

RE 614 – Real Estate Appraisal
Fall 2004

Midterm Exam #2 – Due 4:30 p.m., November 23

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MW 5:35-6:50

This is a take-home exam. Nevertheless, I expect all of the work on the exam to be your own. You may use your textbook and notes from class, as well as other written resources you may have at your disposal. You may *not*, however, consult with classmates or anyone other than me about how to answer the questions on the exam. I expect this to reflect your own work, and violations of academic honesty will be punished harshly.

I expect your work to be neat and professional in appearance. That means that most answers should be typewritten and well formatted. I do need you to show your work, however. Thus, some of the numeric calculations may be easier for you to do by hand. Even in these cases, however, you should make sure your work is neat and professional.

- 1) You are appraising a 150,000 square foot warehouse property in Southwest Wichita. Current market rents are \$3.00 per square foot triple-net, and the current vacancy rate is 15 percent. Based on an analysis of comparable properties in the market, you have estimated the following ratios:

Potential gross income multiplier	7.00
Net income multiplier	8.33
Cap rate	0.12

 - a) Estimate this property's market value using the gross income multiplier.
 - b) Estimate this property's market value using the net income multiplier.
 - c) Estimate this property's market value using the capitalization rate.
 - d) Based on these calculations, what is your best estimate of the property's market value?

- 2) A property is being appraised assuming NOI will be \$300,000 per year over the 30-year remaining economic life of the building. Using the cost approach, the building is estimated to be worth \$2 million. The land value is expected to remain constant over the next 30 years. The appraiser believes a 12 percent discount rate is appropriate.
 - a) What is the land capitalization rate?
 - b) What is the building capitalization rate?
 - c) Using the residual technique, what is the value of the land?
 - d) What is the total property value?
 - e) What is the implied overall capitalization rate?

3) A property is expected to have the following NOI over the next 10 years:

Year	NOI
1	\$350,000
2	\$350,000
3	\$350,000
4	\$350,000
5	\$550,000
6	\$550,000
7	\$550,000
8	\$700,000
9	\$700,000
10	\$700,000

Over this 10-year expected holding period, the property's value is expected to increase by 3 percent per year (compounded annually). The appraiser estimates the appropriate market discount rate to be 13 percent.

- a) Use an income stabilization factor to derive an adjusted capitalization rate that can be used to estimate this property's market value.
 - b) Using the capitalization rate calculated above, what is the market value of this property?
- 4) You are reviewing an appraisal which in part includes the following sequence of adjustments to arrive at the adjusted price of a comparable sale:

Transaction price	\$2,300,000
Time (based on date of sale)	<u>+ 140,000</u>
Time adjusted price	\$2,160,000
Financing (based on today's market rate)	- 45,000
Location	+ 30,000
Physical characteristics	<u>+ 75,000</u>
Adjusted selling price	\$2,220,000

Critique this adjustment process.

5) You have been asked to appraise a home with the following characteristics:

Bedrooms	4
Full bathrooms	3
Half bathrooms	1
Additional plumbing fixtures	6
Lot size	14,235 sf
Above-grade living area	2,750 sf
Below-grade living area	0 sf
Recreation room	850 sf
Number of stories	2
Exterior siding	wood frame
Attic	no
Wood-burning fireplace	yes
Hardwood floors	yes
Style	conventional
Date of sale	October 2004

- a) Download the RE614_Regression_Data.xls spreadsheet from the course website and use the data it contains to estimate adjustment factors to use in the sales comparison approach.

In doing so, remember that you do not need to use all of the physical characteristics listed above. Instead, use economic common sense and your regression result to decide which characteristics to include in your regression.

You may also want to consider the which factors for your subject differ from those of your comparables (listed in part b below).

E-mail the spreadsheet with your regression results or turn in a floppy disk that contains the spreadsheet. Please make sure that the filename of the spreadsheet contains your name.

- b) Estimate the market value of the subject property using your regression coefficients as adjustment factors in the traditional sales comparison approach using the three comparables listed below.

Include this analysis as a separate worksheet on your spreadsheet. Make sure your spreadsheet calculates the adjusted sale price of each comparable and the indicated value of the subject. List your adjustment factors in one location and use cell referencing so that I can make changes to your adjustment factors and see how that impacts your estimated value.

<u>Characteristic</u>	<u>Comp 1</u>	<u>Comp 2</u>	<u>Comp 3</u>
Sale price	\$225,000	\$239,900	\$257,000
Bedrooms	4	4	3
Full bathrooms	2	3	3
Half bathrooms	1	1	1
Additional plumbing fixtures	6	5	6
Lot size	11,309	11,845	
Above-grade living area	2,613	2,756	2,635
Below-grade living area	0	0	0
Recreation room	600	643	1,044
Number of stories	2	2	1
Exterior siding	wood frame	wood frame	brick
Attic	no	no	no
Wood-burning fireplace	no	no	yes
Hardwood floors	no	no	no
Style	conventional	conventional	ranch
Date of sale	May 2001	July 2003	July 2003

- c) Estimate the market value of the subject property as predicted by your regression output (that is, by applying the subject's characteristics to your regression results).

Once again, include this as a separate page on your spreadsheet and use cell referencing to do the calculations.

Note: I decided not to include any of the cost approach calculations on the exam. We'll cover those on the final exam.