

Fall, 2011, Lecture: TTH, 12:30-2:00, W31-310, Recitation: Monday 5:30-7:00pm, W31-301  
Instructor: Professor William Wheaton, E52-252b (Hours: Wednesday, 2-4, Thursday, 4-5), 253-1723,  
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**11.433(15.021j): REAL ESTATE ECONOMICS**  
<http://stellar.mit.edu/S/course/11/fa11/11.433/index.html>

This course applies the latest economic thinking and research to the task of analyzing real estate market fundamentals, forecasting supply/demand, choosing locations. In addition to the two weekly lectures, and readings, the course involves 5 largely computer-based exercises (30% of grade), a mid term and final exam (35% each of grade). The exams are 1½ hours each and cover material in each half of the course.

The course materials are two. First, there will be 12 lecture PPT files that represent the material in the lectures (see outline below). *Revisions to these will be posted on the course web site just prior to each set of lectures.* This material represents a significant update and expansion of the text DiPasquale and Wheaton, Economics and Real Estate Markets (Prentice Hall, 1996). The text is available at the MIT Coop, but the lecture files will enable students to cover the material without purchase of the text. Second, there is a set of journal articles (listed below) that are all posted on the course website (either as URLs or PDF files). These are required reading and can also be downloaded.

**COURSE OUTLINE**

I. Introduction (9/8, 9/13)

- A. The Real Estate Sector: the Capital and Property markets
  - 1. Review of Economic concepts
- B. Micro and Macro economic analysis
- C. **EXERCISE**: Comparative statics: predicting changes in real estate markets (9/13-9/20)

II. Residential land markets: prices and land use (9/15, 9/20)

- A. Location and rents: the indifference principle
- B. Submarkets and land use segregation
- C. Urban growth, rents and prices

III. Residential development (9/22, 9/27)

- A. The highest use for residential development
- B. Location, land use and density
- C. Transition between land uses (gentrification)
- D. **EXERCISE**: determining optimal housing FAR (9/27 – 10/4)

IV. Industrial Location (9/29)

- A. Historical development and changing technology
- B. Transportation and shipping costs
- C. Tax and public policy effects

V. Office location: Edge Cities (10/4, 10/6) *no class on 10/11*

- A. The office market and the Labor Market
- B. Theories of Multiple centered cities.
  - 1. Agglomeration and clustering
  - 2. The commercial Land Market

- VI. Retail Development (10/13, 10/18)
- A. Retail Travel patterns and the distribution of stores
  - B. Pricing and spatial competition
  - C. Shopping centers, store clustering, agglomeration
  - D. **EXERCISE**: simulating potential shopping center demand (10/13-10/20).

**MID-TERM EXAM (10/20 – in class, on material in sections I-VI)**

- VII. Local Government and land markets (10/25, 10/27)
- A. Property taxes, public expenditure and local services
  - B. Community choice, "capitalization", and income segregation
  - C. The fiscal incentives for land use regulation
- VIII. Regulating Development (11/1-11/3)
- A. Public goods and "Neighborhood" effects.
  - B. Internalizing external effects through government or contracts.
  - C. Congestion, transportation infrastructure, planning regional development.
  - D. **EXERCISE**: evaluating the Washington D.C. Metro (11/1-11/8).
- IX. Macro analysis of housing (11/8, 11/10, 11/15)
- A. Units, households and Tenure choice
    - 1. Demographic, economic influences
  - B. Housing appreciation, mortgages and the cost of owning
  - C. Moving, Vacancy and Sales: the demand for housing quality.
- X. Macro Analysis of non-residential property (11/17, 11/22)
- A. The operation of non-residential Markets.
    - 1. Vacancy, Absorption, market frictions
    - 2. Leasing, term structures.
  - B. Long term trends in space usage and demand.
  - C. Herd Behavior and Development "games".
- XI. Time Series Analysis of Real Estate Markets (11/29, 12/1, 12/6)
- A. The time-series properties of housing and commercial space markets.
  - B. Stock-Flow Theory and Real Estate Cycles.
  - C. Expectations, information, "efficient markets".
  - D. The issue: can markets be forecast?
  - C. **EXERCISE**: Developing a housing market forecast (12/1- 12/8)
- XII. Regional Growth and Real Estate Markets (12/8) Review (12/13)
- A. The Determinants of metropolitan growth
    - 1. Export demand and Industrial development
    - 2. Birth rates, migration and Wages
  - B. A model analyzing metropolitan growth
    - 1. Demand and Supply Shocks, real estate and the cost of living

**FINAL EXAM: (TBD week of 12/16-12/22, on material is sections VII-XII)**

**11.433(15.021j) Reading List**

I. Introduction, micro, macroeconomics: DiPasquale and Wheaton, Chapters 1,2.

Wheaton, W. et. al., "100 years of Commercial Real Estate Prices in Manhattan", Real Estate Economics, 37, 1 (2009), 69-84.

II. Residential Land Markets: DiPasquale and Wheaton, Chapter 3.

Waddell, Berry, and Hoch, "Residential Property Values in a Multinodal Urban Area: New Evidence on the Implicit Prices of Location", Journal of Real Estate Finance and Economics, 7,2, September 1993, 117-143.

McMillen, D. and J. McDonald, "The Reaction of House Prices to a new Rapid Transit Line...", Real Estate Economics, 32, 3 (2004), 463-486.

S. Conroy, J. Miosch, "An Estimation of the Coastal Premium for Residential House Prices...", Journal of Real Estate Finance and Economics, 42, (2011), 211-228.

III. Residential Development: DiPasquale and Wheaton, Chapter 4.

Song, Y, and G-J Knapp, "New Urbanism and Housing Values..." ,Journal of Urban Economics, 54, 2, ( 2003), 218-238.

Rosenthal, Stuart and R. Helsley, "Redevelopment and the Urban Land Price Gradient", Journal of Urban Economics, 35,2 (1994) pp182-200.

IV. Industrial Location: DiPasquale and Wheaton, Chapter 5.

R. Wang "The Structure of Chinese Urban Land Prices,..." Journal of Real Estate Finance and Economics, 39, (2009), 24-38.

Buttimer, R., R. Rutherford, "Industrial Warehouse Rent Determinants in the Dallas/Ft. Worth Area", Journal of Real Estate Research, 13, 1, (1997), 47-56.

V. Office Location and Edge Cities: DiPasquale and Wheaton, Chapter 5.

Archer, Wayne, Marc Smith, "Explaining Location Patterns of Suburban Offices", Real Estate Economics, 31, 2, (2003)

Jennsen, M., D. Brouen, "The Effects of Clusters on Office Rents: Evidence from Amsterdam", Real Estate Economics, 37, 2, (2009), 185-208.

Shilton, Leon, Craig Stanley, "Spatial Patterns of Headquarters", Journal of Real Estate Research, 17, 3 (1999) 341-364.

VI. Retail Development: DiPasquale and Wheaton, Chapter 6.

Eppli, M and J.Benjamin, "The Evolution of Shopping Center Research" , Journal of Real Estate Research, 9,1, (winter 1994), 5-32.

Wheaton, W, "Percentage Rent in Retail Leases: the Alignment of Landlord Tenant Interests", Real Estate Economics, 28,2 (2000), 185-204.

Eppli,M and J. Shilling, "How Critical is a Good Location to a Regional Shopping Center?", Journal of Real Estate Research, 12,3, (1996), 459-469.

#### VII. Land Markets and Local Government: DiPasquale and Wheaton, Chapter 13.

Christian Hilber, Chris Mayer, "Why do Households without children support local public schools...? Journal of Urban Economics, 65, 1 (January, 2009), pp 74-90.

Oates, Wallace, "Property Taxation and Local Public Spending: the renter effect", Journal of Urban Economics, 57, 3 (May,2005) 419-431.

Wheaton, W. "The incidence of Interjurisdictional differences in commercial property taxes" , National Tax Journal, Dec,1984

#### VIII. Externalities, Development Regulation, Infrastructure: DiPasquale and Wheaton, Chapter 14.

N. Edward Coulson, R. Leichenko, "The Internal and External Impact of Historical Designation on Property Values." Journal of Real Estate Finance and Economics, 23, 1, (2001), 113-124.

French, H.E. and R.Lafferty, "Effects of the California Coastal Commission on Housing Prices", Journal of Urban Economics. July, 1984.

W. Rogers, "The Housing Price Impact of Covenant Restrictions and other subdivision characteristics", Journal of Real Estate Finance and Economics, 40, (2010), 203-220.

#### IX. Macro housing analysis: DiPasquale and Wheaton, Chapters 8,9,10.

Todd Sinai and N. Souleles "Owner Occupied Housing as a Hedge against Rent Risk", Quarterly Journal of Economics, (May, 2005), 763-789.

Stuart Gabriel, F.Nothaft, "Rental Housing markets, the Incidence and Duration of Vacancy, and the Natural Vacancy Rate", Journal of Urban Economics, 49,1 (2001) 121-150.

S. Bourassa, M. Hoesli "Why do the Swiss Rent?", Journal of Real Estate Finance and Economics, 40, (2010), 286-309.

Somerville, C. T., "The Industrial Organization of Housing Supply:...", Real Estate Economics, 27, 4, (1999) pp 669-695.

M. Allen, R. Rutherford, T. Tomson, "Residential Asking Rents and Time on the Market", Journal of Real Estate Finance and Economics, 38, (2009), 351-365.

X. Macro Analysis of Non-residential property: DiPasquale and Wheaton, Chapters 11,12.

J.Hakfoort and R. Lie, "Office space per worker: Evidence from Four European Cities", Journal of Real Estate Research, 11,2, 1996, pp183-197.

Benjamin, J.D., et al. "Rationales for Real Estate Leasing versus Owning", Journal of Real Estate Research, 15,3, 1998, pp223-239.

Schwartz, E., W. Torous, "Commercial Office Space: Testing the implications of real Options models with Competitive Interactions", Real Estate Economics, 36, 1, (Spring 2007), 1-20.

P. Englund, A. Gunnelin, M. Hoesli, "Implicit Forward Rents as Predictors of Future Rents", Real Estate Economics, 32, 2, (Spring 2004), 183-215.

XI. Time Series Analysis of Real Estate Markets.

Grenadier, S. "Local and National Determinants of Office Vacancies", Journal of Urban Economics, 37,1, (1995) 57-72

Wheaton, William "Real Estate Cycles: Some Fundamentals", Real Estate Economics, 27,2, Summer 1999, 209-231.

Wheaton, W., Evans, P, R.Torto, "The Cyclic Behavior of the London Office Market", Journal of Real Estate Finance and Economics, 15,1, July 1997, 77-93.

Wheaton, W, Gleb Nechayev, "The 1998-2005 Housing 'Bubble' and the current 'Correction', What's different this time", Journal of Real Estate Research, 30,1 (Jan. 2008), 1-28.

Benjamin, John, G.D. Judd, D.T. Winkler, "The Supply Adjustment Process in Retail Space Markets", Journal of Real Estate Research, 15,3 (1998) 297-308.

XII. Regional Growth and Real Estate Markets: DiPasquale and Wheaton, Chapter 7.

Roback, J. "Wages, rents and the quality of life." Journal of Political Economy (December 1982)

Andra Ghent, Michael Owyang, "Is housing the business Cycle? Evidence from US cities", Journal of Urban Economics, 67, 3 (2010), 336-351.

Figlio, David, and Bruce Blonigen, "The Effects of Foreign Direct Investment on Local Communities", Journal of Urban Economics, 48, 2 (2000) pp 338-363.