JAMES A. GRAASKAMP COLLECTION OF TEACHING MATERIALS

II. CLASSES AT THE UNIVERSITY OF WISCONSIN--MADISON

D. Business 528/556: Valuation of Real Estate

3. Case Study Example: James A. Graaskamp, (Draft) "A Proposed Refinement of the Market Data Approach as Applied to Single Family Residences", Undated

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~~s~~ 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 decendents, have find more acceptance where utilized ~~modified~~ to execute ~~fit~~ 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 recent ~~present~~ sale~~s~~ prices of properties comparable to the one being appraised under current market conditions. Ideally this theory assumes that value is synonymous with a market price ~~value~~ which ~~and that market value~~ represents the best judgement 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 ~~an explanation~~ evidence 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 which can be ~~summarized~~ outlined here without extensive comment:

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The Market Data Approach as Practiced

In practice, however, the condition of perfect competition necessary to equate market price with basic value does not exist. Sale prices may conceal extraordinary contingencies bearing on the bargaining position of 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 ~~expose~~ doctor his ~~best work~~ raw data ~~to the errors of~~ with arbitrary and subjective adjustments ~~factors~~.

1. Describe and classsify 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 homogenious, 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.~~

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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.

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~~For certain real estate markets,~~ In particular, middle income housing would seem to have characteristics that effectively answer criticisms in relation to economic theory. of the market data approach. 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 ~~treat~~ examine 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 <u>frequency</u> and <u>character</u> 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. T~~he 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." The prospective home owner is being educated to look for ~~those~~ a wide variety of 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 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. ~~In short,~~

The Real Flaw in the Market Data Approach

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 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 tlhe most persuasive, despite growing acceptance of capitalized income methods, and there is certainly a trend toward more condemnation award appraisals requiring market values. Ideas have cycles of acceptance like most creations of man; it would seem that with the firm 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 in 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 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 represents a disproportionate share of the value of the whole, no one judgment creates an unjustifiable bias, moreover, the opportunity for off-setting errors of judgment is introduced.

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

It may be possible, therefore, to devise a list of comparable features which would represent those factors most 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~~ Any proposed rating grid ~~designed~~ 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 ~~what~~ the possible depth and breadth ~~a market appraisal~~ ~~can~~ to be expected of market data appraisal. ~~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~~ discarding 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 out that in the area of middle class, suburban residential ~~areas~~ homes 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

~~whill~~ will be examined more intensively ~~rather~~ than true of the usual ~~rely on~~ extensive but superficial comparative analysis. By selecting properties which donot require major, arbitrary adjustments because of extra land or needed repairs, it ~~will also be possible~~ 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 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 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 ideal vs comparable

value to varying degrees.

Each of the basic categories of itemized comparison, ~~or better~~ and within each class 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 thermopane picture window may be a status feature in one neighborhood and repetitious standard equipment in another. Second, it is axiomatic among builders and realtors that some features ~~while~~ although 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 are more favored by the individual 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.

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~~Introduction~~ Use of the average point rating and average price of all the properties analyzed ~~as comparable to the subject property~~ ~~reaffirms~~ is consistent the fact that appraisal ~~is~~ can not ~~trying to~~ determine the precise dollar amount of the ~~first~~ best offer to buy ~~that one can expect to receive for the subject property~~ but rather a value ~~which~~ represents a central tendency for the most probable concensus as to what ~~may~~ the market value might be. The emphasis in modern appraisal literature ~~of~~ on synthesizing into a single figure the values produced by the three recognized approaches ~~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 ~~an~~ the average price and total ratings it will be possible to relate individual

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draw a sample with some care. In most cases it should be possible to find a samll number of properties which will be examined more intensively than true of the usual extensive but superficial camparative 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.

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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 rating: 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 STUB	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 Accessability		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 materials			2			2	
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 plastic surfaces			2			2	
10 Interior decorating style			3			3	
11 Quality of drapes and carpeting			2			2	
12							

IDENTIFICATION STUB	CLASS WEIGHT	SUBJECT PROPERTY (rate)	(wt.)	(total)	COMPARABLE PROPERTY (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 maintainance			2			2	
Maximum total points							
Actual total points scored							

Formula for Adjustment of Market Data

$\underline{M}$ equals Maximum weighted points to be scored (500 points)

$\underline{A^t}$ equals total weighted points given subject property to be appraised

$\underline{B^t}$ equals total weighted points given comparable property for which market price is known

$\underline{P^a}$ is the price to be determined

$\underline{P^b}$ is the known price of the comparable property

Therefore:

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

$$\frac{\frac{400}{500}}{\frac{300}{500}} = \frac{x}{20,000} \qquad \frac{4}{3} = \frac{x}{20,000}$$

$$3x = 80000$$

$$x = 26,667$$