

Reflection Questions

- **Why do populations form around cities?**
- **What makes property or land valuable?**
- **What makes a hotel or an office building valuable to the owner?**



Introduction – Principles of Real Estate

HADM 4200, Spring 2024

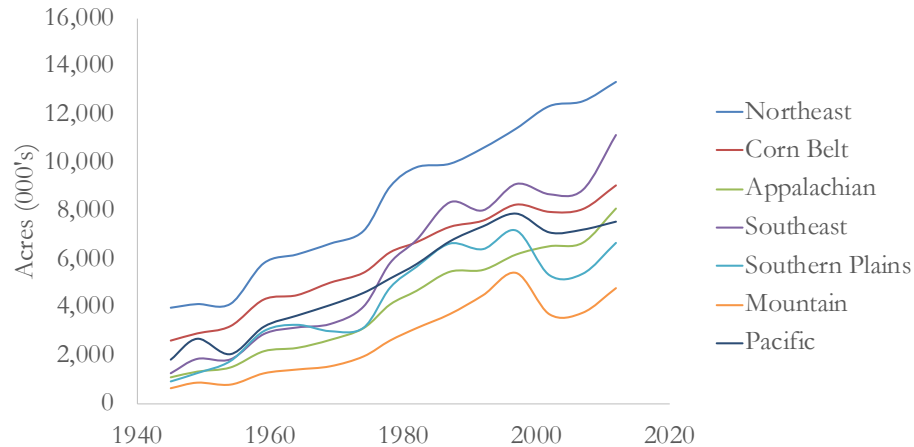
Professor Lauri Kytömaa

Today's class

1. Course topic overview
2. Careers in Real Estate
3. Key aspects of the Syllabus

I. Determinants of value and urban considerations

Growth of urban areas in the United States 1975-2012



Source: United States Department of Agriculture

Why do we have **cities and towns**?

- Scale economies
- Agglomeration economies
- Transportation costs
- Housing production

I. Determinants of value and urban considerations

What makes property
valuable?

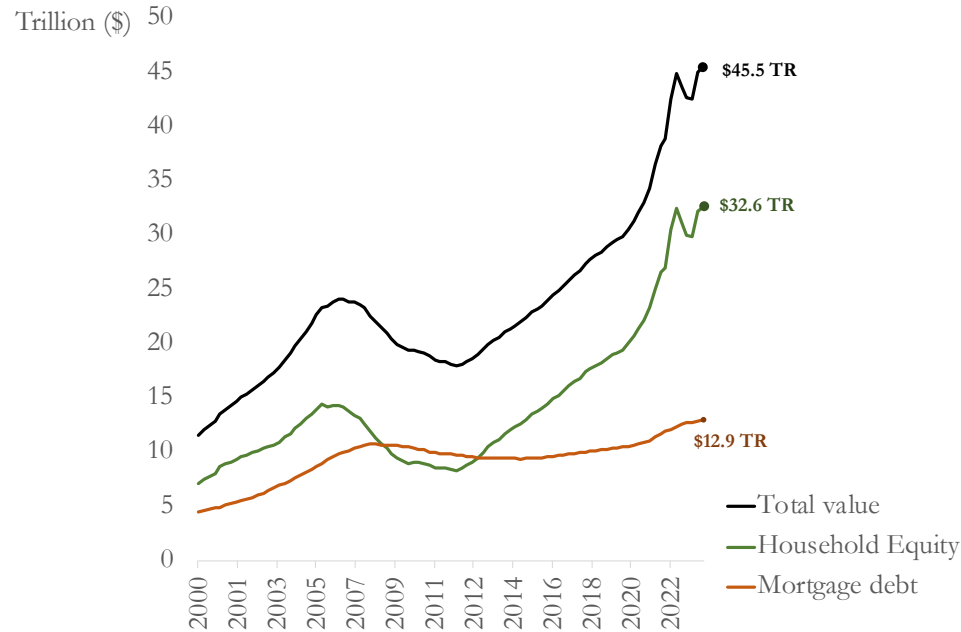
- Quality of property
- Size of the land
- Amenities (parks, museums, theaters, bars, restaurants)
- Transportation networks



Image Source: Vecteezy.com

I. Determinants of value and urban considerations

Value of U.S. Single Family Housing Market



Source: *Financial Accounts of the United States, Table B.101*

Kytömaa (2024)

U.S. GDP
Housing and utilities
spend
Residential investment
spend

| USD Billions | Share of GDP |
|-----------------|-----------------|
| \$27,610 | |
| \$3,309 | 12.0% |
| \$1,082 | 3.9% |

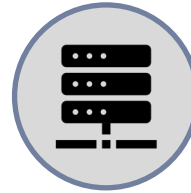
Total Spending in Housing Market

Source: *Bureau of Economic Analysis
National Income and Product Accounts*

II. Valuation of commercial real estate

What is a commercial property **worth**?

- Sales comparisons
- Income approach
- Cost approach



Data center



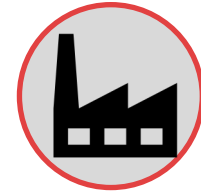
Retail



Hotel



Warehouse



Factory



Apartments
(Multifamily)



Office

III. Residential mortgage financing

How do we **finance** a home?

- Mortgage contracts
- Market players
- Financial calculations

| Liability | Value (\$Billions) | Share of total liabilities |
|---|--------------------|----------------------------|
| Home mortgages | \$12,926 | 68.16% |
| Consumer credit | \$4,967 | 26.19% |
| Depository institution loans | \$315 | 1.66% |
| Other loans | \$719 | 3.79% |
| Deferred and unpaid life insurance premiums | \$38 | 0.20% |

U.S. household liabilities in Q3 2023

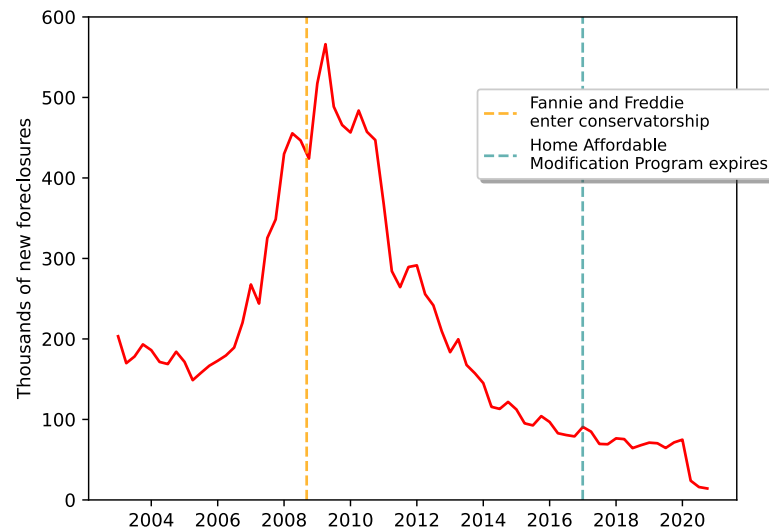
Source: FRED B.101.b Balance Sheet of Households Q3 2023

IV. Residential mortgage complications

What if we **can't pay our mortgage?**

- Default
- Loan modifications
- Foreclosure

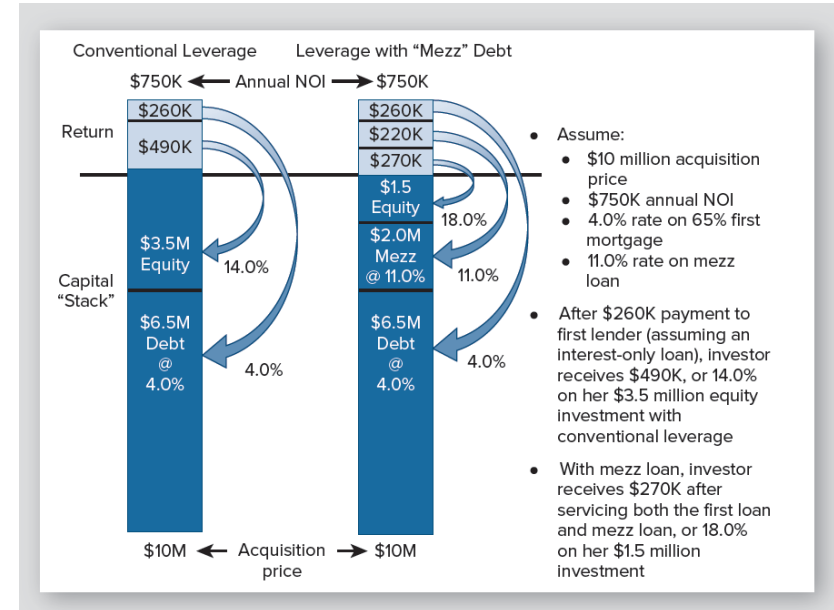
This is where I do a lot of my research!



New quarterly foreclosures in the United States
Source: New York Federal Reserve Consumer Credit Panel

V. Commercial mortgage financing

- How do we raise debt to buy commercial properties?
 - Slightly more complex than residential, but many similarities



Alternative capital structures for Acquisition

Source: Ling & Archer, Exhibit 16-3

VI. Commercial investment decisions

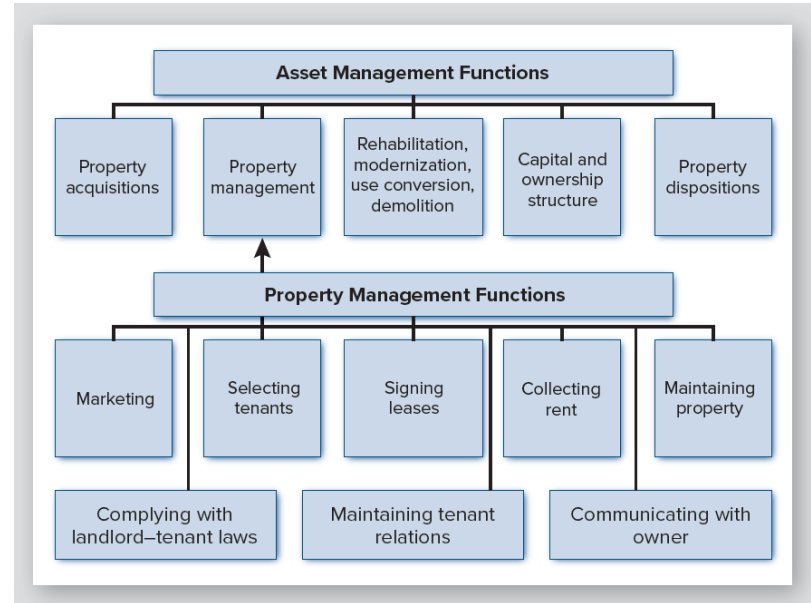
- Which property do we buy?
 - Investment decision calculations
 - Computing net-present-values and internal rates of return
 - Role of leverage

| Ratio | Form |
|--|--|
| Capitalization rate (R_0) | $\frac{NOI}{Acquisition\ Price}$ |
| Cash-on-cash return (COC) | $\frac{BTCF}{Equity\ investment}$ |
| Effective gross income multiplier (EGIM) | $\frac{Acquisition\ price}{EGI}$ |
| Operating expense ratio (OER) | $\frac{OE}{EGI}$ |
| Loan-to-value ratio (LTV) | $\frac{Mortgage\ amount}{Property\ value}$ |
| Debt coverage ratio (DCR) | $\frac{NOI}{Debt\ service}$ |
| Debt yield ration (DYR) | $\frac{NOI}{Loan\ amount}$ |

Common ratios for investment analysis

VII. Commercial real estate agreements

- Variety of factors
 - Role of property managers and management agreements
 - Negotiated lease provisions



Property management in full management

Source: Ling & Archer, Exhibit 21-3

VIII. Securitized mortgages

- Mortgage-backed securities – residential and commercial
- Role of government-sponsored enterprises, such as Fannie Mae and Freddie Mac
- Collateralized debt obligations (CDOs) and Collateralized loan obligations (CLOs)

Careers in real estate

Investment & commercial banking

- JP Morgan Chase
- Goldman Sachs
- Morgan Stanley
- Merrill (Bank of America)
- Wells Fargo

Brokerage firms

- CBRE
- JLL
- Cushman & Wakefield
- Newmark

Institutional investors

- ADIA
- New York Life
- CalPERS
- Brookfield
- Blackstone

Law firms

- Kirkland & Ellis LLP
- Latham & Watkins LLP
- Backer McKenzie

Property management

- CBRE
- Colliers International
- JLL
- Newmark
- Avison Young

Architecture & planning

- Gensler
- HNTB
- Nikken
- Aecom

General contracting

- Turner
- Bechtel
- Mastec
- Whiting-Turner
- Fluor

Development

- Trammell Crow Company
- Hines Real Estate Investments
- Related

Instruction team



Lauri Kytömaa
Professor



Doug Biondi
*Faculty Support
Specialist*



Reese Dolfman
Teaching Assistant

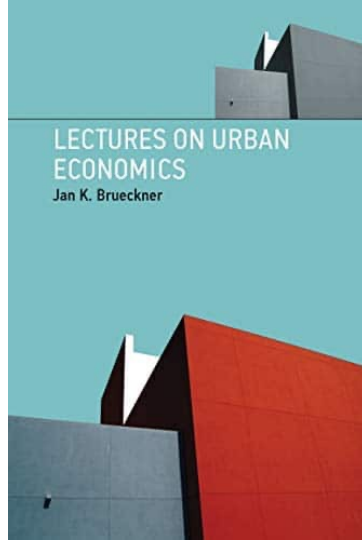


Jack McCutchan
Teaching Assistant

Office hours

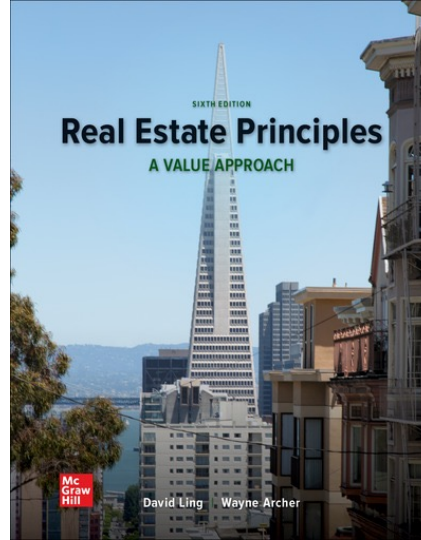
- **Professor Lauri Kytömaa:**
Tuesdays and Thursdays, 2:00PM – 3:00PM, Statler 465D
- **TA Reese Dolfman:**
Mondays, 2:00PM – 3:30PM, Statler 439
- **TA Jack McCutchan:**
Fridays, **TBD**

Textbooks

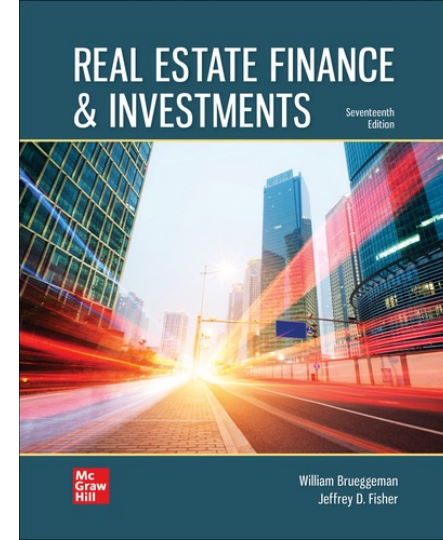


Optional

Kytömaa (2024)



Required



Required

Assessment

| Assignment | Due date |
|-------------------------------------|-----------------|
| HW1 | February 1 |
| HW2 | February 13 |
| Case 1 – Buy or Rent? | March 5 |
| Prelim Exam | March 12 |
| HW3 | March 21 |
| Case 2 Part 1 – Angus Cartwright IV | April 16 |
| HW4 | April 25 |
| Case 2 Part 2 – Angus Cartwright IV | May 7 |
| Final exam | TBD |

| Assessment | Count | Course weight |
|-----------------------------|-------|----------------------|
| Homework assignments | 4 | 20% total (5% each)* |
| Case studies | 2 | 30% total (15% each) |
| Prelim Exam | 1 | 25% |
| Final Exam | 1 | 25% |

* Students are allowed to drop their lowest homework grade

Excel in this course

- Homework assignments and case studies will rely **heavily on Excel** to solve problems
- Please check out the **Excel tutorials on course Canvas!**
- Exams will not involve Excel, so some **calculator is recommended** (no phones)



Summing up

- This course will offer you a **broad, introductory view** of real estate markets
- You will get **significant hands-on experience** with analyzing real estate markets that you can leverage in your future career and your personal finances