Proposal for NBER Household Finance Research Grant 2017

Sumit Agarwal, Georgetown University

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Housing assets account for significant proportion of household balance sheet. The decisions of housing transactions and mortgage is one of the most important household finance decisions. However, housing market is complicated for several reasons. First, housing market involves many different players in the housing transaction process, which suggests asymmetric information plays an important role. For example, it often involves real estate agent to facilitate the matching between buyers and sellers. Appraisers are involved to value the house in this situation so that the originator can determine the loan contract. Second, the mortgage decisions are often difficult due to complex mortgage contract and borrowers' behaviorial biases. The mortgage credit market is subject to classic adverse selection and moral hazard problem in credit market.

This proposal aims to understand how the housing market functions given the asymmetric information and individual behavioural biases. We apply differences-in-differences strategy, fixed effects model and explore the unique setting of adjusted rate mortgage to study the US housing market given asymmetric information and individual behavioural biases. In particular, we have three research questions.

The first is to study the behavioural bias of mortgage borrowers and mortgage originators' reaction to borrowers' bias. Standard economic theory suggests that rational agents are invariant to the salience of product attributes. Evidence from behavioural economics suggests that agents have limited attention and they are less responsive to less salient product attributes (Brown, Hossain, and Morgan, 2010; Chetty, Looney, and Kroft, 2009). How should banks design the mortgage contracts to maximize the profit, given the existence of agents with limited attention? The question is less explored due to lack of data and research design. We fill the gap by focusing on how banks respond to deregulation and competition when designing their contract. We study the question using a large dataset with mortgage contracts in US specifically in the adjusted rate mortgage (ARM) contract in U.S. given that consumers have limited attention on contract terms in future. We study the impact of banking deregulation (Interstate Banking and Branching Efficiency Act (IBBEA)) on banks strategy.

We use several dataset. We use a time-varying index constructed by Rice and Strahan (2010) capturing differences in regulatory constraint between 1994 and 2005. Two other dataset are use in addition to the index. Loan level mortgage dataset consisting of around 1.5 million mortgage loans originated between 1994 and 2005 is use. It is mainly taken from the prime ARM mortgage from a large US national representative mortgage bank with information including loan performance, borrowers characteristics and loan characteristics such as initial rate, margin, fixed term, loan-to-value ratio, zip code and others. The other dataset consist of country level information by the U.S Bureau of Economic Analysis (BEA) with information including income per capita, population, house prices and the Herfindahl index. Fixed effects is used to control for the unobserved heterogeneity as the differences in the relative bargaining power of large compared to small banks will tend to be very persistent.

We hypothesize that banks are more likely to shroud after deregulation: they reduce teaser rate to compete for consumers and increase the margin to extract more profit from naïve consumers. There are two possible explanation why deregulation increases shrouding. Firstly deregulation

increases bank competition in mortgage origination and hence banks are more likely to target naïve borrowers increasing the proportion of naïve borrowers. Secondly deregulation increases banks competition in financial services by reducing the opportunity costs of refinance that increases the possibility of shrouded equilibrium.

The second is to study selection on moral hazard in mortgage market. Adverse selection and moral hazard have been well documented in insurance market (Finkelstein and Poterba 2004) and credit market (Karlan and Zinman 2009). However, selection on moral hazard is less explored due to lack of data and research design. We study the selection on moral hazard in mortgage market using a large dataset of adjusted rate mortgage (ARM) in US. Adverse selection in the mortgage market is deemed as those who have a mortgage with a higher teaser rate will often face higher risk. Moral hazard in the mortgage market predicts that increase in interest rate will increase defaults. The more responsive the default to interest rate is, the larger the moral hazard is. Selection on moral hazard suggests that those who have a mortgage with a higher teaser rate are more responsive to interest rate change.

We hypothesize that that mortgage with high interest rate has a higher slope than those who do not. This means that for the selection on moral hazard. Not only are those paying high teaser rates more likely to default, but also for those adjusted interest rates, the response of default to the interest rate change is much higher under selection on moral hazard.

The third is to analyse the biases of real estate agent and appraisers and its implications. Lenders in the real estate market rely heavily on appraisers in estimating the value of the collateral, especially in refinance transactions. However, appraisers may be subject pressures to bias their valuation by the parties involved: lenders, intermediaries, or even borrowers. We analyse appraisers' valuation bias by analyzing the detailed appraiser behaviours during the valuation process using the dataset about the appraisers' choice of neighbourhoods. We hypothesize that appraisers would like to choose neighbourhoods or areas with higher housing prices.

Real estate agents play an important intermediary role in housing markets. Agency problems arise when interests between house buyers/sellers and real estate agents are misaligned. If real estate agents are merely motivated by commissions, they will try to close deals in the shortest possible time, rather than to get the "best" attainable prices for their clients. We study the agent bias by empirically testing if agents use information advantages to buy own houses at prices lower than houses they broker for other buyers. We hypothesize that agent enjoy price discount when buying houses for their own compared to buying for other buyers.

Itemized Budget Proposal

RA: $6000

Justification: need research assistance to manually collect and clean the data in the proposal

1. Calculate distance of home address to state border in mortgage data
2. Decode location of neighbourhood choices in our appraiser data
3. Data analysis

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

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Mailing Address:

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Academic Employment:

Assistant Professor of Economics, National University of Singapore, 2012-present

Education:

Ph.D. University of California Berkeley, Department of Economics, June 2012

B.S. Tsinghua University, School of Economics and Management, June 2006

Teaching and Research Field:

Development Economics, Psychology and Economics

Applied Econometrics, Experimental Economics

Publication:

"Do disaster experience and knowledge affect insurance take-up decisions?" (with Jing Cai), Journal of Development Economics, Volume 124, January 2017, Pages 83-94

Working Papers:

"Financial Illiteracy and Pension Contributions: A Field Experiment on Compound Interest in China"

"An Experiment on Reference Points and Expectations"

"The Unintended Consequences of Credit: The Impact of Housing Credit on Personal Bankruptcy" (with Sumit Agarwal)

"Why Do Real Estate Agents Buy Houses at Lower Prices? Cherry Picking or Bargaining Power" (with Sumit Agarwal, Jia He, and Tien Foo Sing)

"Banking Competition and Shrouded Attributes: Evidence from the US Mortgage Market" (with Sumit Agarwal and Vincent Yao)

Teaching:

Development Economics (undergraduate), *National University of Singapore*

Economy of Modern China (undergraduate), *National University of Singapore*

Principles of Economics (undergraduate), Game Theory (undergraduate)

Microeconomic Theory (graduate), Econometrics (graduate), *TA at UC Berkeley*

Professional Activities:

Presentations: National Bureau of Economic Research China meeting (Boston), Thurgau Experimental Economics Meeting (Switzerland), Asia-Pacific Meeting of the Economic Science Association (Tokyo), Chicago Booth Junior Finance Symposium, Stanford Institute of Theoretical Economics (SITE), 'Experimental Economics' Session , Stanford Institute of Theoretical Economics (SITE), 'Psychology and Economics' Session, Impact and Policy Conference (Bangkok), AEA Conference on Teaching and Research in Economic Education (Boston), Pacific Conference for Development Economics (Davis), Stockholm School of Economics, Chinese University of Hong Kong, National University of Singapore, Washington University in St. Louis (Olin School of Business), University of Pennsylvania (Wharton School), University of Maryland, MIT (Sloan), University of Chicago (Booth), San Francisco State University

Referee: Review of Economics and Statistics, Journal of the European Economic Association, Journal of Public Economics, Journal of Development Economics

Fellowships and Awards:

2014 FRC Tier 1 Research Grant, Ministry of Education, Singapore

2013 National University of Singapore-Global Asia Institute Research Grant

2012 Start-up Research Fund, National University of Singapore

2010 National Bureau of Economic Research Household Finance Working Group Grant

2010 Center for Equitable Growth Small Grant, University of California, Berkeley

2009 Small Grants Program in Behavior Economics, Russell Sage Foundation

2009 Graduate Student Pilot Grant, University of California Berkeley Xlab

2009 Center of Evaluation for Global Action mini grant, University of California, Berkeley

2006 Excellent thesis of B.A., Tsinghua University, Beijing

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EMPLOYMENT

Professional Positions

Georgetown University	2016-Present
William G. Droms Term Professor of Finance, McDonough School of Business	2016-Present
Professor of Economics (courtesy), Department of Economics	2016-Present

National University of Singapore	2012-2016
Vice-Dean of Research and PhD Program, School of Business	2015-2016
Low Tuck Kwong Professor	2014-2016
Professor of Finance, School of Business	2014-2016
Professor of Economics, School of Arts and Social Science	2014-2016
Professor of Real Estate, School of Design and Environment	2014-2016
Deputy Head (Research), Department of Real Estate	2013 - 2015
Dean's Chair Associate Professor of Finance and Real Estate, NUS	2013 - 2015
Research Director, Center for Asset Management Research and Investments	2012 - 2016
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

Consultant, Bank for International Settlement, Switzerland	2015-2016
Consultant, Monetary Authority of Singapore, Singapore	2015-2016
Distinguished Senior Visitor of the Research Center SAFE, Goethe University	Sept 2015
Consultant, Inter-American Development Bank, Washington DC	July 2015
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

Editorial Positions

Editor, Real Estate Economics 2015 – Present
Associate Editor, Management Science (Finance Department) 2014 - Present
Associate Editor, Journal of Financial Services Research 2014 - Present

EDUCATION

Ph.D., Economics, University of Wisconsin - Milwaukee 1995 - 1999
M.A., Economics, University of Wisconsin - Milwaukee 1993 - 1995
B.Sc., 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

Book

1. *Household Credit Usage: Personal Debt and Mortgages,* (with Ambrose, B), Palgrave-Macmillan Publishing, October, 2007 (edited volume)

Publications and Forthcoming Papers (Selected)

2. "Access to Home Equity and Consumption: Evidence from a Policy Experiment" (with Qian, W), forthcoming *Review of Economics and Statistics*
3. "Systematic Mistakes of Borrowers in the Mortgage Markets" (with Ben-David, Z., and V. Yao), forthcoming *Journal of Finance Economics*
4. "Golf Buddies and Board Diversity" (Qian, W., D. Reeb and S. Tien-Foo), forthcoming *American Economic Review – Papers and Proceedings*
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), forthcoming *Journal of Political Economy*
6. "Rushing into the American Dream? House Prices Growth and the Timing of Homeownership" (with Hu, L., and X. Huang), forthcoming *Review of Finance*
7. "The Hidden Perils: The Role of the Condominium Market in the Current Financial Crisis?" (with Deng Y., X. Luo, and W. Qian), forthcoming *Review of Finance*
8. "Why do Borrowers Make Mortgage Refinancing Mistakes?" (with Rosen, R., and V. Yao), forthcoming *Management Science*
9. "The Information Value of Credit Rating Action Reports: A Textual Analysis" (with Chen, V., and W. Zhang), forthcoming *Management Science*
10. "Collateral Pledge, Sunk-Cost Fallacy, and Mortgage Default" (with Green, R., and V. Yao), forthcoming *Journal of Financial Intermediation*
11. "Adverse Selection in Lending: Evidence from Home Equity Cash Out Behavior" (with Chomsisengphet, S. and C. Liu), forthcoming *Journal of Financial Services Research*

12. "Impact of Electronic Road Pricing (ERP) charges on Real Estate Prices in Singapore", (with Mo Koo, K., and S. Tien-foo), forthcoming *Journal of Urban Economics*

13. "The Subprime Virus" (with Ambrose, B. and Y. Yildirim), *Real Estate Economics*, 2015, Vol. 43(4), Pp. 891-915

14. "Financial Literacy and Financial Planning: Evidence from India" (with Amromin, G., I. Ben-David, S. Chomsisengphet and D. Evanoff), *Journal of Housing Economics,* 2015, Vol 27, Pp. 4-21

15. "Do Consumers Choose the Right Credit Contracts?" (with Chomsisengphet, S., C. Liu, and N. Souleles), *Review of Corporate Financial Studies,* 2015, Vol 4(2), Pp. 239-257

16. "The Composition Effect of Consumption Around Retirement: Evidence from Singapore" (with Pan, J., and W. Qian), *American Economic Review – Papers and Proceedings*, 2015, Vol. 105(5), Pp. 426-431

17. "Collateral Valuation and Institutional Pressures: Evidence from the Residential Real-Estate Market" (with Ben-David, Z., and V. Yao), *Management Science,* 2015, Vol. 61(9), Pp.2220-2240

18. "Regulating Consumer Financial Products: Evidence from the Card Act" (with, Chomsisengphet, S., N. Mahoney and J. Stroebel), *Quarterly Journal of Economics*, 2015, Vol. 130(1), Pp. 111-164

19. "Consumption and Debt Response to Unanticipated Income Shocks: Evidence from a Natural Experiment in Singapore" (with Qian, W), *American Economic Review,* 2014, Vol. 104(12), Pp. 4205-4230

20. "A Simple Framework for Estimating Consumers Benefits from Regulating Hidden Fees" (with, Chomsisengphet, S., N. Mahoney and J. Stroebel), *Journal of Legal Studies*, 2014, Vol. 43(S2), Pp. 239-252

21. "Predatory Lending and the Subprime Crisis?" (with Amromin, G., I. Ben-David, S. Chomsisengphet, and D. Evanoff), *Journal of Financial Economics,* 2014, Vol. 113(1), Pp. 29-52

22. "Inconsistent Regulators: Evidence from Banking" (with Lucca, D., A. Seru and F. Trebbi), *Quarterly Journal of Economics*, 2014, Vol. 129(2), Pp.889-938

23. "Optimal Mortgage Refinancing: A Closed Form Solution" (with Driscoll, J., and D. Laibson), *Journal of Money, Credit and Banking*, 2013, Vol. 45(4), Pp. 591-622

24. "Cognitive Ability and Financial Decision Making" (with Mazumder, B), *American Economic Journal: Applied Economics,* 2013, Vol. 5(1), Pp. 193-207

25. "Consumption and Debt Response to Minimum Wage Increases" (with Aaronson, D., and E. French), *American Economic Review,* 2012, Vol. 102(7), Pp. 3111-39 (Lead Article)

26. "Adverse Selection in Mortgage Securitization" (with Chang, Y. and A. Yavas), *Journal of Financial Economics,* 2012, Vol. 105(3), Pp.640-660

27. "Thy Neighbor's Mortgage: Does Living in a Subprime Neighborhood Affect Once Probability of Default" (with Ambrose, B., S. Chomsisengphet, and A. Sanders), *Real Estate Economics,* 2012, Vol. 40(1), Pp. 1-22 (Lead article)

28. "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

29. "Does Social Capital Impact Household Default and Bankruptcy Behavior?" (with Chomsisengphet, S and C. Liu), *Journal of Economic Psychology,* 2011, Vol. 32, Pp. 632-650

30. "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

31. "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

32. "Internal Capital Allocation in a Diversified Firm: Evidence from the Annual Capital Expenditure Survey" (with Chiu, I., X. Souphom, and G. Yamashiro), *Quarterly Review of Economics and Finance,* 2011, Vol. (51), Pp. 162-172

33. "The Brokerage Firm Effect in Herding: Evidence from Indonesia" (with Chiu, I., Liu, C., and G. Rhee), *Journal of Financial Research,* 2011, Vol. 34(3), Pp. 461-479

34. "Distance and Private Information in Lending" (with Hauswald, R), *Review of Financial Studies,* 2010, Vol. 23(7), Pp. 2757-2788

35. "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

36. "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

37. "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

38. "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

39. "Bankruptcy Exemption Laws and the Market for Mortgages" (with Chomsisengphet, S), *Cityscape,* 2009, Vol. 11(1), Pp. 101-112

40. "Why do Foreign Investors Under-Perform Domestic Investors in Trading Activities? Evidence from Indonesia" (with Faircloth, S., C. Liu, and G. Rhee), *Journal of Financial Markets,* 2009, Vol. 12, Pp. 32-53

41. "Investor Demand for Initial Public Offerings and Aftermarket Performance of These Firms: Evidence from the Hong Kong Stock Market" (with Liu, C., and G. Rhee), *Journal of International Financial Markets, Institutions, and Money*, 2008, Vol. 18, Pp. 176-190

42. "Do Forbearance Plans Help Mitigate Credit Card Losses?" (with Chomsisengphet, S., and L. Mielnicki), *Journal of Family and Economic Issues,* 2008, Vol. 29(2), Pp. 191-209 (Lead article)

43. "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

44. "Earnings Management Behavior Under Different Economic Environments: Evidence from Japanese Banks" (with Chomsisengphet, S., C. Liu, and G. Rhee), *International Review of Economics and Finance,* 2007, Vol. 16(3), Pp. 429-443

45. "Where Does Price Discovery Occur for Stocks Traded in Multiple Markets? Evidence from Hong Kong and London" (with Liu, C., and G. Rhee), *Journal of International Money and Finance*, 2007, Vol. 26, Pp. 46-63

46. "The Impact of Homeowners' Housing Wealth Misestimation on Consumption and Saving Decisions" *Real Estate Economics*, 2007, Vol. 35(2), Pp.135-154 (Lead article)

47. "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

48. "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)

49. "The Impact of the 2001 Financial Crisis and the Economic Policy Responses on the Argentine Mortgage Market" (with Chomsisengphet, S., and O. Hassler), *Journal of Housing Economics*, 2005, Vol. 14(3), Pp. 242-270

50. "Impact of State Exemption Laws on Small Business Bankruptcy Decision" (with Chomsisengphet, S., C. Liu, and L. Mielnicki), *Southern Economic Journal*, 2005, Vol. 71(3), Pp. 620-635

51. "Telecommunication and Economic Growth: A Panel Data Approach" (with Dutta, A), *Applied Economics*, 2004, Vol. 36(15), Pp. 1649-1654

52. "Financial Markets and Financing Choices of Firms: Evidence from Developing Countries" (with Mohtadi, H), *Global Finance Journal*, 2004, Vol. 15(1), Pp. 57-70

53. "Mortgages, Minorities, and Discrimination: A Bank-Specific Analysis" (with Li, S., and L. Mielnicki), *Housing Studies*, 2003, Vol. 18(3), Pp. 303-311

54. "Exemption Laws and Consumer Delinquency and Bankruptcy Behavior: An Empirical Analysis of Credit Card Data" (with Liu, C., and L. Mielnicki), *Quarterly Review of Economics and Finance*, 2003, Vol. 43(2), Pp. 273-289

55. "Determinants of Credit Card Delinquency and Bankruptcy: Macroeconomic Factors" (with Liu, C), *Journal of Economics and Finance*, 2003, Vol. 27, Pp. 75-84

Grants/Awards/Lectures

1.NUS FRC Tier 1 Research Grant, Ministry of Education Sep 2015
"Strategic Information Disclosures, Agency Problems and Small Business Lending" (with Wang, Q) 2015-2016, (Singapore $21,000)

2. SAFE, Goethe University, Frankfurt, Germany Sep 2015
Keynote address on, "Detecting corruption through the banking channel" at the House of Finance

3. Inter-American Development Bank, Santiago, Chile July 2015
Keynote address on, "Credit and Debt markets in South America" at the Annual conference of finance regulators

4. National University of Singapore March 2015
Keynote address on "Urbanization and Aging in Singapore"

5.NUS FRC Tier 1 Masim Mas Research Grant, Ministry of Education March 2015
"Behavioral Interventions into Water and Energy Consumption" (with Tien-Foo, S) 2015-2016, (Singapore $36,072)

6. Australian National University Dec 2014
Keynote address on, "Corruption and Insider Trading in Banking and Real Estate Markets" at the ANU Summer Camp

7. HHS Seed Funding, NUS Oct 2014

"Role of Relationship, Aging, Cognitive Abilities, and Housing on Consumer Behavior: Evidence from Credit Registry Data from Finland" 2014-2017, (Singapore $40,000)
8. NUS FRC Tier 1 Research Grant, Ministry of Education July 2014
"Real time information and water conservation" (with Tien-Foo, S) 2014-2017, (Singapore $105,750)
9. Faculty Outstanding Researcher Award, NUS (Singapore $1,000) Dec 2013
10. NUS FRC Tier 1 Research Grant, Ministry of Education May 2013
"Behavioral Studies in Real Estate: Weather Effects, Energy Consumption and Housing Choice" (with Tien-Foo, S) 2013-2016, (Singapore $50,500)
11. NBER Household Finance Group/Sloan Foundation Research Grant February 2013
"Consumer Behavior in Financial Markets in Singapore," (with Qian, W) 2013, ($16,000)
12. NUS FRC Tier 1 Research Grant, Ministry of Education October 2012
"The impact of fiscal policy, housing wealth, liquidity constraints and consumer sentiment on consumption in Singapore," (with Qian, W) 2012-2015, (Singapore $86,100)
13. Red Rock Finance Conference, Best Paper Award September 2012
"Inconsistent Regulators: Evidence from Banking" (with Lucca, D., A. Seru and F. Trebbi)
14. Excellence in Refereeing Award 2011/2012 – *American Economic Review* June 2012
15. NUS Research Grant February 2012
"Consumer Behavior in Financial Markets" 2012-2015 (Singapore $60,000)
16. Russell Sage Foundation Grant November 2011
"The Great Recession and Fringe Banking" (with Mazumder, B. and T. Gross) 2011-2014 ($150,463)
17. Networks Financial Institute Competition, Best Paper Award January 2011
"The Effects of Financial Education on Household Financial Decision Making: Evidence from a Natural Experiment of Mortgage Advice" (with Amromin, G., I. Ben-David, S. Chomsisengphet, and D. Evanoff) ($ 2,500)
18. 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)
19. Terker Family Prizes in Investment Research Award, Wharton School of Business January 2009
"Reaction of Consumer Spending and Debt to Tax Rebates - Evidence from Consumer Credit Data" (with Liu, C., and N. Souleles) ($5,000)