

# Proposal for NBER Household Finance Research Grant 2013

Sumit Agarwal and Wenlan Qian, National University of Singapore

In this research proposal we focus on understanding household financial behavior using a unique and representative dataset of financial transactions in Singapore between 2008 and 2012. We intend to use detailed transaction-level data to investigate how households' spending and saving decisions respond to different shocks and incentives. Our research focuses on the following three projects.

## Project 1: Consumption and Debt Response to Fiscal Policy Shocks

This project aims to study how consumers respond to an exogenous income shock. Specifically, we use a representative sample of over 180,000 consumers in Singapore and study how their spending behavior as measured through their credit card, debit card and bank accounts responded to a positive income shock. The positive income shock we analyze is the "Growth Dividend" program announced by the Singapore government in February 2011. The US\$1.17 billion package distributed a one-time cash payout, ranging from US\$78 to US\$702, to 2.5 million adult Singaporeans. This represents a significant income bonus, corresponding to about 18% of monthly median income in Singapore in 2011. Our analysis is based on difference-in-differences identification by exploiting the qualification criteria—foreigners do not qualify for the program and comprise the control group in the study. We match the treated group (i.e., adult Singaporeans) with the control group based on age, income, ethnicity, gender and occupation, and compare the change in the spending and savings behavior of the treated group relative to that in the matched control group. In addition to being able to identify the causal impact of the fiscal policy on consumption, richness of our data also allows us to study the response in the credit card spending, debit card spending, change in credit card debt, and change in banking transaction behavior in a period of 10 months after the policy announcement (relative to the 6 months before), which helps us understand different channels of the consumption response.

Our findings are summarized as follows. First, consumption rose significantly after the fiscal policy announcement: for each dollar received, consumers on average spend 90 cents (aggregated across different financial accounts) during the ten months after announcement. On the other hand, credit card debt experienced a moderate decrease (so savings effectively increased). Second, we find strong announcement effect -- consumers start to increase spending during the two-month announcement period before the cash payout. Third, consumption response is concentrated in debit card spending. More importantly, consumers started spending using credit cards during the announcement period, then switched to debit cards after disbursement, and finally switched back to the credit cards and significantly increased spending. Consistently, credit card debt dropped in the first months after disbursement and reverted back to the original level subsequently. Lastly, consumption response is heterogeneous across spending categories and across individuals. Consumption rose primarily in the non-food, discretionary category. Young, unmarried, non-college-educated and likely liquidity constrained consumers (low limit, high balances, etc.) rely more on debit card spending in their consumption response.

## Project 2: Cross Border Shopping and Sales Taxes

The second project aims to study the extent to which households are sensitive to sales tax rates in their spending behavior. Specifically, we exploit the tax rate differential between Singapore and Malaysia and study how households' daily spending differs as they live closer to the Singapore-Malaysia border – is it the case that for some Singaporeans for whom the transaction cost of spending in Malaysia for certain items is lower than the tax savings, actually travel to Malaysia to buy those goods. In addition to the large dataset of all financial transactions of a representative sample of Singaporean households, we will supplement with survey data with a detailed break-down of the items in each transaction for a subsample of households, which can help us better identify the source of the spending heterogeneity and quantify the elasticity of households' sensitivity to price differentials. In addition, we will use the fact that transaction costs differ across nationalities (e.g., certain nationalities need to obtain a visa to go to Malaysia) and perform falsification tests on the group of households for which the price differential is less significant after factoring the transaction cost. The preliminary finding is that households within the closest 20% proximity to the Malaysia border spend significantly less, both at the daily and the item level, than households living in the farthest 20% distance to the border.

## Project 3: Consumer Sentiment and Spending – Case of State Lotteries

The third research idea we focus on is whether and how households' spending pattern is affected by exogenous (sentiment) events such as lotteries. There are weekly lotteries in Singapore with the prize as large as US\$ 8 million, and information about the winning store is publicly available. In addition, Singaporeans spend a decent amount on buying lottery tickets: in our sample, lottery ticket purchase accounts for 4% of the debit card transactions. We study whether consumers (or households) change their consumption patterns upon release of lottery winning information in a local store. Specifically, does an average consumer increase (or decrease) their spending on lottery tickets if his neighboring lottery store has won the grand prize? Do consumers perceive a higher probability of winning for the recently winning location which increase lottery ticket sales for that store? In addition, is there any spillover effect in the sense that consumers increase (or decrease) their daily consumption in other categories upon the lottery news?

## **Itemized Budget Proposal**

RA: \$6000

Justification: need research assistance to manually collect data in the three proposed projects

1. distance of Singaporean consumers in our sample to Malaysian border
2. itemized price differential of goods between Singapore and Malaysia
3. information of winning lottery location (zip code, store name), winning lottery size of each of the 300+ lotteries in our sample period
4. decoding of location of consumer spending in our transaction level spending data (over 100,000 stores)

Travel: \$10000

Justification: the proposed travel budget covers about 3 trips (as the applicants are located outside the US.) to attend conferences, seminars and workshops in the US.

## CV

### Wenlan Qian

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Assistant Professor of Finance  
NUS Business School  
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#### **RESEARCH INTEREST**

Asset pricing; Household finance; Real estate

#### **ACADEMIC APPOINTMENT**

Assistant Professor of Finance, NUS Business School, National University of Singapore, 2008-  
Affiliated Researcher, Institute of Real Estate Studies, National University of Singapore, 2009-  
Affiliated Researcher, Risk Management Institute, National University of Singapore, 2008-

#### **EDUCATION**

Ph.D., Business Administration, University of California at Berkeley, 2008  
MA, Demography, University of California Berkeley, 2001  
BA, Economics, summa cum laude, Shanghai International Studies University, 1998

#### **Publications**

1. Why do sellers hold out in the down market? An option-based explanation, 2012, forthcoming, *Real Estate Economics*
2. Short term buyers and housing market dynamics, 2012, with Robert Edelstein, forthcoming, *Journal of Real Estate Economics and Finance*
3. How do institutional factors influence international real estate returns? 2011, with Robert Edelstein and Desmond Tsang, *Journal of Real Estate Finance and Economics*, 43(1): 130-151.

#### **WORKING PAPERS IN CIRCULATION**

4. Transaction Tax and Speculators, 2012, *joint with Yuming Fu and Bernard Yeung*
5. Smart institutions: the short of it? 2012
6. Short-term speculators and price overreaction in the housing market, 2012, *with Yuming Fu*
7. The hidden peril: the role of the condominium loan market in the recent financial crisis, 2012, *joint with Sumit Agarwal, Yongheng Deng and Chenxi Luo*
8. Short Selling and Stock Returns: The Long Side of It, 2012, *joint with Zsuzsa R. Huszar*
9. Illiquidity and asset prices in a search-intensive market, 2012, *joint with Peng Liu*

#### **HONORS & AWARDS**

Best Paper Award (first prize), Global Chinese Real Estate Congress (GCREC) annual conference, 2012  
Best Paper Award, AREUEA/AsRES Conference, 2009

FRC Tier 1 Research Grant, MOE, 2012-2015,  
Real Estate Research Institute Research Grant (joint with Peng Liu), 2012  
IMAS-CAMRI Applied Finance Research Grant, 2011  
FRC Tier 1 Research Grant, MOE, 2010-2013  
Start-up Research Fund, NUS Business School, 2008-2011  
Fisher Center Fellowship, 2003-2008  
Crawford Doctoral Research Fellowship, 2004-2006  
Hewlett Foundation Fellowship, 2002-2003  
Society of Women Geographers National Fellowship, 2001

### **INVITED CONFERENCE AND SEMINAR PRESENTATIONS**

- 2012** AREUEA Annual Conference, Chicago (2 papers)  
University of Florida, Finance Department  
University of Cincinnati, Finance Department  
National University of Singapore, Department of Finance, IRES  
Finance Down Under conference, Melbourne, Australia  
American Real Estate Society Meeting, Florida (co-author)  
Global Chinese Real Estate Congress, Macau  
IRES symposium on Asia Growth and Urban Economy, NUS  
China International Finance Conference (2 papers), Chongqing  
6th Singapore International Finance Conference JFW
- 2011** China International Finance Conference, Wuhan  
5th Singapore International Finance Conference JFW (co-author)  
NUS IRES Real Estate Symposium  
International AREUEA/AsRES Conference, Jeju, Korea (co-author)  
Asian Pacific Real Estate Real Estate Symposium, Adelaide, Australia  
Maastricht-NUS-MIT symposium, Maastricht, The Netherlands  
National University of Singapore
- 2010** AREUEA Annual Conference, Atlanta,  
Pre-WFA Summer Real Estate Symposium, Victoria, Canada  
Asian Finance Association Conference, HK,  
4th Singapore International Finance Conference JFW,  
FMA Annual Meeting, NYC,  
Haas School of Business, University of California, Berkeley (co-author)  
Massey University (co-author)  
National University of Singapore
- 2009** AREUEA Annual Conference, San Francisco,  
International AREUEA/AsRES Conference, Los Angeles  
Global Chinese Real Estate Congress
- 2008** AsRES Annual Conference, Shanghai,  
DePaul University  
Rice University  
Concordia University

National University of Singapore  
Moody's KMV  
BGI

### **TEACHING EXPERIENCE**

Instructor, Fin3102, Undergraduate Investment Analysis and Portfolio Management, NUS Business School, National University of Singapore Spring 2009-2011 (Student Evaluation: 4.22, 3.94, 4.23 out of 5)

Instructor, BFA 6002, PhD Finance Theory, NUS Business School, National University of Singapore, fall 2011 (Student Evaluation: 4.67 out of 5)

### **PROFESIONAL AFFILIATION AND ACTIVITIES**

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<b>Member</b>	AFA, WFA and AREUEA
<b>Ad Hoc Referee</b>	<i>Journal of Urban Economics</i> <i>Real Estate Economics</i> <i>Journal of Real Estate Finance and Economics</i> <i>Journal of Housing Economics</i> <i>Regional Science and Urban Economics</i> <i>Pacific-Basin Finance Journal</i> <i>Financial Review</i>
<b>Organizing Committee</b>	NUS IRES Real Estate Symposium, 2011 International Real Estate Conference of AREUEA/AsRES, 2009
<b>Review Committee</b>	4 <sup>th</sup> and 5 <sup>th</sup> Singapore International Finance Conference Asian Finance Association Annual Meeting, 2010, 2011, 2012 NUS Risk Management Conference, 2010
<b>Discussant</b>	ASSA-AREUEA (2012, 2013), FSU-UF Critical Issues Symposium (2012), International AREUEA (2009, 2011), China International Finance Conference (2011, 2012), Asian Finance Association (2010), Financial Management Association (2010), NUS IRES Research Symposium (2010, 2012), Third Singapore International Finance Conference (2009), APRER Real Estate Symposium (2008, 2009, 2011), MIT Maastricht NUS Real Estate Symposium (2009)
<b>Grant Reviewer</b>	Risk Management Institute Research Grant, NUS, 2010 Hong Kong Research Grants Council, 2010

## SUMIT AGARWAL

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### EMPLOYMENT

#### Professional Positions

Dean's Chair Associate Professor of Finance and Real Estate, NUS	2013 - 2015
Research Director, Center for Asset Management Research and Investments, NUS	2012 - Present
Senior Financial Economist, Federal Reserve Bank of Chicago	2008 - 2012
Financial Economist, Federal Reserve Bank of Chicago	2006 - 2008
SVP, Credit Risk Management Executive, Bank of America	2004 - 2006
VP, Financial Economist, Bank of America	2000 - 2004
Senior Analyst, Health Products Research	1999 - 2000

#### Visiting and Consulting

Research Associate, Institute for Real Estate Studies, NUS	2012 - Present
Research Associate, Risk Management Institute, NUS	2012 - Present
Research Associate, Center for Quantitative Finance, NUS	2012 - Present
Visiting Scholar, Office of the Comptroller of the Currency	Sept 2012
Visiting Scholar, Federal Reserve Bank of Philadelphia	Nov 2011
Visiting Scholar, De Nederlandsche Bank, Amsterdam	Sept 2011
Visiting Associate Professor of Finance, Indian School of Business	2008 - 2010
Visiting Scholar, Riksbank, Sweden	Sept 2009
Fellow, Federal Deposit Insurance Corporation	2008
Consultant, World Bank-IFC	2008
Adjunct Assistant Professor, Finance Department, DePaul University	2007
Fellow, Federal Deposit Insurance Corporation	2006

### EDUCATION

<b>Ph.D.</b> , Economics, University of Wisconsin - Milwaukee	1995 - 1999
<b>M.A.</b> , Economics, University of Wisconsin - Milwaukee	1993 - 1995
<b>B.Sc.</b> , Computer Science, University of Wisconsin - Milwaukee	1989 - 1993

### RESEARCH

#### Interest

Financial Institutions; Household Finance; Behavioral Economics; Law and Economics; Financial Education and Counseling; Real Estate Finance; International Finance; Financial Regulation

#### Citation Count, Paper Downloads, Author Rank

Over 1470 citations in published and working papers (Source: Google Scholar, Dec. 2012)

Over 17,300 downloads of my papers (Source: SSRN, Dec. 2012)

Author rank 610 out of 200,000 as measured by number of downloads (Source: SSRN, Dec. 2012)

#### Publications and Forthcoming Papers (Selected)

1. "Optimal Mortgage Refinancing: A Closed Form Solution" (with Driscoll, J., and D. Laibson), NBER Working Paper #13487, forthcoming, *Journal of Money, Credit and Banking*
2. "Cognitive Ability and Financial Decision Making" (with Mazumder, B), forthcoming, *American Economic Journal: Applied Economics*, 2013, Vol. 5(1)

3. "Consumption and Debt Response to Minimum Wage Hikes" (with Aaronson, D., and E. French), *American Economic Review*, 2012, Vol. 102(7), Pp. 3111-39 (Lead Article)
4. "Adverse Selection in Mortgage Securitization" (with Chang, Y. and A. Yavas), forthcoming, *Journal of Financial Economics*, 2012, Vol. 105(3), Pp.640-660
5. "The Role of Securitization in Mortgages Renegotiation" (with Amromin, G., I. Ben-David, S. Chomsisengphet and D. Evanoff), *Journal of Financial Economics*, 2011, Vol. 102(3), Pp.559-578
6. "The Term Structure of Lease Rates with Endogenous Default Triggers and Tenant Capital Structure: Theory and Evidence" (with Ambrose, B., H. Huang, and Y. Yildirim), *Journal of Financial and Quantitative Analysis*, 2011, Vol.46(2), Pp. 553-584
7. "The Role of Soft Information in Dynamic Contract Settings: Evidence from the Home Equity Market" (with Ambrose, B., S. Chomsisengphet, and C. Liu), *Journal of Money, Credit and Banking*, 2011, Vol. 43(4), Pp. 633-655
8. "Distance and Private Information in Lending" (with Hauswald, R), *Review of Financial Studies*, 2010, Vol. 23(7), Pp. 2757-2788
9. "The Importance of Adverse Selection in the Credit Card Market: Evidence from Randomized Trials of Credit Card Solicitations" (with Chomsisengphet, S., and C. Liu), *Journal of Money, Credit and Banking*, 2010, Vol. 42(4), Pp. 743-754
10. "Learning to Cope: Voluntary Financial Education Programs and the Housing Crisis" (with Amromin, G., I. Ben-David, S. Chomsisengphet, and D. Evanoff), *American Economic Review – Papers and Proceedings*, 2010, Vol. 100(2), Pp. 495-500
11. "The Age of Reason: Financial Decisions over the Life Cycle and Implications for Regulation" (with Driscoll, J., X. Gabaix, and D. Laibson), NBER Working Paper #1319, *Brookings Papers on Economic Activity*, 2009, Vol. Fall, Pp. 51-117
12. "Payday Loans and Credit Cards: New Liquidity and Credit Scoring Puzzles?" (with Skiba, P., and J. Tobacman), NBER Working Paper #14659, *American Economic Review – Papers and Proceedings*, 2009, Vol. 99(2), Pp. 412-417
13. "Reaction of Consumer Spending and Debt to Tax Rebates - Evidence from Consumer Credit Data" (with Liu, C., and N. Souleles), NBER Working Paper #13694, *Journal of Political Economy*, 2007, Vol. 115(6), Pp. 986-1019
14. "An Empirical Analysis of Home Equity Loan and Line Performance" (with Ambrose, B., S. Chomsisengphet, and C. Liu), *Journal of Financial Intermediation*, 2006, Vol. 15(4), Pp. 444-469
15. "Credit Quality and Credit Commitment" (with Ambrose, B., and C. Liu), *Journal of Money, Credit and Banking*, 2006, Vol. 38(1), Pp., 1-22 (Lead article)

### **Working Papers**

1. "Do Consumers Choose the Right Credit Contracts?" (with Chomsisengphet, S., C. Liu, and N. Souleles), revise and resubmit at *Review of Financial Studies*
2. "Did Predatory Lending Precipitate the Financial Crisis?" (with Amromin, G., I. Ben-David, S. Chomsisengphet, and D. Evanoff), revise and resubmit at *Journal of Financial Economics*
3. "Learning in the Credit Card Market" (with Driscoll, J., X. Gabaix, and D. Laibson), NBER Working Paper #13822, revise and resubmit 3<sup>rd</sup> round, *American Economic Review*
4. "Inconsistent Regulators: Evidence from Banking" (with Lucca, D., A. Seru and F. Trebbi), NBER Working Paper #17736, reject and resubmit at *Quarterly Journal of Economics*
5. "Policy Intervention in Debt Renegotiation: Evidence from Home Affordability Modification Program" (with Amromin, G., I. Ben-David, S. Chomsisengphet, A. Seru and T. Piskorski), reject and resubmit at *Quarterly Journal of Economics*
6. "Market Bases Loss Mitigation Outcome for Troubles Mortgages during the Financial Crisis" (with Amromin, G., I. Ben-David, S. Chomsisengphet and D. Evanoff), reject and resubmit at *Review of Financial Studies*
7. "The Effects of Financial Education on Household Financial Decision Making: Evidence from a Natural Experiment of Mortgage Advice" (with Amromin, G., I. Ben-David, S. Chomsisengphet, and D. Evanoff)
8. "The Choice Between Arm's-Length and Inside Debt" (with Hauswald, R)

9. "Relationship Lending: Evidence from the Consumer Credit Market" (with Chomsisengphet, S., C. Liu, and N. Souleles)
10. "The Effects of Loan Officers' Compensation on Loan Approval and Performance: Direct Evidence from a Corporate Experiment" (with Ben-David, I)
11. "New Loans, Existing Lines of Credit and Repayment" (with Nakamura, E., E. Ravina, and J. Steinsson)
12. "The Politics of Mortgage Foreclosures" (with Amromin, G., I. Ben-David, and S. Dinc)
13. "Timing to the Statement: Understanding Fluctuations in Consumer Credit Use" (with Bubna, A., and M. Lipscomb)
14. "Why do Borrowers Make Mortgage Refinancing Mistakes?" (with Rosen, R., and V. Yao)
15. "Do Second Liens Holdup First Lien Holders' Modifications?" (with Amromin, G., I. Ben-David, S. Chomsisengphet, and Y. Zhang)
16. "Collateral Valuation and Institutional Pressures: Evidence from the Residential Real-Estate Market" (with Ben-David, Z., and V. Yao)
17. "The Hidden Perils: The Role of the Condominium Market in the Current Financial Crisis?" (with Deng Y., X. Luo, and W. Qian)
18. "Do Lenders Steer Borrowers to High Risk Mortgage Products?" (with Evanoff, D)
19. "Consumption Response to State Sales Tax Holidays" (with McGranahan, L)
20. "How much did CRA impact bank lending standards?" (with Benmelech, E., N. Bergman, A. Seru)
21. "In Mood for a Loan: Causal effect of Sentiment on Credit Origination" (with Duchin R., and D. Susuria)

#### **Grants/Awards/Lectures**

1. Red Rock Finance Conference, Best Paper Award September 2012  
"Inconsistent Regulators: Evidence from Banking" (with Lucca, D., A. Seru and F. Trebbi)
2. Excellence in Refereeing Award 2011/2012 – *American Economic Review* June 2012
3. NUS Research Grand February 2012  
"Consumer Behavior in Financial Markets" 2012-2015 (Singapore \$60,000)
4. Russell Sage Foundation Grant November 2011  
"The Great Recession and Fringe Banking" (with Mazumder, B. and T. Gross) 2011-2014 (\$150000)
5. Networks Financial Institute Competition, Best Paper Award January 2011  
"The Effects of Financial Education on Household Financial Decision Making: Evidence from a Natural Experiment of Mortgage Advice" (with Amromin, G., I. Ben-David, S. Chomsisengphet, and D. Evanoff) (\$ 2,500)
6. TIAA-CREF Paul A. Samuelson Award January 2011  
"The Age of Reason: Financial Decisions over the Life Cycle and Implications for Regulation" (with Driscoll, J., X. Gabaix, and D. Laibson) (\$2000)
7. Terker Family Prizes in Investment Research Award, Wharton January 2009  
"Reaction of Consumer Spending and Debt to Tax Rebates - Evidence from Consumer Credit Data" (with Liu, C., and N. Souleles) (\$5,000)
8. Wageningen University, Netherlands December 2008  
Keynote address on "Financial capability and household financial management" at a colloquium organized by the International Association for Research in Economic Psychology
9. Paolo Baffi Centre on Central Banking and Financial Regulation Grant May 2008  
"The Effects of Financial Education on Household Financial Decision Making: Evidence from a Natural Experiment of Mortgage Advice" (with Amromin, G., I. Ben-David, S. Chomsisengphet, and D. Evanoff) (Euro 6,000)

#### **PROFESSIONAL SERVICES**

##### **Invited Seminar and Conference Presentations**

- 2012 -Financial Services Authority, Behavioral Economics Forum, London, UK  
 TAU Finance Conference, Tel Aviv University, Israel  
 CEPR-ECB RoF Conference on Small Business Finance, Frankfurt, Germany

Singapore Scholars Symposium, Singapore  
 National University of Singapore, Singapore  
 Georgetown University, Washington DC  
 The World Bank, Washington DC  
 Office of the Comptroller of the Currency, Washington DC  
 Civil Services College, Behavioral Economics Forum, Singapore  
 Summer Research Conference in Finance, ISB, Hyderabad, India  
 Microeconomic Network Meeting, Copenhagen, Denmark  
 Symposium on Household Finance, HKUST, Hong Kong  
 Institute for Real Estate Studies, NUS, Singapore  
 Haas School of Business, University of California Berkeley  
 2011 -Whitman School of Management, Syracuse University  
 Association of Consumer Research, St. Louis  
 De Nederlandsche Bank, Research Department, Amsterdam, Netherland  
 Household Decisionmaking Conference, Aspen  
 Western Economics Association Meeting, San Diego  
 Boulder Summer Conference on Consumer Financial Decision Making, Boulder  
 Federal Reserve Bank of Cleveland  
 Office of the Comptroller of the Currency, DC  
 Federal Reserve Bank of New York  
 National University of Singapore, Singapore  
 Regulating Financial Intermediaries: Challenges and Constraints Conference, LSE, UK  
 Center for the Economic Analysis of Risk Conference, Denver  
 2010 -Law and Economics Colloquium, Northwestern University  
 Financial Literacy around the World Conference, Turin, Italy  
 Department of Finance, Washington University  
 Center for Financial Studies Conference on Household Finance, Athens, Greece  
 System Applied Micro Conference, Federal Reserve Bank of Boston  
 46<sup>th</sup> Bank Structure and Competition Conference, Federal Reserve Bank of Chicago  
 Family Financial Security: Implications for Policy and Practice Symposium, UW-Madison  
 Psychology and Banking Symposium, University of Missouri  
 Department of Finance, University of Maryland  
 Indian School of Business, Hyderabad, India  
 Department of Finance, DePaul University  
 American Economic Association, Atlanta  
 2009 -CEPR-ECB-UA Conference on Competition in Banking Markets, Antwerp, Belgium  
 Department of Economics, UW-Milwaukee  
 International Monetary Fund  
 Department of Finance, Pennsylvania State University  
 Riksbank, Stockholm, Sweden  
 Research Institute of Industrial Economics, Stockholm, Sweden  
 Department of Finance, University of Minnesota  
 Federal Reserve Bank of Boston  
 Summer Research Conference in Finance, ISB, Hyderabad, India  
 European Financial Management Association, Milan, Italy  
 Conference on Behavioral Macroeconomics, Australian National University, Australia  
 Department of Finance, University of Oklahoma  
 Department of Economics, Ohio State University  
 Federal Reserve Bank of Atlanta  
 Columbia Business School, Columbia University  
 American Economic Association, San Francisco

**Session Chair(C)/Discussant(D)**

2013- American Economic Association (D)  
 AREUEA Meetings (D, C)

- 2012 -AREUEA Mid Year Conference, Singapore (D)
- Summer Research Conference in Finance, ISB, Hyderabad, India (D)
- Symposium on Household Finance, HKUST, Hong Kong (C)
- Allied Social Sciences Association Meeting (D)
- 2011 -NBER Conference on Improving the Measurement of Consumer Expenditures (C, D)
- 5th Singapore International Conference in Finance (D)
- Day Ahead Conference of the Federal Reserve System, Denver (D)
- American Economic Association, Denver (C)
- 2010 -Conference on Financial Economics and Accounting, University of Maryland (D)
- 46<sup>th</sup> Bank Structure and Competition Conference, Federal Reserve Bank of Chicago (C)
- American Economic Association (D, C)
- 2009 -System Financial Structure and Regulation Conference (D)
- Summer Research Conference in Finance, ISB, Hyderabad, India (D)
- European Financial Management Association, Milan, Italy (C, D)
- AERUEA Mid-year Meetings (D)
- Financial Intermediation Research Society Conference, Prague, Czech Republic (D)
- System Applied Micro Conference, Federal Reserve Bank of Kansas City (D)
- CAF-FIC-SIFR Emerging Financial Markets Conference (D)
- American Economic Association (C)
- AREUEA Meetings (D)

### **Organization of Sessions and Program Committees**

- Organizing Committee, Behavioral Economics Summer Camp at NUS, 2013
- Singapore International Conference in Finance, paper reviewer, 2012; and program committee, 2013
- FIRS annual conference, program committee, 2011, 2012, 2013
- RFS Cavalcade Conference, paper reviewer, 2012
- AEA session “Mortgage Markets and Policy Response” 2012
- Bank Structure Conference, program committee, 2007, 2008, 2009, 2010, 2011, 2012
- AREUEA conference, program committee, 2010, 2012
- MEA annual conference, program committee, 2010
- Chicago Fed and FDIC, Future of Housing Finance conference, program committee, 2010
- AEA session “Consumption and Credit” 2010
- AEA session “Cognitive Abilities and Financial Decision Making” 2010
- FMA conference, program committee, 2009
- CAF-FIC-SIFR, Emerging Financial Markets Conference, program committee, 2009
- Best Paper Award Nomination Committee, Summer Research Conference in Finance at ISB, 2008
- AEA session “Household Finance: Mortgage Choice, Persuasion, and Life Cycle Housing” 2008
- MEA session “Consumer Finance: Home Equity Lending” 2006

### **Referee (Journals)**

- American Economic Review
- American Economic Journal - Applied Economics
- American Economic Journal - Macro
- Econometrica
- Journal of Finance
- Journal of Financial Intermediation
- Journal of Money, Credit and Banking
- Journal of Political Economy
- Journal of Public Economics
- Quarterly Journal of Economics
- Review of Economics and Statistics
- Review of Economic Studies
- Review of Financial Studies

**Referee (Grant Application)**

National Science Foundation

Social Science and Humanities Research Counsel of Canada