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Business 525-556: Valuation of Real Estate. 1963-1976

Graaskamp, James A.
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Valuation of Real Estate

Fall semester 1965-66

J. A. Graaskamp

Purpose:

To introduce the student to the theories and practice of real estate appraisal to serve the real estate investment decision-making process. The course will both teach and critique present appraisal theory favored by the appraisal profession and those theories currently advocated as an improvement on recognized practices.

Text:

Real Estate Appraisal and Investment, by Kahn, Case, and Schimmel
Published by Ronald Press Company, \$9.00

Other Readings:

Selections from The Appraisal Journal

Demonstration cases from material of the Appraisal Institute

The Appraisal of Real Estate, by the American Institute of Real Estate Appraisers

Written Assignments:

1. An appraisal of a vacant residential lot.
2. A critical review of an actual commercial appraisal.
3. An appraisal of a single family home.

Examinations:

1. A 50 minute exam on basic appraisal theory and vocabulary
2. A 50 minute exam on appraisal techniques.
3. A two hour exam on the relationship of appraisal to investment behavior and appraisal technique to the purpose of the appraisal.

Grade weights:

Written reports	15% each -	45%
50 min. exams	15% each -	30%
Final exam		<u>25%</u>
		100%

Timetable - Commerce 528

Valuation of Real Estate

Fall Semester 1965-66

J. A. Graaskamp

<u>Class</u>	<u>Subject and Work Schedule</u>
Mon. 9/13	Introduction
Wed. 9/15	The appraisal assignment and the distinction between appraisal and counseling
Fri. 9/17	Principles of property value
Mon. 9/20	Theory of value continued
Wed. 9/22	Indicators of urban use intensity
Fri. 9/24	Regional economic forecasts
Mon. 9/27	City and economic background analysis
Wed. 9/29	Location, neighborhood, and site analysis
Fri. 10/1	Site analysis continued
Mon. 10/4	Classic methods of approaching value
Wed. 10/6	The comparative sales approach - residential
Fri. 10/8	Special land valuation problems
Mon. 10/11	The comparative sales approach - commercial
Wed. 10/13	The market simulation approach
Fri. 10/15	The cost approach to value
Mon. 10/18	The depreciation estimate
Wed. 10/20	Site valuation problem due: Class discussion of results
Fri. 10/22	Classic capitalization of income approach
Mon. 10/25	Classic capitalization of income approach continued
Wed. 10/27	The Ratcliff critique of the traditional approaches to value
Fri. 10/29	The Ratcliff critique of the traditional approaches to value continued
Mon. 11/1	First 50 minute quiz
Wed. 11/3	Writing the appraisal report
Fri. 11/5	Writing the appraisal report continued
Mon. 11/8	Hand in critical review of commercial appraisal
Wed. 11/10	Introduction to the Ellwood method of capitalizing income
Fri. 11/12	Development of the Ellwood approach
Mon. 11/15	The Ellwood approach and leasehold valuations
Wed. 11/17	Appraising lease interests
Fri. 11/19	Mortgage loan appraising - income property
Mon. 11/22	Building analysis - dwellings
Wed. 11/24	Building analysis - commercial
Mon. 11/29	Second 50 minute quiz
Wed. 12/1	Appraisal for realty tax purposes
Fri. 12/3	Appraisal for realty tax purposes continued
Mon. 12/6	Condemnation of appraisal
Wed. 12/8	Condemnation of appraisal continued
Fri. 12/10	Condemnation of appraisal continued
Mon. 12/13	Appraisal for insurance purposes
Wed. 12/15	Federal income tax and real estate value
Fri. 12/17	Income tax, cash flow, and value
Mon. 1/3	Urban renewal appraisal
Wed. 1/5	Re-use appraisal for urban renewal
Fri. 1/7	Institutional standards for the professional appraiser
Mon. 1/10	Single family home report due
Wed. 1/12	Discussion of reports and review

Valuation of Real Estate

Fall Semester 1965-66

J. A. Graaskamp

<u>Date</u>	<u>Assignment</u>	<u>Lecture</u>
Mon. 9/13	None	Decision-making process
Wed. 9/15	KCS Chap. 1, 2	Appraisal vs. counseling
Fri. 9/17	KCS Chap. 3	Formal value theory of the appraiser
Mon. 9/20	KCS Chap. 3	Value theory continued
Wed. 9/22	KCS Chap. 4	A demonstration economic base analysis
Fri. 9/24	Mimeo handout	Economic forecasting and the appraiser
Mon. 9/27	KCS Chap. 5	Standard city indices of real estate value trends
Wed. 9/29	KCS Chap. 6	Location analysis by means of linkage determination
Fri. 10/1	Mimeo handout	The American institute approach to site analysis
Mon. 10/4	KCS Chap. 7	The impact of three approaches to value
Wed. 10/6	KCS Chap. 8	Selection and adjustment of comparable property
Fri. 10/8	to be assigned	Comparison of heterogeneous properties
Mon. 10/11	KCS Chap. 23	Special arbitrary tools of the appraiser
Wed. 10/13	Mimeo handout	Formal approach vs. pragmatic approach to value
Fri. 10/15	KCS Chap. 13	Review of costing techniques
Mon. 10/18	KCS Chap. 14	Critique of depreciation techniques
Wed. 10/20	Site valuation problem due	Class discussion of results
Fri. 10/22	KCS Chap. 9	Estimating gross income and expenses
Mon. 10/25	KCS Chap. 10, 11	Formal selection of a cap rate
Wed. 10/27	Mimeo handout	Discussion of the Ratcliff critique
Fri. 10/20	Mimeo handout	The Ratcliff proposal
Mon. 11/1	First 50 minute quiz	

Business 528

Valuation of Real Estate

Fall Semester 1969-1970

Prof. J.A. Graaskamp

Purpose:

To introduce the student to the theories and practice of real estate appraisal to serve the real estate investment decision-making process. The course will teach and critique present appraisal theory favored by the appraisal profession and those theories currently advocated as an improvement on recognized practices.

Text:

An Introduction to Appraising Real Property, Society of Real Estate Appraisers, 1968.

Other readings:

1. The Appraisal of Real Estate, American Institute of Real Estate Appraiser, Fifth Edition (1967) (TARE).
2. Modern Real Estate Valuation: Theory and Application, by U. Ratcliff, Published by the Democrat Press (MRV).
3. A Student's Demonstration Appraisal Report on an Apartment House, American Institute of Real Estate Appraisers (1966) (SDRA).
4. A Student's Demonstration Appraisal Report on a Single-Family Residence, American Institute of Real Estate Appraisers (1964) (SDRH).
5. Real Estate Appraisal and Investment, by Kahn, Case, and Schimmel, Published by Ronald Press Company (KCS).
6. A Guide to Appraising Apartments, William N. Kinnard, Jr., Society of Real Estate Appraisers (1965). (GA)
7. A Guide to Appraising Residences, H. Grady Stebbins, Jr., Society of Real Estate Appraisers (1969). (GR)
8. Selections from The Appraisal Journal (TAJ).

Written Assignments:

1. An Appraisal of a single family home.
2. An appraisal of an income investment property.

Examinations: 2 50-minute exams.

Grade weights:

Written report #1	20% each	40%
Written report #2	20% each	40%
50 minute exams	30% each	60%
		100%

Nov. 8th midterm *Appraisal due Nov 1*
Dec. 11th - 101 exam BUSINESS 556
reg. week - 2nd semester Valuation of Real Estate
Fall, 1976

Required Course Reading List

(Note: K = An Introduction to Appraising Real Property by William Kinnard)

Sept. 7-10	Introduction to the Course	K: Ch. 1
	Introduction to the Appraisal Process	K: Ch. 2
Sept. 13-17	Principles of Real Estate	K: Ch. 3
	Real Estate and Money Markets	K: Ch. 4
Sept. 20-24	Appraising as Applied Economic Analysis	K: Ch. 5
	Area and Neighborhood Analysis	K: Ch. 6
	"Economic Base Analysis for the Appraiser"	
	<u>The Appraisal Journal</u> , July 1969.	Mimeo
Sept. 27 -		
Oct. 1	Site and Improvements Analysis	K: Ch. 9
	"New Life for Old Dwellings," <u>Agricultural</u>	
	<u>Handbook No. 481</u>	Mimeo
Oct. 4	Single Family Residential Property Viewing	
	for Appraisal Problem #1	
Oct. 6-8	Site Valuation	K: Ch. 11
	"Special Land - Valuation Problems" <u>Real Estate</u>	
	<u>Appraisal and Investment</u> , Ch. 23	Mimeo
	"Development Analysis for the Valuation of	
	Vacant Land," <u>The Appraisal Journal</u> , April	
	1965	Mimeo
Oct. 11-13	Direct Sales Comparable Approach	K: Ch. 10
Oct. 15-18	Quantitative Tools and Data Analysis	K: Ch. 7
	Applications of Quantitative Tools	K: Ch. 8
Oct. 20-22	Cost Approach; Estimating Reproduction Cost New	K: Ch. 13
	Estimation of Accrued Depreciation	K: Ch. 14
Oct. 25-27	Income and Value; Gross Rent Multiplier	K: Ch. 12
	Introduction to Income Capitalization	K: Ch. 16
	"Don't Underrate the Gross Income Multiplier,"	
	<u>The Appraisal Journal</u> , April 1971	Mimeo
Oct. 29	Reconciliation and Final Value Estimate	K: Ch. 15
	Appraisal Reporting	K: Ch. 17
Nov. 1	Mid-Term Examination (1½ hour, multiple choice	
	test) <i>Appraisal due</i>	

Nov.	5	Discounting and Compound Interest, Ch. 5	Mimeo
Nov.	8	Submission of Student Appraisal Problem	
Nov.	10	Income Estimation and Forecasting, Ch. 6	Mimeo
Nov.	12	Debt Financing and Its Influence on Income Property Valuation, Ch. 7	Mimeo
Nov.	15	Rates of Capitalization and Rates of Return, Ch. 8	Mimeo
Nov.	17	Derivation of Overall Rates, Ch. 9	Mimeo
Nov.	19	Finite Income Streams: Providing for Capital Recovery, Ch. 10	Mimeo
Nov.	22	Presentation of Student Appraisal Problem #2 (Income Property)	
Nov.	24	Finite Income Streams: Capitalization Rates and Factors, Ch. 11	Mimeo
Nov.	29	Physical Residual Techniques of Income Capitalization, Ch. 12	Mimeo
Dec.	1	An Introduction to Mortgage-Equity Capitalization, Ch. 13	Mimeo
Dec.	3-8	Mortgage Equity Capitalization: The Ellwood Method Ellwood Work Problems 1-4	Handout Handout
Dec.	10	Submission of Appraisal Problem #2	
Dec.	13 & 15	"Capitalized Income is not Market Value," <u>The Appraisal Journal</u> , Jan. 1968	Mimeo
		"Should the Traditional Appraisal Process be Restructured?" <u>The Real Estate Appraiser</u> , Nov. 1970	Mimeo

BUSINESS 528

VALUATION OF REAL ESTATE

Saturday, January 14, 1967

Final Exam

J. A. Graaskamp

Write on three of the following questions in rich detail:

1. Describe the appraisal process used to value real estate for tax assessment purposes, giving special emphasis to provision for maintaining equity between different types of property and different taxing jurisdictions.
2. Describe the legal process of condemnation and define the various possible components of a condemnation award, indicating which are in the province of the appraiser.
3. Indicate the functions in appraisal in the urban renewal process and the technique of the wholesale appraisal as suggested by speaker Don Evans and readings.
4. Professor Ratcliff advocates a simulation approach to probable selling price "Vp" as a new technique in appraisal. Suggest two types of appraisal now in use where the appraiser must simulate typical buyer thinking (market reaction) in order to produce his valuation and describe the process in each case.

A PROPOSED REFINEMENT OF THE MARKET DATA
APPROACH AS APPLIED TO SINGLE FAMILY RESIDENCES

The Market Data Techniques Defined

The market data approach or market comparison method of residential real estate appraisal is recommended by an impressive ancestry of theoretical economic theories, ^{court tradition, and public acceptance.} Still ~~but~~ its present day descendants, ^{have} find more acceptance where ^{utilized execute} ~~modified to set~~ the cost or capitalized income methods than as a method in its own right. The market data approach to value can be defined, or perhaps better, described, as inferring the value of property by observing the ~~present~~ ^{recent} sales at prices of properties comparable to the one being appraised under current market conditions. Ideally this theory assumes that value is synonymous with ^{a price which} market value and ~~that market value~~ represents the best judgment ^{of} ~~that~~ buyers "who were typical, well informed, acting intelligently, voluntarily, without necessity," and interested solely in the future productivity of a specific ^{set} ~~group~~ of dwelling amenities. ^{* In practice} While courts still rely on the market data approach in cases involving residential property, and while the average citizen is best persuaded by such ^{evidence} ~~an explanation~~ of values, there is some indication that the market data method may be declining in its acceptance by the more sophisticated. A historical analysis of this approach presented by Paul Wendt in his 1956 text, Real Estate Appraisal, stated :

"market price has gradually lost its central position in appraisal theory....This development has resulted from a gradual decline in emphasis rather than from a formal or outright rejection of the market comparison method. It has been accompanied by greater reliance upon and refinements in the capitalization of income and the replacement-cost methods." ()

Comment on the application of market data approach has repeatedly emphasized the weak points of the comparison method ^{the technique of outlined} which can be ~~summarized~~ here without extensive comment:

() .

()

^{Date}
The Market Approach as Practiced

In practice, however, the condition of perfect competition necessary to equate market price with basic value ^{as} do not exist. Sale prices may conceal extraordinary contingencies ^{s/ bargaining position of the} bearing on the seller or the buyer and will be further distorted by a temporary disequilibrium in local, regional, or national real estate markets. To make market data comparable as to time, place, and property attributes the adjuster has had to ^{do a real close} expose his best work ~~to the errors of~~ ^{with} arbitrary and subjective adjustments, ~~factors~~.

1. Describe and classssify the subject property by those attributes that are significant and relevant to value, and where values are diverse, designate sub-classes of value.
2. Find sales involving comparable assets made recently in proximate or comparable relationship to the subject property.
3. Adjust sale price for differences in time and condition reflecting period elapsed since the recorded transaction and the effect on price of financing terms or bargaining position of either buyer or seller.
4. Compare each sold asset with the subject asset in a statistical array of data, adjusting for significant differences, and estimate indicated market value of subject asset in each comparison.
5. Find a central tendency of indicated values, which may be distilled into a single value figure but may be better expressed as a bracketed range within which the most probably market price would fall.

This basic process has been modified and underlies a number of hybrid market data methods. Of these, the best known is the FHA system of loan analysis, which attempts to rate the marketability of location and structure with a qualitative rating system. () From time to time, The Appraisal Journal has reported on methods to determine basic market value for a given structure or unit of space, by which expected market price could be calculated, according to formula or lump sum adjustments. () More recently, the problem of selecting comparable properties which are basically homogenous, has led to adjustment of values by means of market data comparison of site differentials. Each technique attempts to reduce the margin of analysis dependent upon subjective judgment of the appraiser. Nevertheless, the market data approach relies more on the seasoned experience of the appraiser, than the cost approach, or even the capitalized income approach. ~~The best way to control the bias of opinion is to reduce the magnitude of each individual judgment upon which the market value is constructed.~~

Criticism of the Market Data Approach

Certainly the market data approach has embarrassed the appraisal profession many times for the disparity of honest opinion as to the value of a particular property under consideration. The inherent difficulties of application of the market data approach to value might be summarized in this way:

1. Market data appraisal is ideal in theory but suffers in practice because the assumptions of prices in a freely competitive market do not apply to the real estate market where properties lack homogeneity, buyers and sellers lack needed information, transfers are relatively infrequent, and price is affected by financing terms and cyclical imbalance between demand and supply.
2. Simplicity of method is made difficult by misunderstanding of concepts of "fair market value", mathematical techniques for adjusting sales data, and inherent economic distortions of sales data due to long term inflation, short term speculation, and tax-inspired manipulation.
3. The problem of homogeneity becomes greater as the variety of available homes and smaller commercial buildings grows more extensive in style, location, and price. Greater variety makes it difficult to ~~simplify~~ ^{reduce} comparison to a few ^{essential} factors.

> back
~~For certain real estate markets,~~ ^I In particular, middle income housing, would seem to have characteristics that effectively answer criticisms of the market data approach. ^{in line with economic theory.} Certainly the charge of lack of homogeneity is true when directed at comparison work-sheet grids which do little more than note lot size, room number, number of floors, size of garage, and age. Still, techniques can be improved to base homogeneity on the quality of basic amenities rather than an accounting of space and number. ~~Before returning to this question, one should treat the expectation buyers and sellers don't really know much about what they are doing~~ Ignoring the problem of what constitutes sufficient comparability for only a moment, one should ^{examine} ~~treat~~ the problem of stability and market information. Allegedly, instability of real estate values and the lack of current market information keep the buyer and seller

A Qualified Rebuttal

Criticism then, is of two forms: the first, points out that the prices indicative of value have not been set under the conditions required by perfect competition; second, the essential factors of comparison are too crude to reflect buyer motivation. The authors do not feel the requisite of perfect competition is overly important for economic theory will operate within certain limits using the theories of imperfect competition.() Certainly, some areas of the real estate market might be considered representative of the "large number" assumptions and models of this latter school of economic thought.

relatively uninformed, so that the perfect knowledge condition of the free market ideal is drastically violated. However, in the past few years, market data comparison has become more feasible with an increase in newspaper coverage of local real estate conditions and finance. Mobility and expansion of the ^American population in urban areas is increasing the frequency of real estate transfer in each neighborhood, particularly more up-to-date suburban areas. And, as every appraiser knows, the validity and usefulness of the market data methods is a function of "the frequency and character of the market transactions and properties of the subject type". ()

The real estate market is still one area where the horse trader may exercise his talent with some hope of profit and it certainly may be said that the average buyer knows very little of home values in an overall community or regional market. Still the prospective home owner shops carefully for a home or a mortgage before purchase in the particular neighborhood or real estate sub-market of his preference. ~~The average home purchaser is a fair judge of features which he can see or recognize as included in the design or shown to be a "hidden value extra."~~ ^{a wide variety of} The prospective home owner is being educated to look for ~~those~~ features by a veritable barrage of house and garden magazines, T. V. shows, and retailing promotions. In the more expensive homes, the majority of buyers is purchasing a home for the second or third time, and is quite sensitive to value and long term convenience. Indeed, it is a tenet of this essay that the growing sophistication of home-buyer preferences must be reflected in a more sophisticated selection of essential attributes for determining comparability of residential property values.

Certainly the ~~appraiser's~~ relationship between buyer and seller or unusual terms of sale and financing which would affect the sale price are questions of fact which could be established to a reasonable degree by means of a little vigorous investigation in a majority of cases. The criticism that real estate prices are inconsistent and unstable for short periods of time, seems to be based on a few cases which were exceptional, rather than the true character of residential real estate value, ~~at least~~. Certainly real estate prices are not chaotic and inconsistent, and while there is room for error in inferring market value from recent market sales, continuity and pattern do exist.

"Just why this law of price repetition exists is a question that has never been satisfactorily answered by economists. It is often supposed to be due to the tendency of buyers and sellers to agree in their calculations of the prospective advantages to be secured from the ownership of specific commodities. But it is more probably due in large measure to what economists would call the 'irrational' tendency on the part of buyers and sellers to accept uncritically the values placed upon the commodities by previous buyers and sellers." ()

Therefore, for middle income housing, at least, sufficient attributes of competition are present to say that a commodity should satisfy the requisites of imperfect competition theory, and the requisites of inferring value from the recent price of comparable if not homogeneous commodities. The Real Flaw in the Market Data Approach ~~In short,~~ Market value comparison is not so much to be criticized for lack of economic realism, as for lack of technical adaptation to modern criteria of comparability. The market approach to ~~xx~~ value deserves and important position in the appraiser's tool kit. Where the amenities rather than income represent the future productivity of property, the market data system should be paramount, (), for so often the market values of residential amenities bears little parallel to the actual cost of reproduction. In the courts, the market data approach is still the most persuasive, despite growing acceptance of capitalized income methods, and there is certainly a trend ~~xxxx~~ toward more

condemnation award appraisals requiring market values. Ideas have cycles of acceptance like most creations of man; it would seem that with the ^{time} ~~time~~ establishment of capitalized income theories in business thinking that appraisal thought could once again be directed to refining the techniques of applying the classic market data approach to modern problems.

Improvement of the Market Data Approach

The core of the problem in technique for application of the market data approach would seem to lie in selecting the proper characteristics for comparison and ~~informalizing~~ formalizing the method of comparison. The usual simple grid system catalogs gross differences which are usually rather general in nature, and limited in number. () The desire to have a large number of "comparable properties" may have led to reducing the number of features compared in order to qualify the largest profitable number of recent transactions involving roughly similar properties for inclusion in the list. Lump sum adjustments for garages, or extra rooms, or odd-shaped lots doesn't improve the accuracy of the comparison very much. More suggestive of reform of the techniques of comparability are the FHA system for rating essentials of location and property value, or the URA method of isolating specific differential factors for comparison to measure differences. The concept here is similar to that of schedule rating in fire insurance, which assumes that if homogeneity is not present, at least the ~~x~~ differences can be measured in a standardized fashion, so that heterogeneity is reduced to its individual components. By reducing comparison to a significant number of individual items, no one of which ~~is a~~ represents a disproportionate share of the value ^{of the whole}, of the whole, no one judgment creates an unjustifiable bias, ~~and~~ ^{the} the opportunity for off-setting errors of judgment is introduced.

Sub-division of subjective judgment does nothing to eliminate the opportunity for distortion, ~~xxxx~~ but mitigates the consequences of any one error in judgment.

It may be possible, therefore, to devise a list of comparable features ~~rated for individual comparison~~ which would represent those factors most ~~like~~ likely to motivate the home buyer consciously in his purchase rationale, or subconsciously, in his pattern of value and social standards. Various combinations of residential amenities can be equally satisfying to the home buyer, ~~so that~~ ^{proposed} any rating grid ~~designed~~ ^{is} should reflect both the ~~relative scale and degree~~ ^{to which} each factor ^{is} present in the properties compared and the importance of each kind of feature in motivating the buyer in that community. In short similar

features should be both rated and weighted.

To these ends this monograph is proposing the following system of market data analysis with the objective of not only improving market data techniques but stimulating appraisal thought on ^{the possible depth and breadth} ~~what a market appraisal~~ ^{of market data appraisal.} ~~can be expected to tell about the subject property appraised.~~ The component steps of this process of market analysis are:

1. Selection of apparently comparable properties which were sold within a year of the date of appraisal of the subject property. Sales prices on this list of comparable property should need only a very minimum of adjustment for major distortions of price due to time, finance, or special environmental conditions which affected price. Distortions should disqualify wherever the numbers of available transactions permit.
2. Comparison of subject properties to an idealized average property by means of a checklist and simple rating grid.
3. Assignment of weights to those factors compared, to represent special preferences and prejudices of the local sub-market for the kind of properties compared.
4. Calculation of average point rating and average price of ^{all} comparable properties remaining under analysis.
5. Relate variation of each individual property price from ^{disregarding signs but} the average and correlate to variations in rate points for each property, ~~and~~ discard those properties in sample which have an inverse relationship between price variation and rate variation from the average.
6. Determination of dollar variation in price per point of rate variation for both the high group and low group of those remaining in the array in Step 5.
7. Multiply the point variation of the subject property from the average price of the group in the sample of comparables and add to the average price both the high and low group estimates of six to determine the market price bracket.

Discussion of the Appraisal Proposal
Discussion of selecting a sample list of comparables has already pointed homes

out that in the area of middle class, suburban residential ~~areas~~ there should be an abundance of raw data from which one can draw a sample with some care.

In most cases it should be possible to find a small number of properties which

will be examined ^{more} intensively ^{True of the usual} rather than ~~rely on~~ extensive but superficial *comparative* analysis. By selecting properties which do not require major, arbitrary adjustments because of extra land or needed repairs, ^{way so more credible} it ~~will also be possible~~ to make *only* adjustments via the point system discussed next. In this way arbitrary dollar cost items ^{widely} will not be introduced to modify market prices under the usual "cost of correction" theory of adjustment.

The key to this system is a checkoff list of significant comparable features, graded for quality via a point scale and a ~~d~~weighting factor for each sub class. As a criteria for the selection of significant features of comparability, it was assumed that a homebuyer is motivated by a sequence of visual impressions and value judgments which can be inferred from his actions. The attributes selected are listed by sub ~~cat~~ class in the order which they might first impress the purchaser or the appraiser: neighborhood, site, attractiveness of the exterior, structural space and layout, attractiveness of the interior, and the equipment furnished. Review of marketing considerations emphasized by such professional magazines as House and Home, and reference to a penetrating analysis of home design called The House, by architect/Kennedy, suggested the specific attributes of exterior, structural, and interior features to be compared. The idea of a rating grid ~~is~~ has been borrowed from the FHA method of evaluating neighborhood and site. Using a basis of one to five points, a score of three would be average for the kind of property under study. Where both the subject property and a comparable property are given the same rating on specific features, these features have no effect on the total differences in rating points revealed by a rate analysis of each property. The result is ^{analysis} depends on the differences revealed. Standardization of differentials is another way of achieving a kind of homogeneity necessary for statistical purposes. This emphasis on the differences is the method whereby adjustments to the market price may be made without attributing specific lump-sum values to features which affect market

*insert
level
vs
comparable*

value to varying degrees.

Each of the basic categories of itemized comparison, ^{and within each class} ~~or better~~ the specific items of comparison, should be weighted to recognize that there are variations in preferences for specific kinds of amenities according to a neighborhood, a social strata, or community living patterns. First, a thermo-pane picture window may be a status feature in one neighborhood and repetitious standard equipment in another. Second, it is axiomatic among builders and realtors, ^{although} that some features, ~~while~~ highly desirable, will not return their cost in additional ~~and~~ market value, while at the same time, some features will produce many times their cost in incremental market value. At the same time it is highly improbable that any one feature can add a specific dollar value to the price of any one house as compared to another. Instead, the ~~house~~ purchased represents an optimal combination of amenities, some of which ^{by the individual} are more favored than others. By weighting the ratings before determining the aggregate number of points attributed to a specific property and then adjusting total market price in proportion to total rating, it is possible to avoid attributing price fluctuation directly to a single isolated feature.

^{used} ~~Introduction~~ ^{Use} of the average point rating and average price of all the properties analyzed ~~as comparable to the subject property~~ ^{is consistent} reaffirms the fact that appraisal ^{can} ~~is not trying to~~ determine the precise dollar amount of the ~~best~~ ^{to buy} offer that one can expect to receive for the subject property but rather ^{defines} a value ~~which~~ represents a central tendency for the most probable consensus as to what ~~the~~ market value might be. The emphasis in modern ^{appraisal} literature ~~is on~~ synthesizing the values produced by the three recognized approaches ^{into a single figure} ~~for~~ ^{to} determining value has obscured an implicit assumption that the single value produced is really a ~~mid-point in a bracket of~~ a series of probable market values. Having determined ^{the} ~~an average~~ ^{price and total ratings} it will be possible to relate individual

draw a sample with some care. In most cases it should be possible to find a small number of properties which will be examined more intensively than true of the usual extensive but superficial comparative analysis. By selecting properties which do not require major, arbitrary adjustment because of extra land or needed repairs, it may be more credible to make other adjustments via the point system discussed next. In this way arbitrary dollar cost items will not be widely introduced to modify market prices under the usual "cost of correction" theory of adjustment.

The key to this system is a checkoff list of significant comparable features, graded for quality via a point scale and a weighting factor for each sub class. As a criteria for the selection of significant features of comparability, it was assumed that a homebuyer is motivated by a sequence of visual impressions and value judgments which can be inferred from his actions. The attributes selected are listed by sub class in the order which they might first impress the purchaser or the appraiser: neighborhood, site, attractiveness of the interior, structural space and layout, attractiveness of the exterior, and the equipment furnished. Review of marketing considerations emphasized by such professional magazines as House and Home, and reference to a penetrating analysis of home design called The House, by architect Kennedy, suggested the specific attributes of exterior structural, and interior features to be compared.

A SYSTEM OF RESIDENTIAL MARKET COMPARISON APPRAISAL ANALYSIS

Rating standard: 1 2 3 4 5 with 3 as average for the local market.

Weight adjustments: Each major area and each single element of comparison should be weighted by the appraiser to reflect buyer preferences in his market area.

Adjusted weighted ratings: The total of weighted ratings will permit establishment of a ratio between market price of properties compared and subject property for which value estimates were sought.

IDENTIFICATION SUB	CLASS WEIGHT	SUBJECT PROPERTY (rate) (wt.) (total)	COMPARABLE PROPERTY (rate) (wt.) (total)
Neighborhood analysis	10		
1 Economic conformity		2	2
2 Social conformity		1	1
3 School and church linkages		3	3
4 Shopping linkages		1	1
5 Accessibility		2	2
6 Social prestige factors		1	1
Site analysis	10		
1 Lot area		2	2
2 Lot shape		2	2
3 Topography		2	2
4 Soil		2	2
5 Vistas or other features		2	2
Marketable exterior feature analysis	20		
1 Architectural styling and detail		4	4
2 Market preference for surface materials		3	3
3 Upkeep efficiency of surface materials		3	3
4 Market appeal of main entrance-way		2	2
5 Landscaping		2	2
6 Maturity of plantings and trees		2	2
7 Outdoor privacy from fences, siting, etc.		2	2
8 Driveway area efficiency		2	2
9			

IDENTIFICATION STUB	CLASS WEIGHT	SUBJECT PROPERTY (rate) (wt.) (total)			COMPARABLE PROPERTY (rate) (wt.) (total)		
Basic structure analysis	20						
1 Gross areas							
a. Living area			2			2	
b. Porch areas			1			1	
c. Garage areas			1			1	
2 Living area space allocation							
a. Sleeping area			1			1	
b. Living and dining area			2			2	
c. Multi-purpose area			1			1	
d. Kitchen and utility area			3			3	
e. Storage area			2			2	
3 Ease of furniture layout			1			1	
4 Household traffic pattern							
a. Horizontal			1			1	
b. Vertical			1			1	
5 Convenience to outdoor areas			1			1	
6 Construction craftsmanship			2			2	
7 Functional obsolescence			1			1	
Marketable interior feature analysis	20						
1 Natural ventilation			1			1	
2 Natural lighting			1			1	
3 Built-in electric lighting			1			1	
4 Market preference for wall surface material,			2			2	
5 Market preference for floor and ceiling			2			2	
materials							
6 Housekeeping efficiency of surface material,			3			3	
7 The quality and detail of millwork			2			2	
8 Extent of built-in furniture, cabinetry, etc.			1			1	
9 Extent of use of tiles, slates, and			2			2	
plastic surfaces							
10 Interior decorating style			3			3	
11 Quality of drapes and carpeting			2			2	
12							

IDENTIFICATION STUB	CLASS WEIGHT	SUBJECT PROPERTY			COMPARABLE PROPERTY		
		(rate)	(wt.)	(total)	(rate)	(wt.)	(total)
Equipment	15						
1 Heating equipment			3			3	
2 Plumbing equipment			3			3	
3 Electric service entry			1			1	
4 Built-in kitchen equipment			4			4	
5 Special utility and bath fixtures			2			2	
6 Extra custom electric features			1			1	
7 Recreational equipment			1			1	
Intangible value considerations	5						
1 Special financing arrangements			2			2	
2 Immediate neighbors			1			1	
3 General maintenance			2			2	
Maximum total points							
Actual total points scored							

Formula for Adjustment
of Market Data

M equals Maximum weighted points to be scored (500 points)

A^t equals total weighted points given subject property to be appraised

B^t equals total weighted points given comparable property for which market price is known

P^a is the price to be determined

P^b is the known price of the comparable property

Therefore:

$$\frac{\frac{A^t}{M}}{\frac{B^t}{M}} \text{ equals } \frac{P^a}{P^b}$$

$$\frac{\frac{400}{500}}{\frac{200}{500}} = \frac{7}{20,000}$$

$$\frac{400}{500} = \frac{7}{20,000}$$

$$37 = 80,000$$

$$7 = 26,667$$