

## **Reviews / Chapters**

7. The Financialization of Commodity Futures Markets (2014), with Wei Xiong, *Annual Review of Financial Economics*, 6, 419-441.

## Working Papers

8. The Expected Returns to Fear, August 2015.
9. Do Managers Do Good With Other People's Money? with Kelly Shue and Harrison Hong, NBER working paper no. 19432, February 2016.
10. Corporate Governance Spillovers, April 2011.

## Conferences and Seminars

(\* denotes scheduled)

- 2016: Norwegian School of Economics\*, University of Connecticut Risk Management Conference\*, University of Hong Kong\*, Utah Winter Finance Conference
- 2015: Financial Intermediation Research Society Meetings, Northern Finance Association Meetings, University of Michigan Mitsui Finance Symposium, University of Utah
- 2014: American Economic Association Meetings, American Finance Association Meetings (2 sessions), Financial Intermediation Research Society Meetings, University of British Columbia Winter Finance Conference, SFS Cavalcade
- 2013: American Finance Association Meetings, Econometric Society Meetings, European Finance Association Meetings, Florida State University SunTrust Conference, NBER Corporate Finance (Fall, co-author), University of California Davis/CalPERS Sustainability Symposium, University of Chicago Sloan Conference on Benefit-Cost Analysis of Financial Regulation, University of Toronto (Econ)
- 2012: BSI Gamma Foundation Venice Conference, Center for Economic Analysis of Risk (CEAR) Georgia State Conference, European Central Bank, NBER Spring Meetings (Behavioral Finance), NBER Summer Institute (3 sessions: Corporate Finance, Risks of Financial Institutions, Monetary Economics), Columbia Business School, Dartmouth College (Tuck), Harvard Business School, Northwestern University (Kellogg), Stanford University GSB, University of California at Berkeley (Haas), University of Pennsylvania (Wharton)
- 2011: American Finance Association Meetings, Federal Reserve Bank of Chicago Conference on Banking (two papers), Financial Intermediation Research Society Meetings, NBER Systemic Risk and Macro Modeling Initiative, Paris Spring Corporate Finance Conference, Princeton/Cambridge Workshop in Finance, University of Florida (Warrington), University of Toronto
- 2010: Federal Reserve Bank of New York, NBER Conference on Market Institutions and Financial Risks, University of Kansas Southwind Conference, Western Finance Association Meetings
- 2009: Boston University, Dartmouth College (Tuck), Harvard Business School, London School of Economics, NBER Summer Institute (Risk of Financial Institutions), Princeton University, University of California-San Diego (Rady), University of Colorado-Boulder (Leeds), University of Michigan (Ross), University of Notre Dame (Mendoza), University of

Pennsylvania (Wharton), University of Rochester (Simon), Washington University-St. Louis (Olin), Western Finance Association Meetings

## **Service**

Best Discussant, 2013 University of Michigan Mitsui Life Symposium

Referee, American Journal of Agricultural Economics, The Econometrics Journal, International Economic Review, International Journal of Central Banking, International Journal of Financial Studies, Journal of Banking and Finance, Journal of Business Ethics, Journal of Economics and Management Strategy, Journal of Empirical Finance, Journal of Finance, Journal of Financial Economics, Journal of Financial Intermediation, Journal of Labor Economics, Journal of Law Economics and Organization, Journal of Money Credit and Banking, Management Science, Quarterly Journal of Economics, Review of Corporate Finance Studies, Review of Economic Studies, Review of Economics and Statistics, Review of Finance, Review of Financial Studies, Swiss National Science Foundation

Discussant:

2016: AFA

2015: FIRS, NBER Chinese Economy, NBER Commodities, NBER Market Microstructure, University of Oklahoma Energy Finance Conference

2014: AFA, Columbia University Corporate Governance Conference, FIRS, LSE Paul Woolley Centre Conference, NBER Summer Institute, Northern Finance Association Meetings, University of Minnesota Corporate Finance Conference

2013: AFA, University of Michigan Mitsui Life Symposium, WFA, NBER Commodities

2012: SFS Cavalcade

2011: FIRS, CFTC Commodities Conference, SFS Cavalcade

Program Committee, 2010, 2011, 2012, 2013 University of Michigan Mitsui Life Symposium, 2015 University of Oklahoma Energy Finance Conference, 2016 Midwest Finance Association, 2016 International Conference on Energy Finance

Session Chair, 2011 FIRS

## **Teaching**

Tuck School of Business, Dartmouth College

Capital Markets (MBA Core); Fall 2015

Futures and Options Markets (MBA); Spring 2014, 2015, 2016

Ross School of Business, University of Michigan

Finalist, Ross Teaching Excellence Award, BBA Class of 2011

Financial Management (MBA Core); Fall 2012

Financial Analysis (MBA Core); Fall 2011

Financial Management (BBA Core); Fall 2009, 2010, 2011

PhD Student Committees:

Min Zhu (2010, World Bank), Seokwoo Lee (2012, George Mason University), Taylor Begley (2013, London Business School), Dan Weagley (2013, Georgia Tech)

Department of Economics, Princeton University



Winner, Towbes Prize for Outstanding Teaching, Princeton University, Class of 2008  
Teaching Assistant, Joint Undergraduate/Masters-in-Finance Classes:  
Options, Futures and Derivatives Pricing (W. Xiong), Fall 2007, Spring 2009  
Institutional Finance: Crises and Liquidity (M. Brunnermeier), Fall 2008  
Portfolio Theory and Asset Management (H. Hong), Fall 2007

### **Honors and Fellowships**

#### Awards:

2013 University of Michigan Mitsui Life Symposium, Best Discussant  
2011 Standard Life Investments ECGI Prize, Best working paper, “Yesterday’s Heroes”  
Winner, Towbes Prize for Outstanding Teaching, Princeton University, Class of 2008

#### Grants:

2011 BSI Gamma Foundation Grant for “Do Managers Do Good”

#### Fellowships and Honors:

Dartmouth College (Tuck) Harvey H. Bundy III T’68 Faculty Fellow, 2015-2016  
Princeton University Department of Economics Fellowship, 2004-2007  
Princeton University Industrial Relations Section Fellowship, 2004-2006  
University of Chicago, Undergraduate General Honors, 2001  
Sigma Xi Scientific Research Society, Associate Member

### **Other Relevant Work History**

Consultant, Deloitte Consulting, Minneapolis, Minnesota, 2001-2004  
Research Assistant, Federal Reserve Bank of Chicago, Summer 1999

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# FELIPE SEVERINO

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**Academic Positions** Dartmouth College Assistant Professor 2014- present  
Tuck School of Business of Business Administration

**Education** Massachusetts Institute of Technology PhD. Financial Economics 2014  
Sloan School of Management

Pontificia Universidad Católica de Chile M.Sc. Ind. Engineering (Summa Cum Laude) 2007

Industrial Engineering 2007

B.Sc. Mechanical Engineering. (Summa Cum Laude) 2005

Minor in Astronomy and Astrophysics

**Fields** Corporate Finance Financial Intermediation.  
Household Finance, Entrepreneurship and Real Estate Finance

**Publications** **“Loan Origination and Default in the Mortgage Crisis: The Role of the Middle Class”** with Manuel Adelino and Antoinette Schoar. *Review of Financial Studies*, Accepted, January 2016

**“House Prices, Collateral and Self-Employment”** with Manuel Adelino and Antoinette Schoar. *Journal of Financial Economics*, Volume 70, Issue 5, pages 1583-1638, August 2015

Featured in [NBER Digest](#),

**Working Papers** **“Loan Origination and Default in the Mortgage Crisis: Further Evidence”** with Manuel Adelino and Antoinette Schoar. 2015

**“Personal Bankruptcy Protection and Household Debt”** with Meta Brown and Brandi Coates, 2015

**“Credit Supply and House Prices: Evidence from Mortgage Market Segmentation”** with Manuel Adelino and Antoinette Schoar, 2014.

Featured in [CBS News](#)

<b>Fellowships, Honors, and Awards</b>	MIT Sloan Doctoral Research Forum, First Prize	2014
	MIT Sloan Finance Group Award	2012
	MIT Sloan Nominated for Best TA Award	2012
	NBER Household Finance Grant	2011
	MIT Sloan Arnaldo Hax Fellow	2010
	MIT Sloan Doctoral Program Fellowship	2008-2014
	Presidente de la República. Chilean Government Scholarship	2008
	Chilean Board of Engineering. Best Chilean Industrial Engineering Student	2008
	Pontificia Universidad Católica de Chile. Academic Excellence Award. Best Industrial Engineering Student	2007
<b>Presentations</b> *: Discussant	AFA San Francisco, AEA San Francisco, AFA San Francisco*	2016
	AEA Boston, McGill University (Desaultes), UNC (Kenan-Flager) Junior Round Table, CFBP Research Conference, NBER Corporate Finance Spring, Banco Central Chile, Entrepreneurial Finance and Innovation Conference. Brandeis*, NBER Summer Institute (Capital Market and the Economy, Household Finance)	2015
	Stanford University (GSB), University of Pennsylvania (Wharton), Dartmouth College (Tuck), London School of Economics, Imperial College, Washington University in St Louis (Olin), Federal Reserve Board of Governors, Corporate Finance Conference – Cornell University, European Conference on Household Finance in Stockholm, NBER Summer Institute (Household Finance), University of Southern California (Marshall)	2014
<b>Teaching Experience</b>	Dartmouth- Tuck. MBA Corporate Finance.	2014-present
	MIT-Sloan. Teaching Assistant PhD Corporate Finance. MBA Entrepreneurial Finance, Advanced Corporate Finance, Mergers and Acquisitions, Finance Theory I	2010-2014
	MIT Teaching and Learning Laboratory. Teaching Certification Program	2012
	Pontificia Universidad Católica de Chile. Teaching Assistant (graduate level) Economics of Derivatives, Advanced Topics in Finance, Finance, Stochastic Models, Microeconomics, Dynamics	2002-2008

<b>Referee</b>	Quarterly Journal of Economics, Journal of Finance, Journal of Financial Economics, Review of Financial Studies, Management Science, Review of Finance, Journal of Corporate Finance, Journal of Money, Credit and Finance.	
<b>Program Committee</b>	Western Finance Association (2016), Midwest Finance Association, (2016) MIT Sloan Doctoral Research Forum (2015)	
<b>Other Relevant Positions</b>	Visiting Researcher. Federal Reserve Bank of New York	2013-present
	Research Assistant to Professor Antoinette Schoar	2008-2010
	Researcher Associate. P. Universidad Católica de Chile	2005-2008
	Summer Internship. Coca Cola Company	2004
<b>Other Research</b>	<b>"A Multicommodity Model of Futures Prices: Using Futures Prices of One Commodity to Estimate the Stochastic Process of Another"</b> with Gonzalo Cortazar and Carlos Milla. <i>Journal of Futures Markets</i> , Vol.28, No. 6, Jun 2008.	
	KRX Best Paper Award. 4th Annual Conference of Asia Pacific Association of Derivatives (APAD)	

# RICHARD R. TOWNSEND

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## ACADEMIC APPOINTMENTS

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**Rady School of Management, University of California at San Diego** 2015 – present  
Visiting Assistant Professor

**Tuck School of Business, Dartmouth College** 2011 – present  
Assistant Professor of Business Administration  
Daniel T. Revers Faculty Fellow

## EDUCATION

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**Harvard University** 2011  
Ph.D. in Economics

Committee: Josh Lerner, Paul Gompers, Andrei Shleifer, Jeremy Stein

**Harvard University** 2007  
A.M. in Economics

**Stanford University** 2005  
B.A. in Economics, Honors (Highest), Distinction (Highest)  
Minor in Mathematics  
Minor in Computer Science

## RESEARCH INTERESTS

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Corporate Finance, Entrepreneurial Finance, Behavioral Finance

## PUBLICATIONS

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**Growth through Rigidity: An Explanation of the Rise in CEO Pay**  
(with Kelly Shue)  
*Journal of Financial Economics*, Forthcoming

**The Impact of Venture Capital Monitoring**  
(with Shai Bernstein and Xavier Giroud)  
*Journal of Finance*, Forthcoming

**Propagation of Financial Shocks: The Case of Venture Capital**  
*Management Science*, 2015, 61(11): 2782-2802

**Swinging For the Fences: Executive Reactions to Quasi-Random Option Grants**

(with Kelly Shue)

*Journal of Finance*, Revise and Resubmit

The financial crisis renewed interest in the potential for pay-for-performance compensation to affect managerial risk-taking. We examine whether paying top executives with stock options induces them to take more risk. To identify the causal effect of options, we exploit two distinct sources of variation in option compensation that arise from institutional features of multi-year grant cycles. We find that a 10 percent increase in the value of new options granted leads to a 2-6 percent increase in firm equity volatility. This increase in risk is driven largely by an increase in leverage. We also find that an increase in stock options leads to lower dividend growth, with mixed effects on investment and firm performance.

**Experimenting with Entrepreneurship: The Effect of Job-Protected Leave**

(with Josh Gottlieb and Ting Xu)

We examine the role that career considerations play in the decision to become an entrepreneur. We ask whether potential entrepreneurs remain in wage employment because of the danger that they won't find as good a job should they start a venture that ultimately fails. Empirically, we examine whether granting employees extended leaves of absence, during which they are guaranteed the option to return to their previous job, increases entry into entrepreneurship. We exploit a Canadian reform in 2000 that guaranteed extended job-protected leave of up to one year for women giving birth after a cutoff date. Using a regression discontinuity design, we find that the increase in job-protected leave increases the probability of becoming an entrepreneur by approximately 30%. The results are not driven by inconsequential businesses that quickly fail. The marginal entrepreneurs that are spurred to enter by the reform tend to hire paid employees. The effect is stronger for individuals with more human and financial capital. Overall, we conclude that career considerations are a major factor inhibiting entry into entrepreneurship.

**Learning From Luck: Evidence From Mutual Fund Managers**

This paper uses data on mutual fund managers to examine whether success breeds confidence. I find that the better a manager performs in a given year, the bolder the investments he tends to make in the following year. Next, I investigate whether observably lucky success breeds confidence as well. I isolate lucky success in two ways. First, I estimate success that is due to market-timing and not stock-picking. Second, I estimate success that is due to the market shock that followed September 11th. In both cases, I find evidence that lucky managers indeed become more confident in themselves, apparently attributing some of their good fortune to their own ability.

## **WORK IN PROGRESS**

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Innovation and Internal Capital Markets  
(with Shai Bernstein and Xavier Giroud)

Housing Shocks and Worker Productivity  
(with Shai Bernstein and Tim McQuade)

Gender Discrimination in Early Stage Financing  
(with Michael Ewens)

What Should Early Stage Investors Bet On? A Field Experiment

International Monetary Policy Spillovers: The Case of Brazil  
(with Adi Sunderam)

## **HONORS AND SCHOLARSHIPS**

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Harvard Graduate Fellowship	2005-2011
Anna Laura Meyers Thesis Award	2005
Phi Beta Kappa	2005
National Merit Scholarship	2001

## **PRESENTATIONS AND DISCUSSIONS**

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Including scheduled and conference presentations by co-authors

AFA annual meeting, Caltech/USC PE Finance Conference, Finance UC Chile Conference, NBER Corporate Finance (Spring Meeting)	2016
Adam Smith Conference, ASU Sonoran Winter Finance Conference, Corporate Governance Symposium, Entrepreneurial Finance and Innovation Conference	2015
AFA annual meeting, Economics of Entrepreneurship and Innovation Conference, EFA annual meeting, Harvard University (HBS), LBS Private Equity Findings Symposium, LBS Summer Symposium, NBER Behavioral Economics (Spring Meeting), NBER Income and Wealth, NBER Entrepreneurship (Summer Institute), NBER Law and Economics (Summer Institute), Northwestern University (Kellogg), Red Rock Finance Conference, SFS Finance Cavalcade, UCSD (Rady), University of Maryland (Smith), University of Pennsylvania (Wharton), Vanderbilt VC/PE Conference, WFA annual meeting, Yale University (SOM)	2014

China International Conference in Finance, Duke University (Fuqua), Gerzensee ESSFM, IDC Herzliya Finance Conference, LBS Summer Symposium, NBER Changing Financing Market for Innovation & Entrepreneurship, NBER Entrepreneurship (Winter Meeting), NBER Corporate Finance (Spring Meeting), NBER Personnel Economics (Summer Institute)	2013
AEA annual meeting, Booth Junior Finance Symposium, Economics of Entrepreneurship and Innovation Conference, Entrepreneurial Finance and Innovation Conference, NBER Entrepreneurship (Winter Meeting)	2012
Dartmouth College (Tuck), Harvard University (HBS), Indiana University (Kelley), London School of Economics, Northwestern University (Kellogg), Rochester University (Simon), The Federal Reserve Board, University of North Carolina (Kenan-Flagler), University of Notre Dame (Mendoza)	2011

### **TEACHING EXPERIENCE**

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Private Equity Research to Practice, Tuck School of Business	2012-present
Entrepreneurial Finance, Tuck School of Business	2011-present
Household Finance, Harvard University	2009

### **PROFESSIONAL SERVICE**

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Referee: Journal of Finance, Journal of Financial Economics, Review of Financial Studies, Quarterly Journal of Economics, Econometrica, Management Science, Review of Finance, Journal of Monetary Economics, Journal of Economics & Management Strategy

Program Committee: Western Finance Association (2015), Midwest Finance Association (2015), European Finance Association (2015)

Associate Editor: Journal of Empirical Finance