

MIDTERM EXAMINATION

The estimated time to complete the exam is 90 minutes. It is a closed-book exam, worth 40 points. Answer all seven problems. During the exam you can use either a calculator or a laptop with MS Excel installed.

1. [4 points] **Why are real estate decisions different from other purchases?**

2. [6 points] **Public Housing Policies**
 - a. Comment on the economic perspective of housing policies and compare the notions/objectives of equity and efficiency.
 - b. Comment on the social perspective of housing policies, including the discussion of financial affordability of housing, housing as a merit good, and social housing.
 - c. List and explain three housing policy instruments.

3. [4 points] **Housing Prices in Central and Eastern Europe (CEE)**
 - a. What macroeconomic fundamentals may have contributed to the growth of real estate prices in CEE over the decade or so prior to 2008?
 - b. What specific factors other than fundamentals in part a may have contributed to the growth of real estate prices in CEE over the decade or so prior to 2008?

4. [6 points] **The US Housing Crises 2008**
 - a. What were the standard fundamental causes of the housing boom and what were the newer factors?
 - b. What factors caused the end of the boom?
 - c. Compare the US housing crises to the one in CEE. What did they have in common and what were differences between the two?

5. [4 points] **Owners vs. Renters**
 - a. How is house price appreciation likely to affect consumption of current home owners and consumption of renters (potential home owners)?

b. Could higher rents account for rapidly increasing house prices in the Czech Republic and its capital Prague prior to 2008? (The growth of apartment prices from 2001 to 2003 was 28% in the Czech Republic and 47% in Prague. From 2004 to 2007, it was 49% and 36%, respectively. The growth of rents from 2001 to 2003 was 18% in the Czech Republic and 36% in Prague. From 2004 to 2007, it was 7% and -6%, respectively.)

6. [8 points] **Supply and Demand Analysis of the Housing Market**

a. Suppose income of households increases and construction costs decrease. What happens to house prices (if it is possible to say) and the number of houses sold (if it is possible to say)? Illustrate your answer using a graph.

b. Suppose that the real estate market participants expect the prices of houses to increase a year from now. What happens to current house prices (if it is possible to say) and the current number of houses sold (if it is possible to say)? Illustrate your answer using a graph.

7. [8 points] **Present Value Model**

ITEM	Year 1	Year 2
Potential gross income (5% annual growth rate)	106000	
- vacancy and collection losses (4%)		-4452
Effective gross income	101760	106848
Operating expenses		
Fixed		
- Property taxes 20.17%	-20908	-21953.4
- Hazard insurance	-1460	-1533
- Licenses and permits	-250	-262.5
Variable		
- Gas, water, electricity	-2800	-2940
- Supplies	-1350	-1417.5
- Advertising	-730	-766.5
- Payroll	-3988	-4187.4
- Management, 5% of gross income	-5088	-5342.4
- Miscellaneous services	-1160	-1218
- Property maintenance	-1850	-1942.5
Net Operating Income		

a. What are the vacancy and collection loss in Year 1, the potential gross income in Year 2, and the net operating income in both years?

b. Assuming that you sell this apartment complex at the end of the second year for the net sales price of 650,000 USD, what is the present value of investing in this complex?