

Fall, 2009, Lecture: TTH, 12:30-2:00, W31-310, Recitation: Tuesday 5:30-7:00, W31-310
Instructor: Professor William Wheaton, E52-252b (Hours: Tuesday, 10-12, Thursday, 4-5), 253-1723,
wheaton@mit.edu
Ta: Chun Il Kim, W31, 300, kimci@mit.edu

11.433(15.021j): REAL ESTATE ECONOMICS
<http://stellar.mit.edu/S/course/11/fa09/11.433/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 1 ½ 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 (9/10, 9/15)

- 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 (9/15-9/22)

II. Residential land markets: prices and land use (9/17, 9/22)

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

III. Residential development (9/24, 9/29)

- 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 (9/29 – 10/6)

IV. Industrial Location (10/1)

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

V. Office location: Edge Cities (10/6, 10/8)

- 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 (10/15-10/20, *no class on 10/13 – Monday schedule*)
- A. Retail Travel patterns and the distribution of stores
 - B. Pricing and spatial competition
 - C. Shopping centers and store clustering
 - D. **EXERCISE**: simulating potential shopping center demand (10/20-10/27).

- VII. Local Government and land markets (10/27, 10/29)
- A. Property taxes, public expenditure and local services
 - B. Community choice, "capitalization", and income segregation
 - C. The fiscal incentives for land use regulation

MID-TERM EXAM (10/22 – in class, on material in sections I-VI)

- VIII. Regulating Development (11/3-11/5)
- 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 (11/5-11/12).

- IX. Macro analysis of housing (11/10, 11/12, 11/17)
- 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 (11/19, 11/24)
- 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 (12/1, 12/3, 12/8)
- 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 (12/4- 12/10)

- XII. Regional Growth and Real Estate Markets (12/10)
- 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 12/14-12/18, 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.

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.

Shukla, V. and P. Waddell, "Firm Location and land use in Discrete Urban Space", Regional Science and Urban Economics, 21,2, (July 1991), 225-251.

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.

Bogart, W., Brian Cromwell. "How much is a neighborhood School worth?" ,Journal of Urban Economics,47,2 (March, 2000), pp280-306.

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.

Paul Thorsnes, "Internalizing Neighborhood Externalities: the Effect of Subdivision Size and Zoning on Residential Lot prices", Journal Urban Economics, 48, 3, (2000), 397-419.

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

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

Eppli, M and M. Childs, "A Descriptive Analysis of US Housing Demand for the 1990s", Journal of Real Estate Research, 10,1, 1995, 69-87.

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.

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

Wheaton, W, and Gleb Nechayev, "What Will it Take to Restore the Housing Market", UC Irvine Symposium (February 20, 2009).

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.

Wheaton, W., Raymond Torto, "Office Rent Indices and their Behavior over time", Journal of Urban Economics 35, 2, (March 1994) pp121-139.

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., et al. "Real Estate Risk: a Forward looking Approach", and "Evaluating Real Estate Risk: Debt Applications", Real Estate Finance, 18,3, (2001) 20-42.

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)

Chen, Y., S. Rosenthal , "Local Amenities and Life Style Migration: Do People move for Jobs or Fun", Journal of Urban Economics, 63, 3 (2008), 519-537.

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