Urban and real estate economics

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Urban and real estate economics

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Week 13

Finances of real estate market II

Summarizing the course in respect of real estate market risks

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1. The variability of factors determining the value of real estates
2. Realization of risk
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1. Risks accompanying real estate market projects

Example: how much is an office building worth?

Cash flow must be stated and discounted.

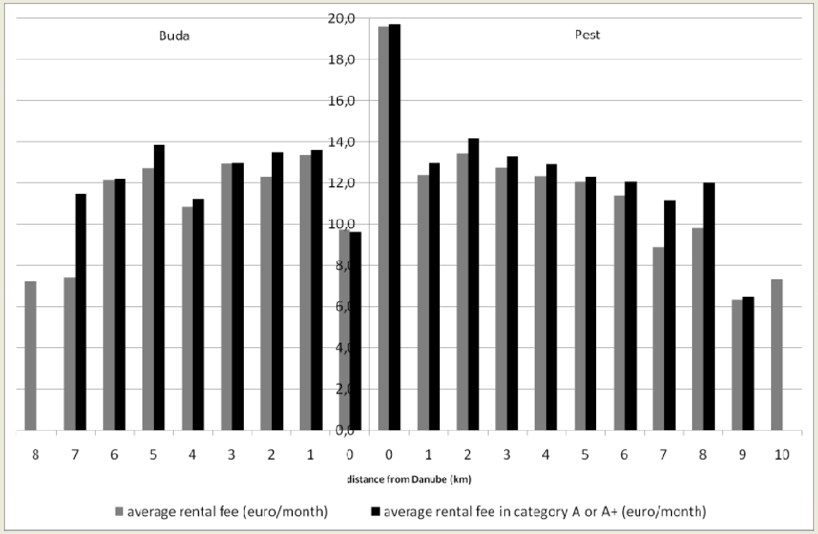
- How can we calculate the amount of revenues?

  revenue = average rent x utilization ratio

- At the beginning of the course we examined that housing prices and rents are highly dependent on the location of the building.

  „Location, location, location”.

Example: how much is an office building worth?



- When examining the city pattern, we learnt that the most valuable office locations are in the central part of the city.
- Value of offices can be deterred from this monocentric thinking by geographic attributes (city patterns) and a location in an office hub.

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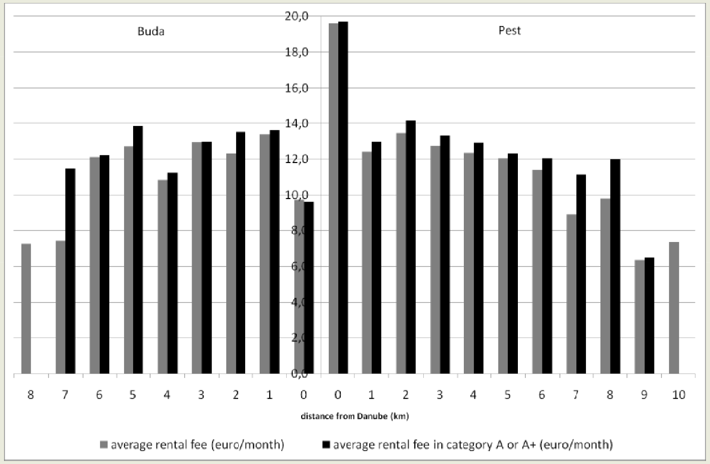
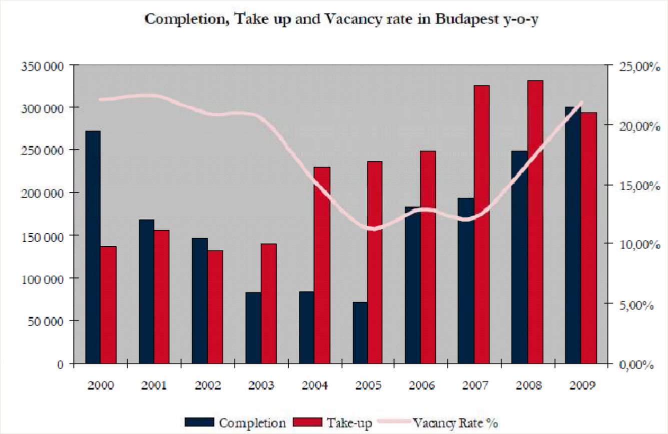
Example: how much is an office building worth?

- To calculate the revenue, we need the rent and an estimation for the occupancy rate expectable in the future, too.
- In the part of the course dealing with macroeconomic aspects we learnt that the occupancy rate changes very quickly, it is highly cyclical and we have to consider its long-term *structural* level.





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Example: how much is an office building worth?

We ignored legal and technical questions, although factors related to these also play a significant role in valuation.

- What is the duration of contracts?
- What is the structure of expenses like? What is the proportion of fixed and variable parts?
- How much is needed to spend for renovation? For how long is the office building viable?

Example: how much is an office building worth?

- Data collection from competitors.
- Estimation for price elasticity.
- Forecasting based on a model.
- Must apply discounting.
- Must decide on the applicable expected return.
- Must carry out a sensitivity analysis.
- And: must examine the settlement plan of the neighbourhood, must collect information about technical attributes…

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Example: what house should be built on the site?

- The profit of the developer has to be maximized.

  Number of dwellings ·

  (price of dwellings – cost of dwellings)

- For how much can the dwellings be sold?
- How much does it cost to build a dwelling?
- How does the price of dwellings depend on the number of dwellings?

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Example: what house should be built on the site?

- Must determine the relevant market.
- Must collect data on housing prices.
- Must carry out a comparative (hedonic). examination for price estimation.
- Must estimate whether it is worth selling from the design table.
- Must check out the settlement plan, competitors, technical attributes, sociological characteristics and public utilities of the neighbourhood…

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Example: what effect will the home creation have on the housing market?

- Does the state intervene on the demand or the supply side?
- Does the state subsidize renovation, construction or transactions?

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The second part of the lecture is based on Krisztián Hornok's lecture held in spring 2011

Thanks for it!

2. Realisation of risk

Leverage effect

If circumstances are good, the below is the cash flow:

period	0	1	2	3	4	5	
buying price	-100						
income		10	10	10	10	10	
selling price						110	
CF:	-100	10	10	10	10	120	IRR: 12%
50% debt	50					-50	
5% interest rate		-2,5	-2,5	-2,5	-2,5	-2,5	
CF:	-50	7,5	7,5	7,5	7,5	67,5	IRR: 18%

Leverage effect

If circumstances are excellent, the below is the cash flow:

period	0	1	2	3	4	5	
buying price	-100						
income		10	10	12	12	14	
selling price						140	
CF:	-100	10	10	12	12	154	IRR: 17%
50% debt	50					-50	
5% interest rate		-2,5	-2,5	-2,5	-2,5	-2,5	
CF:	-50	7,5	7,5	9,5	9,5	101,5	IRR: 27%

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The leverage effect

In times of trouble, the effect is the below:

period	0	1	2	3	4	5	
buying price	-100						
income		10	10	7	6	6	
selling price						60	
CF:	-100	10	10	7	6	66	IRR: 0%
50% debt	50					-50	
5% interest rate		-2,5	-2,5	-2,5	-2,5	-2,5	
CF:	-50	7,5	7,5	4,5	3,5	13,5	IRR: -9%

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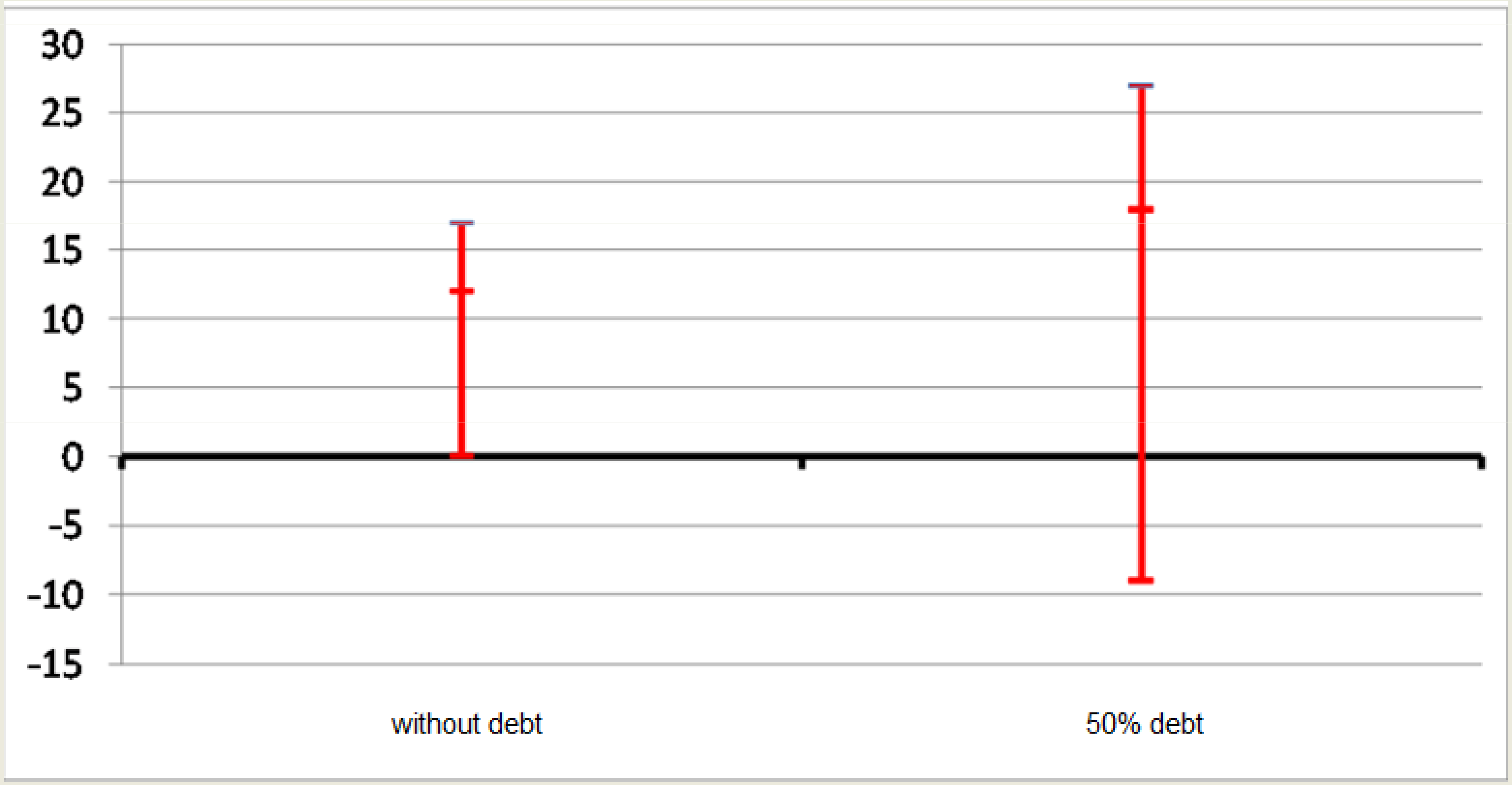
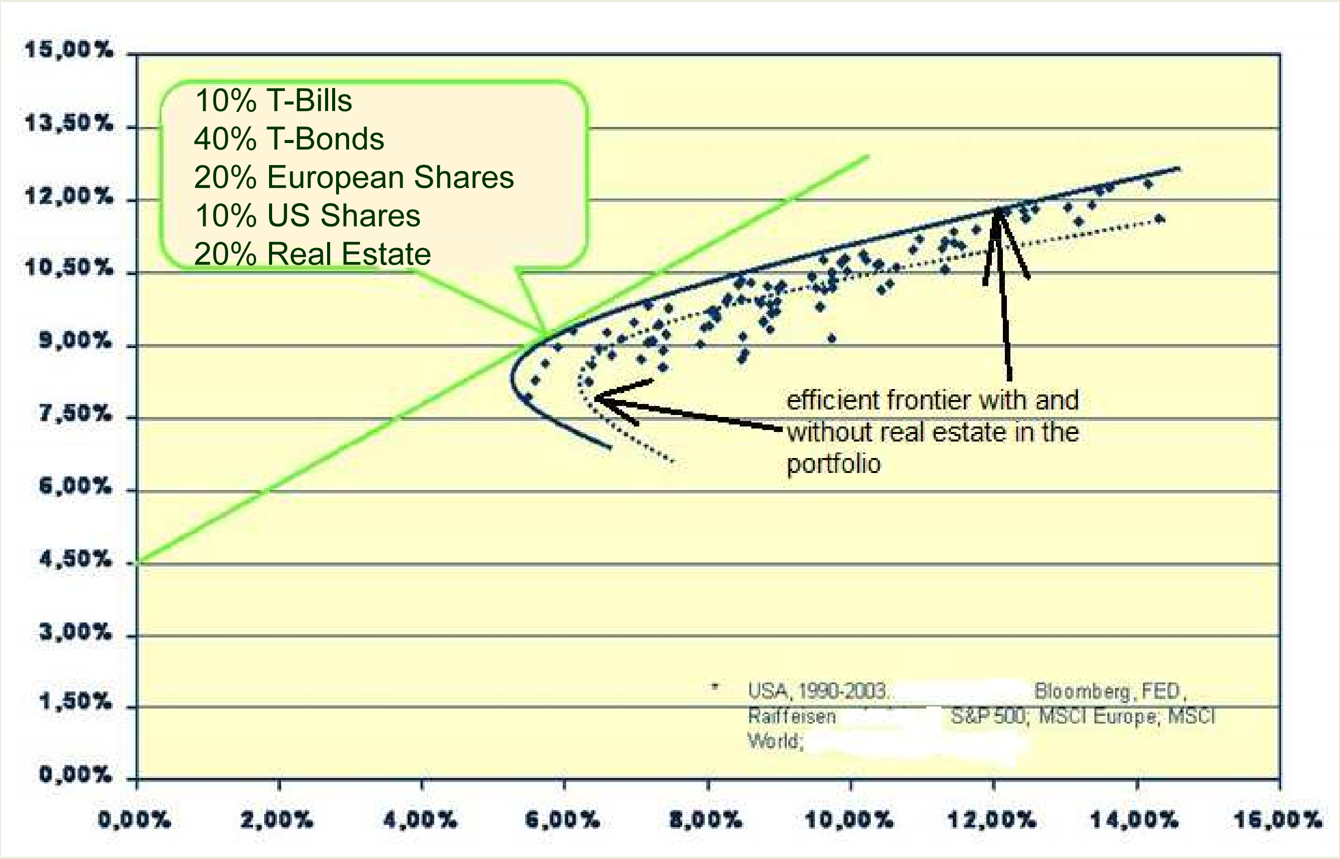
The effect of credit financing on returns



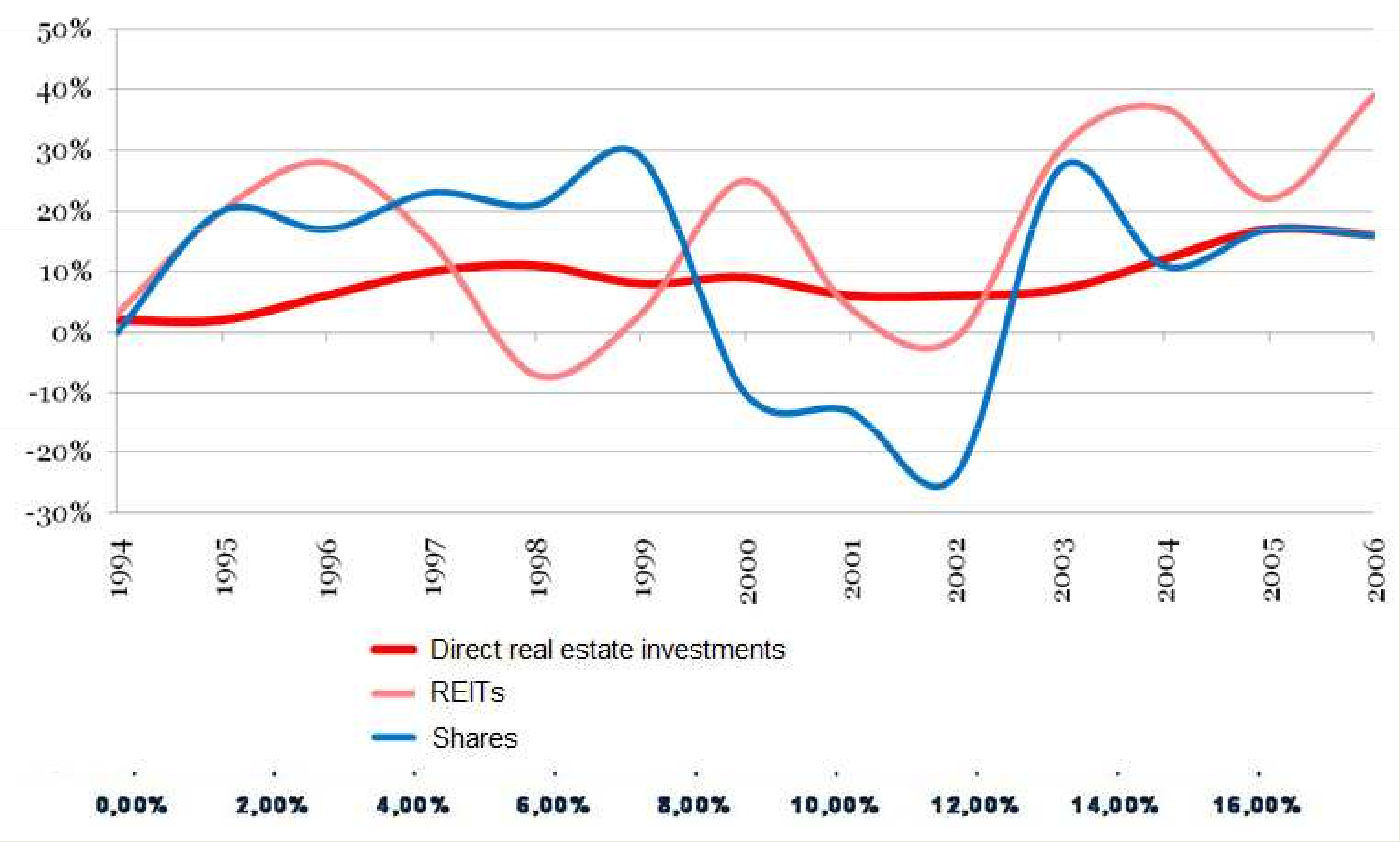
3. Real estate in the investment portfolio

Real estates in the investment portfolio



Result:
The return of the portfolio including real estates is 17% higher,while its risk is 15% lower.

Global investment performance of real estates and shares in the long run



Source: RREEF research EPRA/NAREIT; IPD; MSCI; NCREIF; ICREIM; PCA; based on MTB – IKOMA

4. Urban and real estate economics

analysis vs. research

An analytical course

The course of Urban and real estate economics has rather analytic than research ambitions.

It is not the topics, questions and problems which makes the difference but the nature of work:

- nature of knowledge,
- level of thoroughness,
- use of skills.

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Analysis vs. research

Analysis	Research
quick and a wide range of use of means	deepened, thorough application and development
applications on uneven level	„on the frontier”
ordinary but complex questions	high-level specialisation
up-to-date follow-up, objective knowledge	being widely read
„must” answers	raising problems
skills	methodological and theoretical knowledge
capturing badly defined problems	deep examination of particular questions

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Curriculum

- Geltner, David M., Norman G. Miller, Jim Clayton, Piet Eichholtz [2007]: *Commercial Real Estate Analysis and Investments*, 2nd Edition. Cengage Learning. Chapter 10–11.

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