

*University of Pennsylvania  
The Wharton School*

**Advanced Topics in Urban Economics:  
Household Real Estate Decision-Making  
Spring 2024  
REAL 9480**

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Office Hours: Wednesdays, 3:00-4:30 p.m.  
and by appointment

Classroom: JMHH F36  
Time: Tuesdays, 3:30-6:30

In this course we will study theory and evidence of how households make decisions surrounding real estate, how they interact with the financial sector, and how housing and mortgage choices influence urban markets and household balance sheets. We will examine real estate decisions from both supply and demand perspectives. There will be a special focus on the tools of modern empirical research, emphasizing the many challenges to causal identification and popular methodologies to overcome and address these challenges. The course will cover topics in mortgage choice, refinancing, renegotiation, default and foreclosure, discrimination, housing search, and market segmentation.

\*\* Denotes required reading

*1. Introduction to Real Estate*

\*\* Housing and Macroeconomics by Piazzesi and Schneider (Handbook of Macroeconomics 2016) [*Sections 1 – 3.2*]

\*\* Urban Growth and Housing Supply by Glaeser, Gyourko, and Saks (J. Ec. Geography 2005)

\*\* Housing is the Business Cycle by Leamer (WP 2007)

\*\* House Price Dynamics: The Role of Tax Policy and Demography by Poterba (BPEA 1991)

Tax Subsidies to Owner-Occupied Housing: An Asset-Market Approach by Poterba (QJE 1984)

Very Long-Run Discount Rates by Giglio et al. (QJE 2015)

The Wealthy Hand-to-Mouth by Kaplan et al. (BPEA 2014)

Consumption Commitments and Habit Formation by Chetty and Szeidl (ECMA 2016)

## 2. *Mortgage and Housing Choice*

\*\* Household Finance by Gomes, Haliassos, and Ramadorai (JEL 2020) [*Introduction, Section 3.1, Conclusion*]

\*\* Mortgage Market Design by Campbell (RF 2013)

\*\* Household Risk Management and Optimal Mortgage Choice by Campbell and Cocco (QJE 2003)

\*\* The Interest Rate Elasticity of Mortgage Demand: Evidence from Bunching at the Conforming Loan Limit by DeFusco and Paciorek (AEJ:Economic Policy 2017)

\*\* The Economic Effects of Social Networks: Evidence from the Housing Market by Bailey et al. (JPE 2018)

Household Finance by Campbell (JF 2006) [*Introduction, Section 4, Conclusion*]

Interest Rate Pass-Through: Mortgage Rates, Household Consumption, and Voluntary Deleveraging by DiMaggio et al. (AER 2017)

Mortgage Timing by Koijen et al. (JFE 2009)

What Calls to ARMs? International Evidence on Interest Rates and the Choice of Adjustable Rate Mortgages by Badarinza et al. (Management Science 2018)

House Price Beliefs and Mortgage Leverage Choice by Bailey et al. (ReStud 2019)

Owner-Occupied Housing as a Hedge against Rent Risk by Sinai and Souleles (QJE 2005)

Rent or Buy? Inflation Experiences and Homeownership within and across Countries by Malmendier and Wellsjo (WP 2022)

History Dependence in the Housing Market by Bracke and Tenreyro (AEJ: Macro 2021)

Hot and Cold Seasons in the Housing Market by Ngai and Tenreyro (AER 2014)

## 3. *Housing Wealth and Equity Extraction*

\*\* The Mortgage Piggy Bank: Building Wealth through Amortization by Bernstein and Koudijs (WP 2021)

\*\* Interest Rates and Equity Extraction during the Housing Boom by Bhutta and Keys (AER 2016)

\*\* Housing Wealth Effects: The Long View by Guren et al. (ReStud 2021)

House Prices, Home Equity-Based Borrowing, and the U.S. Household Leverage Crisis by Mian and Sufi (AER 2011)

Homeowner Borrowing and Housing Collateral: New Evidence from Expiring Price Controls by DeFusco (JF 2018)

Home is Where the Equity Is: Mortgage Refinancing and Household Consumption by Hurst and Stafford (JMCB 2004)

House Prices and Consumer Spending by Berger et al. (ReStud 2018)

Non-Durable Consumption and Housing Net Worth in the Great Recession: Evidence from Easily Accessible Data by Kaplan et al. (JPubEc 2020)

Loss Aversion and Seller Behavior: Evidence from the Housing Market by Genesove and Mayer (QJE 2001)

Household Liquidity Constraints and Labor Market Outcomes: Evidence from a Danish Mortgage Reform by He and Le Maire (JF 2023)

#### *4. Mortgage Refinancing*

\*\* Teachers Teaching Teachers: The Role of Workplace Peer Effects in Financial Decisions by Maturana and Nickerson (RFS 2019)

\*\* Sources of Inaction in Household Finance: Evidence from the Danish Mortgage Market by Andersen et al. (AER 2020)

\*\* Refinancing, Monetary Policy, and the Credit Cycle by Amromin et al. (Annual Review of Financial Economics 2020)

Optimal Refinancing: A Closed-Form Solution by Agarwal et al. (JMCB 2013)

Failure to Refinance by Keys, Pope, and Pope (JFE 2016)

Mortgage Refinancing, Consumer Spending, and Competition: Evidence from HARP by Agarwal et al. (ReStud 2023)

What's the Catch? Suspicion in Bank Motives and Sluggish Refinancing by Johnson, Meier, and Toubia (RFS 2019)

## *5. Mortgage Default and its Consequences*

\*\* A Model of Mortgage Default by Campbell and Cocco (JF 2015)

\*\* Why do Borrowers Default on Mortgages? by Ganong and Noel (QJE forthcoming)

\*\* Foreclosure Contagion and the Neighborhood Spillover Effects of Mortgage Defaults by Gupta (JF 2019)

\*\* Policy Intervention in Debt Renegotiation: Evidence from HAMP by Agarwal et al. (JPE 2017)

The Consequences of Mortgage Expansion: Evidence from the U.S. Mortgage Default Crisis by Mian and Sufi (QJE 2009)

Household Balance Sheets, Consumption, and the Economic Slump by Mian et al. (QJE 2013)

Regulating Household Leverage by DeFusco et al. (ReStud 2020)

Urban Decline and Durable Housing by Glaeser and Gyourko (JPE 2005)

Forced Sales and Housing Prices by Campbell et al. (AER 2011)

Housing Busts and Household Mobility by Ferreira et al. (JUE 2010)

Consumer Ruthlessness and Mortgage Default during the 2007 to 2009 Housing Bust by Bhutta et al. (JF 2017)

What Triggers Mortgage Default? New Evidence from Linked Administrative and Survey Data by Low (ReStat forthcoming)

## *6. Search and General Equilibrium Models of Mortgage and Housing Markets*

\*\* Competition and Incentives in Mortgage Markets: The Role of Brokers by Robles-Garcia (WP 2020)

\*\* Leverage Regulation and Market Structure: A Structural Model of the U.K. Mortgage Market by Benneton (JF 2021)

Vacancy, Search, and Prices in a Housing Market Matching Model by Wheaton (JPE 1990)

Paying Too Much? Borrower Sophistication and Overpayment in the U.S. Mortgage Market by Bhutta et al. (WP 2021)

The Effects of Mergers in Search Markets: Evidence from the Canadian Mortgage Industry by

Allen et al. (AER 2013)

Regional Redistribution through the U.S. Mortgage Market by Hurst et al. (AER 2016)

Segmented Housing Search by Piazzesi et al. (AER 2020)

The Housing Market(s) of San Diego by Landvoigt et al. (AER 2015)

Prices and Trading Volume in the Housing Market: A Model with Down-Payment Effects by Stein (QJE 1995)

### *7. Asymmetric Information, Adverse Selection, and Moral Hazard*

\*\* Testing for Information Asymmetries in Real Estate Markets by Kurlat and Stroebel (RFS 2015)

\*\* Asymmetric Information about Collateral Values by Stroebel (JF 2016)

No-Bubble Condition: Model-Free Tests in Housing Markets by Giglio, Maggiori, and Stroebel (ECMA 2016)

Credit Rationing in Markets with Imperfect Information by Stiglitz and Weiss (AER 1981)

Measuring the Welfare Cost of Asymmetric Information in Consumer Credit Markets by DeFusco et al. (JFE 2022)

Imperfect Competition in Selection Markets by Mahoney and Weyl (ReStat 2017)

Misinformed Speculators and Mispricing in the Housing Market by Chinco and Mayer (RFS 2016)

Peak-Bust Rental Spreads by Giacoletti and Parsons (JFE 2022)

MBS Ratings and the Mortgage Credit Boom by Ashcraft et al. (WP 2010)

### *8. Discrimination and Technology*

\*\* Do Minorities Pay More for Mortgages? by Bhutta and Hizmo (RFS 2021)

\*\* Predictably Unequal? The Effects of Machine Learning on Credit Markets by Fuster et al. (JF 2021)

\*\* Consumer Lending Discrimination in the FinTech Era by Bartlett et al. (JFE 2021)

The Vulnerability of Minority Homeowners in the Housing Boom and Bust by Bayer et al. (AEJ:Economic Policy 2016)

Securitization and Distressed Loan Renegotiation: Evidence from the Subprime Mortgage Crisis by Piskorski et al. (JFE 2010)

Mortgage Modification and Strategic Behavior: Evidence from a Legal Settlement with Countrywide by Mayer et al. (AER 2014)

FinTech, Regulatory Arbitrage, and the Rise of Shadow Banks by Buchak et al. (JFE 2018)

How Much does Racial Bias Affect Mortgage Lending? Evidence from Human and Algorithmic Credit Decisions by Bhutta et al. (WP 2022)

Do Lenders Still Discriminate? A Robust Approach for Assessing Differences in Menus by Zhang and Willen (WP 2021)

On the Rise of FinTechs: Credit Scoring Using Digital Footprints by Berg et al. (RFS 2020)

### *9. Affordable Housing*

\*\* Local Effects of Large New Apartment Buildings in Low-Income Areas by Asquith et al. (ReStat 2021)

\*\* Who Wants Affordable Housing in Their Backyard? An Equilibrium Analysis of Low-Income Property Development by Diamond and McQuade (JPE 2019)

Knocking it Down and Mixing it Up: The Impact of Public Housing Regenerations by Blanco and Neri (WP 2021)

The Price of Inclusion: Evidence from Housing Developer Behavior by Soltas (ReStat 2022)

#### **Assessment:**

The assessment for the course will be based on the following

- Critical evaluation of a paper (30%), due 02/06
- Research proposal (50%), due 02/20 (when we will discuss in class)
- Class participation (20%)

#### **Critical evaluation of a paper**

This exercise consists of a critical evaluation of one paper, similar in style to a report a referee

would write evaluating the paper for possible publication in a journal, as well as a “letter to the editor” summarizing the report. Students are allowed to choose a paper that has been published in the last 10 years or is not yet published, but please confirm the paper with me first. Read Berk, Harvey, and Hirshleifer, “Preparing a Referee Report: Guidelines and a Perspective,” (JEP 2017) beforehand. The report and editor letter should be submitted as a single PDF file by 02/06/24.

### **Research proposal**

Establish an interesting and feasible research question, briefly survey the relevant literature, discuss possible existing data to analyze the question, provide a research design, and critically comment on it. Research proposals should be discussed with me beforehand. The length should be no more than 4 pages. The proposal should be submitted as a PDF file. We will discuss these proposals in class on 02/20/24.

### **Class participation**

Some sessions we will cover two or three papers in particular detail. For each paper, the discussion will be led by one of us. The others are expected to have carefully read and reviewed the paper as well. Please come to class ready to discuss all starred readings, at minimum.