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Interactions with Frontiers of Financial Economic – A Research Agenda for Real Estate Finance

Abstract

[Excerpt] Recent years have seen the emergence of substantial scholarly research in real estate finance that uses the methodology and paradigms at the frontiers of financial economics. Agency theory, search theory, and signaling have appeared in several models of real estate finance (see, for example, Damodaran, John, and Liu, 1998; Damodaran and Liu, 1993; Williams, 1993a, 1993b, 1995, 1998). Continuous time-valuation models of financial options, real options, and fixed-income securities and term structure models have also been applied in a number of papers on the pricing of mortgage-backed securities with and without sophisticated prepayment structures (for example, see Dunn and Spatt, 1985, 1986; Grenadier, 1995, 1996; John, Liu, and Radhakrishnan, 1997; Stanton and Wallace, 1998; Williams, 1993a, 1993b, 1997). Paradigms of securitization and optimal design of securities and organizational forms have also made their appearance in recent real estate research (see, for example, DeMarzo and Duffie, 1998; DeMarzo, 1998; Shiller and Weiss, 1998; Damodaran, John, and Liu, 1997).

The objective of this special issue is to showcase some of this research in real estate and explore additional paradigms in financial economics that would provide the framework for interesting and innovative real estate research.

Keywords

real estate finance, financial economics, real estate securities

Disciplines

Finance and Financial Management | Real Estate

Comments

Required Publisher Statement

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Interactions with Frontiers of Financial Economics—A Research Agenda for Real Estate Finance

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Recent years have seen the emergence of substantial scholarly research in real estate-finance that uses the methodology and paradigms at the frontiers of financial economics. Agency theory, search theory, and signaling have appeared in several models of real estate finance (see, for example, Damodaran, John, and Liu, 1998; Damodaran and Liu, 1993; Williams, 1993a, 1993b, 1995, 1998). Continuous time-valuation models of financial options, real options, and fixed-income securities and term structure models have also been applied in a number of papers on the pricing of mortgage-backed securities with and without sophisticated prepayment structures (for example, see Dunn and Spatt, 1985, 1986; Grenadier, 1995, 1996; John, Liu, and Radhakrishnan, 1997; Stanton and Wallace, 1998; Williams, 1993a, 1993b, 1997). Paradigms of securitization and optimal design of securities and organizational forms have also made their appearance in recent real estate research (see, for example, DeMarzo and Duffie, 1998; DeMarzo, 1998; Shiller and Weiss, 1998; Damodaran, John, and Liu, 1997).

The objective of this special issue is to showcase some of this research in real estate and explore additional paradigms in financial economics that would provide the framework for interesting and innovative real estate research. In our lead article, "What Is Real Estate Finance?" by Joseph T. Williams, the author discusses the relationship between the academic research in real estate finance and the methods and paradigms at the core of modern finance. Joe discusses which of the unsolved problems in real estate finance would be of most interest to financial economists. He also provides some interesting research topics that are suggested by recurrent financial anomalies and stylized facts in real estate. Finally, Joe identifies the problems in real estate finance that would be most amenable to analysis using paradigms and techniques from the core of finance.

The next article, by Robert J. Shiller and Allan N. Weiss, is entitled "Home Equity Insurance" and deals with the design of home-equity insurance policies. These policies insure homeowners against declines in the prices of their homes. These products bear some resemblance both to ordinary insurance and to financial-hedging vehicles. Choices for the design of such policies and underlying conceptual

issues are discussed. Pass-through futures and options are among possible choices, in which the insurance company effectively provides homeowners with short positions in real estate futures markets or put options on real estate indices. Another product is a life-event-triggered insurance policy, in which the homeowner pays regular fixed insurance premia in return for a claim contingent on a sufficient decline in the real estate price index and a specified life event (such as a move beyond a certain geographical distance). Pricing of the premia to cover loss experience is derived. Based on estimated models of Los Angeles housing prices from, 1971 to 1994, tables of break-even policy premia are computed.

In the article entitled "Anatomy of an ARM: The Interest-Rate Risk of Adjustable-Rate Mortgages", Richard Stanton and Nancy Wallace analyze the time-series dynamics of the most commonly used adjustable mortgage indices. They include these dynamics in a valuation model that simultaneously captures the effects of index dynamics, discrete coupon adjustment, mortgage prepayment, and both lifetime and periodic caps and floors. The model can incorporate an empirical prepayment function or an optimally calculated prepayment strategy for mortgage holders. The results show that the different dynamics of the major ARM indices lead to significant variation in the interest-rate sensitivities of loans based on different indices. Changes in assumptions about contract features, such as loan caps and coupon reset frequency, are shown to have a significant and sometimes unexpected impact on the results.

The last article, by Peter Chinloy is entitled "Housing, Illiquidity, and Wealth" and develops a model of asset allocation for a representative household whose primary asset is a house and primary liability is a mortgage. Consumption is composed to two items: housing, and other goods and services. Labor earnings dominate income. From the optimization with a housing-dominated portfolio, the Hansen-Jagannathan bound on the intertemporal marginal rate of substitution in consumption is estimated to be 0.165 for a representative household. Access to the mortgage market depends on loan to value ratio or leverage, debt size, and debt-coverage ratio or cash solvency. If there are seasonal or predictable patterns in housing returns, their magnitudes are amplified for the typical liquidity constrained households. Empirical results for the aggregate U.S. markets confirm predictability and serial correlation in capital gains on housing.

References

Damodaran, Aswath, and Crocker H. Liu. (1993). "Insider Trading as a Signal of Private Information," *Review of Financial Studies* 6, 79–120.

- Damodaran, Aswath, Kose John, and Crocker H. Liu. (1997). "The Determinants of Organizational Form Changes: Evidence and Implications from Real Estate," *Journal of Financial Economics* 45(2), 169-192.
- Damodaran, Aswath, Kose John, and Crocker H. Liu. (1998). "Organizational Form Changes: Increasing Stockholder Wealth or Serving Managerial Interests?" Working paper, New York University.
- Chinloy, Peter. (1999). "Housing, Illiquidity, and Wealth," *Journal of Real Estate Finance and Economics* 19(1), 69-83.
- DeMarzo, Peter. (1998). "The Pooling and Tranching of Securities," Working Paper, University of California at Berkeley.
- Duffie, Darrell, and Peter DeMarzo. (1998). "A Liquidity-Based Model of Security Design," *Econometrica* 67, 65-99.
- Dunn, Kenneth, and Chester Spatt. (1985). "An Analysis of Mortgage Contracting: Prepayment Penalties and the Due-on-Sale Clause," *Journal of Finance* 40(1), 293-308.
- Dunn, Kenneth, and Chester Spatt. (1986). "The Effect of Refinancing Costs and Market Imperfections on the Optimal Call Strategy and the Pricing of Debt Contracts," Working Paper, Carnegie-Mellon University.
- Grenadier, Steven. (1995). "Valuing Lease Contracts: A Real Options Approach," *Journal of Financial Economics* 38, 297-331.
- Grenadier, Steven. (1996). "The Strategic Exercise of Options: Development Cascades and Overbuilding in Real Estate Markets," *Journal of Finance* 51, 1653-1679.
- John, Kose, Crocker H. Liu, and A. R. Radhakrishnan. (1997). "An Analysis of Senior-Subordinated Structures Backed by Private-Label Mortgages," Working paper, New York University.
- Shiller, Robert J., and Allan N. Weiss. (1999). "Home Equity Insurance," *Journal of Real Estate Finance and Economics* 19(1), 21-47.
- Stanton, Richard, and Nancy Wallace. (1999). "Anatomy of an ARM: The Interest-Rate Risk of Adjustable-Rate Mortgages," *Journal of Real Estate Finance and Economics* 19(1), 49-67.
- Williams, Joseph. (1993a). "Agency and Ownership of Housing," *Journal of Real Estate Finance and Economics* 7, 83-97.
- Williams, Joseph. (1993b). "Equilibrium and Options on Real Assets," *Review of Financial Studies* 6, 825-850.
- Williams, Joseph. (1995). "Pricing Real Assets with Costly Search," *Review of Financial Studies* 8, 55-90.
- Williams, Joseph. (1997). "Redevelopment of Real Assets," *Real Estate Economics* 25, 397-407.

Williams, Joseph. (1999). "What Is Real Estate Finance?" *Journal of Real Estate Finance and Economics* 19(1), 9-19.

Williams, Joseph. (1998). "Agency and Brokerage of Real Assets in Competitive Equilibrium," *Review of Financial Studies*, 11, 239-280.