



## Course and Examination Fact Sheet: Spring Semester 2017

### 8,322: Real Estate Economics

ECTS credits: 4

#### Overview examination/s

(binding regulations see below)

Decentral - Written examination (80%, 90 mins.)

Decentral - examination paper written at home (individual) (20%)

#### Attached courses

Timetable -- Language -- Lecturer

[8,322,1.00 Real Estate Economics](#) -- Englisch -- [Füss Roland](#)

#### Course information

#### Course prerequisites

Students should be interested in microeconomics and macroeconomics, as well as in capital markets and should have an intermediate knowledge of mathematics, statistics, and econometrics.

#### Course content

The course Real Estate Economics provides students with the necessary theoretical models and empirical tools to investigate and understand the microeconomic and macroeconomic forces that affect real estate markets. The course covers classical topics such as the relationship among house prices, rents, construction costs, location, and the vacancy rate, but also discusses topics that have recently become important in real estate market analysis such as geographic determinants of housing supply and neighborhood choice.

In particular, students will

- become familiar with the real estate space and asset markets, their fundamentals (such as the interaction between rent, vacancy rate, construction, and absorption), the main underlying economic determinants of real estate supply and demand, the determinants of market equilibrium, as well as short- and long-term adjustments to disequilibrium, all of which are essential for choosing locations;
- examine how urban growth and local, state, and federal government policies (such as taxation, subsidies, regulation (building codes and zoning), and planning) impact the development of cities and the pricing of real estate;
- understand the functioning and interaction of local and regional real estate markets with a special emphasis on the spatial aspect of different property types such as residential, office, industrial and retail properties.

At the end of the course students should have a deeper understanding of property markets and their interaction with the overall economy. Students will be able to understand current trends in real estate markets and will be equipped with the necessary tools to conduct real estate market analysis. The course is suitable for students who wish either to continue their academic career in the field of real estate economics and finance or aim for a position in the real estate development or real estate investment industry.



## Course structure

The course will be structured according to the following aspects:

- *Real estate markets*: How are the property space market and the asset market interrelated? What are the economic fundamentals of real estate markets?
- *Residential Development*: How can we explain the choice of housing location and rents? What is the fair value of a specific house? What should be the density and use of a newly developed site? How can housing submarket boundaries be identified? How do house prices vary across sites, and why? How do housing markets adjust to disequilibrium? What are the determinants of tenure choice? How can exogenous shocks to a market amplify real estate cycles?
- *Commercial Development*: How do commercial real estate developers analyze potential locations? What are the drivers of commercial real estate demand and supply? What factors determine office rents or the location of firms? How do firms choose their locations within a metropolitan area? Why does spatial concentration of industrial and retail properties exist?
- *Local Government and Regulating Development*: How do public goods and local externalities affect property values (neighborhood effects)? What are the determinants of land prices? What are the fiscal incentives for land use regulation? What are the socio-economic benefits of homeownership and the value of federal government programs to make housing affordable? How do foreclosed properties affect the neighborhood?

Students will be graded based on the final exam.

- *Formal lectures* are given for basics on micro- and macroeconomic real estate market topics and to provide the theoretical and analytical framework;
- *Problem sets* are provided to practice the topics discussed in lectures and to deepen the understanding of the concepts.

## Course Outline

### 1.Introduction to Real Estate Markets

(Real Estate Asset and Property Markets, DiPasquale-Wheaton Four Quadrant Model, The Micro and Macro Views of Real Estate Markets, Revealed Preferences, Exogenous and Endogenous Factors, Capitalization Rates)

### 2.Microeconomic Analysis of Property Markets (Urban Economics)

(The Ricardian Rent Model (Monocentric and Polycentric Cities), Von Thunen Model, Urban Economic Growth and Multiplier Process, Rents and Housing Prices, Housing Attributes, Location, and Residential Density, Market Forces in the Development of Cities, Firm Concentration and Employment Decentralization, The Theory of Retail Location and Competition, Generalized Spatial Economics)

### 3.Macroeconomic Analysis of Property Markets

(Economic Determinants of Metropolitan Growth, Demographic Trends, Regional Growth Trends, Hedonic Pricing Models, Optimal Unit Size and Optimal Development Density, Housing Market Stock Flow Model and Market Dynamics, Indicators for the Real Estate Market, Land Value and Highest and Best Use, Gentrification and Urbanization, Household Location and Community Stratification)

### 4.Commercial Real Estate

(Intra-metropolitan location decisions, Firm Site Selection, Office, Industrial, and Retail Space, Rental Elasticity, Supply and Demand Indicators, National Hotel Market, Global Cities, Agglomeration Economies and International Trade)

### 5.Local Government, Property Taxes, and Real Estate Markets

(Taxation, Local Growth Controls, Fiscal Zoning and Housing, Regulation, Land Use)

### 6.Aggregate Real Estate Bubbles

(Housing and Commercial Real Estate Bubbles, Definition, Measurement, and Drivers)

### 7.Forecasting Property Values: Real Estate Market Research

(Market Projections and Real Estate Cycles, Use of Geographical Information System (GIS), Regional Market Analysis, Office, Industrial, and Retail Market Analysis)



## Course literature

### Textbooks

- Arnott, R. (1997): *Regional and Urban Economics, Part 1*, Amsterdam: Harwood Academic Publishers.
- DiPasquale, D., and W.C. Wheaton (1996): *Urban Economics and Real Estate Markets*, Harlow UK: Prentice-Hall.
- Geltner, D.M., G.M. Norman, J. Clayton, and P. Eichholtz (2007): *Commercial Real Estate Analysis and Investments*. Cincinnati, OH: South-Western Educational Publishing.
- Leishman, C. (2003): *Real Estate Market Research and Analysis*, New York: Palgrave Macmillan.
- McDonald, J.F., and D.P. McMillen (2011): *Urban Economics and Real Estate – Theory and Policy*, 2<sup>nd</sup> ed., Hoboken: John Wiley & Sons.
- O’Sullivan, A. (2011): *Urban Economics*, 8<sup>th</sup> ed., Homewood, Illinois: Irwin/McGraw-Hill.

### Further Readings:

(Various articles that provide additional insights into different aspects of the course topics.)

- Campbell, S.D., M.A. Davis, J. Gallin, and R.F. Martin (2009): What Moves Housing Markets: A Variance Decomposition of the Rent-Price Ratio, *Journal of Urban Economics*, 66, 90-102.
- Croce, R.M., and D.R. Haurin (2009): Predicting Turning Points in the Housing Market, *Journal of Housing Economics*, 18, 281-239.
- Cuberes, D. (2011): Sequential City Growth: Empirical Evidence, *Journal of Urban Economics*, 69, 229-239.
- DiPasquale, D., and W.C. Wheaton, (1994): Housing Market Dynamics and the Future of Housing Prices, *Journal of Urban Economics*, 35, 1-27.
- Glaeser, E.L., and A. Saiz (2004): The Rise of the Skilled City. *Brookings-Wharton Papers on Urban Affairs* 5, 47-105.
- Glaeser, E.L., and J. Gyourko (2006): Housing Dynamics. *NBER Working Paper* No. 12787.
- Glaeser, E.L., J. Gyourko, and R.E. Saks (2005): Why Have Housing Prices Gone Up? *American Economic Review*, 95, 329-333.
- Glaeser, E.L., J. Gyourko, and A. Saiz (2008): Housing Supply and Housing Bubbles. *Journal of Urban Economics*, 64, 198-217.
- Gyourko, J., and P. Linneman (1993): The Affordability of the American Dream: An Examination of the Last 30 Years. *Journal of Housing Research*, 4, 39-72.
- Gyourko, J., C. Mayer, and T. Sinai (2006): Superstar Cities. *Working Paper*, June 16.
- Gyourko, J., A. Saiz, and A. Summers (2008): A New Measure of the Local Regulatory Environment for Housing Markets. *Urban Studies*, 45, 693-721.
- Gyourko, J., and J. Tracy (1999): A Look at Real Housing Prices and Incomes: Some Implications for Housing Affordability and Quality. *FRBNY Economic Policy Review*, September.
- Harding, J.P., E. Rosenblatt, and V.W. Yao (2009): The Contagion Effect of Foreclosed Properties, *Journal of Urban Economics*, 66, 164-178.
- Hiebert, P., and M. Sydow (2011): What Drives Returns to Euro Area Housing? Evidence from a Dynamic Dividend-Discount Model, *Journal of Urban Economics*, 70, 88-98.
- Himmelberg, C., C. Mayer, and T. Sinai (2005): Assessing High House Prices: Bubbles, Fundamentals and Misperceptions. *Journal of Economic Perspectives*, 19, 67-92.
- McMillan, D., and J. McDonald (1991): Urban Land Value Functions with Endogenous Zoning. *Journal of Urban Economics*, 28, 14-27.
- Saiz, A. (2003): [Room in the Kitchen for the Melting Pot: Immigration and Rental Prices.](#) *The Review of Economics and Statistics*, 85, 502-521.
- Saiz, A. (2007): [Immigration and Housing Rents in American Cities.](#) *Journal of Urban Economics*, 61, 345-371.
- Saiz (2010): The Geographic Determinants of Housing Supply. *The Quarterly Journal of Economics*, 125, 1253-1296.
- Saks, R. (2008). Resurrecting the National Housing Market: Reassessing the Role of National and Local Shocks in Metropolitan Area Housing Markets. Working Paper, Federal Reserve Board of Governors.
- Thrall, G.I. (2002): *Business Geography and New Real Estate Market Analysis (Spatial Information Systems)*, Oxford and New York: Oxford University Press.
- Wheaton, W.C. (1990): Vacancy, Search, and Prices in a Housing Market Matching Model. *Journal of Political Economy*, 98, 1270-1292.



## Additional course information

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## Examination information

### Examination sub part/s

#### 1. Examination sub part (1/2)

##### Examination time and form

Decentral - Written examination (80%, 90 mins.)

##### Remark

A pocket calculator is required.

##### Examination-aid rule

Extended Closed Book

The use of aids is limited; any additional aids permitted are exhaustively listed under "Supplementary aids". Basically, the following is applicable:

- At such examinations, all the pocket calculators of the Texas Instruments TI-30 series and mono- or bilingual dictionaries (no subject-specific dictionaries) without hand-written notes are admissible. Any other pocket calculator models and any electronic dictionaries are inadmissible.
- In addition, any type of communication, as well as any electronic devices that can be programmed and are capable of communication such as notebooks, tablets, PDAs, mobile telephones and others, are inadmissible.
- Students are themselves responsible for the procurement of examination aids.

##### Supplementary aids

A pocket calculator is required.

All the pocket calculators of the Texas Instruments TI-30 series and mono- or bilingual dictionaries (no subject-specific dictionaries) without hand-written notes are admissible. Any other pocket calculator models and any electronic dictionaries are inadmissible.

##### Examination languages

Question language: English

Answer language: English

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#### 2. Examination sub part (2/2)

##### Examination time and form

Decentral - examination paper written at home (individual) (20%)

##### Remark

Valuation of problem set.

##### Examination-aid rule

Term papers

- Term papers must be written without anyone else's help and in accordance with the known quotation standards, and



they must contain a declaration of authorship.

- The documentation of sources (quotations, bibliography) has to be done throughout and consistently in accordance with the APA or MLA standards. The indications of the sources of information taken over verbatim or in paraphrase (quotations) must be integrated into the text in accordance with the precepts of the applicable quotation standard, while informative and bibliographical notes must be added as footnotes (recommendations and standards can be found, for example, in METZGER, C. (2015), *Lern- und Arbeitsstrategien* (11th ed., 4th printing). Aarau: Sauerländer).
- For any work written at the HSG, the indication of the page numbers both according to the MLA and the APA standard is never optional.
- Where there are no page numbers in sources, precise references must be provided in a different way: titles of chapters or sections, section numbers, acts, scenes, verses, etc.
- For papers in law, the legal standard is recommended (by way of example, cf. FORSTMOSER, P., OGOREK R. et SCHINDLER B. (2014), *Juristisches Arbeiten: Eine Anleitung für Studierende* (5. Auflage), Zürich: Schulthess, or the recommendations of the Law School).

## Supplementary aids

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## Examination languages

Question language: English

Answer language: English

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## Examination content

Relevant for the exam are the content of the lecture (including slides, problem sets, and exercise sets) and the relevant literature.

## Examination relevant literature

In addition to the lecture notes and readings, course material given in the class and made available on StudyNet will be relevant for the exam.

### Please note

We would like to point out to you that this fact sheet has absolute priority over other information such as StudyNet, faculty members' personal databases, information provided in lectures, etc.

When will the fact sheets become binding?

- Information about courses and examination time (central/decentral and grading form): from the start of the bidding process on 26 January 2017
- Information about decentral examinations (examination-aid rule, examination content, examination relevant literature): after the 4th semester week on 20 March 2017
- Information about central examinations (examination-aid rule, examination content, examination relevant literature): from the start of the enrolment period for the examinations on 10 April 2017

Please look at the fact sheet once more after these deadlines have expired.