

## Abstract

There are three classical approaches to market value, but only one market value. Reconciliation in the appraisal process would be more meaningful if it were first directed to reconciliation of the application of the approaches when the results are widely variant.

## Real Reconciliation

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The real estate appraisal process is difficult to describe except in the most general terms; it is easier to say what it is not. It has not been refined to a scientific method based on natural law which, when studiously followed, produces a unique result. Nor is it an artistic adventure in which a solution is drawn from the ether by a talented and inspired practitioner. It cannot be reduced to a statistical procedure based on the gathering and analysis of information. *Most probable price* connotes a statistical approach to value estimation. However, most often the available applicable data samples are too few for statistically significant conclusions. Thus, the appraiser must rely on his knowledge, training, experience, and judgment to correlate diverse information into a single value conclusion. A creditable appraisal process involves systematic research of the market, analysis of that information, and application to the subject property.

The best evidence of what will happen in the market is usually what has happened most recently. However, as the appraiser goes into the market for information, seeking that elusive bona fide comparable sale and usually finding that under intense scrutiny warts appear, the appraiser learns market data reflect not only economic anticipation but also emotion, bias, uninformed and ill-advised decisions, unique buyer and seller motivations, and other unusual factors and situations that influence transactions. The appraiser must not only analyze such history but also consider existing currents in the market that may affect value as of the date of the appraisal. It can be said that the appraisal process requires the exercise of logic that draws on natural law, economic information, human psychology, small sample statistics, knowledge, judgment, and experience.

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No one has devised a method to measure precisely the effect of all these factors on the market value of a subject property; appraisers study and analyze them to either estimate value or provide value opinions.<sup>1</sup> Further, by definition market value is a specific amount, and appraisers are charged to seek that one answer.<sup>2</sup> After a judicious application of the three approaches, most appraisers come up with three potential solutions, which they hope, when viewed as a group, will form a narrow range. It is not all that different in the measurement of other continua. For example, any two points in space have a definite and exact distance between them.<sup>3</sup> If multiple measurements are made, a range will result. The variations within the range, whether narrow or wide, will depend upon the skill of the technician and the quality of his instruments.

An artillery battery cannot hit the center of the target every time; instead, its shell bursts will produce a pattern about the center. For a cannon to hit the center every time the battery would first have to know exactly the distance and direction to the target. The fire direction center would then have to correctly take into precise account the rotational spin of the earth and the meteorological factors which affect the trajectory of a projectile, such as wind velocity, wind direction, barometric pressure, and air temperature. It would have to know the physical status of the ammunition and use an exact amount of powder. The cannoner would have had to have laid his howitzer perfectly and would need to know the peculiarities of his weapon and aiming device. The process yields elevation and deflection settings for the barrel that are designed to send the projectile to the center of the target. But an artillery battery cannot hit a very small target every time, and the factors with which it deals are much more calculable than those that face the appraiser. Further, the artilleryman has a forward observer who can tell him how near he approached his target. The appraiser has no forward observer. Even if a highly competent appraiser's subject property sold on the open market on the effective date of the appraisal, the purchase price could very well reflect the most probable purchase price less accurately than his value opinion.

In an appraisal report in which three different solutions result from the application of three different approaches, it can be said with certainty that at least two are incorrect. Readers are often

led to believe that a property has one value if based on income, another if based on cost, and yet another if based on sales comparison. Clients have ordered appraisals and said that they wanted the sales comparison approach value and really didn't care about the other two values. Those with a little knowledge of the appraisal process are hard to convince that the cost approach (summation approach is a name many prefer as costs are just a part of the process) would be backed by just as much market data as the sales comparison approach, and would be just as reliable if the appraiser competently executed the assignment. When there is good market data, is it not true that the sales comparison method and the summation method are no more than different techniques for analyzing the same data and applying it to the subject? To answer in the affirmative is to say that had the logic and mathematics been absolutely correct, the two methods would have produced identical results.

If a surveyor measures a distance between two points first with electronic equipment and then checks his measurement by taping, he expects the tape and laser measured distances to be just about the same. If the range is out of tolerance, he doesn't attempt to reconcile the two measurements to a distance estimate; instead, he recalibrates his electronic equipment. Then he would remeasure the line by both methods until he was comfortable with the result. Of course, surveyors can measure linear distance more precisely than appraisers can measure value, but the objectives are similar, a surveyor is working with a single number, the distance of a line, and the appraiser is working with a single number, the most probable price.<sup>4</sup>

Standards Rule 1-3 (b) states that "the appraisal of improvements is based on their actual contribution to the site." SR 1-4 (b) (ii) states that the appraiser should "collect, verify, and reconcile such comparable data as are available to estimate the difference between cost new and the present worth of the improvements (accrued depreciation)." In the sales comparison approach, the building contribution is handled directly. In the cost approach, it is handled in a three-step process: estimate cost, estimate depreciation, and subtract depreciation from cost. The land value is taken from the most applicable market data by both methods. In both processes it boils down to:

Market Value = Land Contribution + Improvement Contribution

Standards Rule 1-4 also directs the appraiser to use available market data to obtain rental data, operating expense data, discount rates, and capitalization rates. The appraiser is working in the same market to which the subject was compared, from which the land and building contribution was extracted. The appraiser is now bringing in another device with which to measure value, net operating income. The mathematical representation of the income approach is

$$\text{Market Value} = \text{Income} / \text{Capitalization Rate}.$$

The term on the left of the equations above is the term which has been defined to be a point (not a range) and states in no uncertain terms that sales comparison approach value should equal summation approach value should equal income approach value.

$$\text{Income} / \text{Capitalization Rate} = \\ \text{Land Contribution} + \text{Improvement Contribution}$$

The approach results are seldom equal, and it can be concluded that the appraiser has not perfectly identified or correctly adjusted for all the particular nuances in the appraisal process. The appraiser did not strike the absolute center of the target with all three rounds and probably has not struck the center with any.

If there were a perfect appraiser, an Oracle of Delphi of the appraisal profession, and an appraisal produced could be examined, it might show:

Sales Comparison Approach	
(Comparison with five sales have all indicated)	\$100,826
Cost Approach	
Land: \$50,420; Improvements: \$50,406	\$100,826
Income Approach	
Net Income: \$10,137 Capitalization Rate: 10.054%	\$100,826.

The value conclusion is the most probable price that the property would sell for if it met all the requirements of a bonafide sale, except that the additional requirement would have to be added that buyer and seller had perfect knowledge of the actual and potential uses of the property. If there were

appraisal forward observers, this is the result that they would see. For an appraiser who had attained perfect insights into the market, second and third approaches would be redundant.

At the same time, another has appraised the same property and obtained the following indications:

Sales Comparison Approach		
(Five-sale range of \$95,000 to \$120,000)		\$108,000
Cost Approach		
Land: \$48,000	Improvements: \$54,000	\$102,000
Income Approach		
Net Income: \$10,500	Capitalization Rate: 11%	\$95,500

What should the appraiser do now? Should he go directly to reconciliation and pluck a single value from these three indications, or should he go back into the appraisal process and test judgments which would bring the solutions into greater agreement, i.e., narrow the range? It would seem to be more reasonable that reconciliation be an attempt to find and correct inconsistencies in judgment which produced the widely variant estimates.

Among the many questions that an appraiser should ask are:

- Were the positive adjustments for location or building condition in the sales comparisons consistent with the estimated depreciation in the summation approach? If not, which is the more reasonable?
- What market forces did I miss to get such a wide variation of sales comparison value indications? Do I need to ask more questions about the sales used? Do I need more sales to understand the applicable economic forces? Do I need to interview a larger array of market participants?
- Should I do more research on my income and expense projections?
- Which is more reasonable in the existing market: a lower vacancy rate in the income approach or a longer remaining economic life of the buildings in the cost approach?
- Based on available data is a lower cap rate in the income approach more reasonable than a smaller positive location adjustment in the sales comparison approach?

The appraiser above reanalyzes his data and judgments. Reexamination of market depreciation indicates that depreciation of 50 percent rather than 46percent would be more reasonable than changing his adjustment for condition. He rechecks his income and expense estimates and decides that the insurance cost was \$100 too high. There would still be a difference of about \$4,000 between the cost and income approaches, and the appraiser decides that market data is more supportive of a 10.5% cap rate than a deduction for more depreciation of the buildings. This leaves the sales comparison approach significantly contradicting the other two. The appraiser reexamines his adjustments and finds that he has without convincing market support made an \$8,500 location adjustment. He concludes, largely on the basis of the cost and income analyses, that the market does not support his perceived location advantage. He drops the \$8,500 location adjustment.

The appraiser now has the following estimates:

Sales Comparison Approach	\$99,500
Cost Approach	
Land: \$48,000    Improvements: \$50,000	\$98,000
Income Approach	
Net Income: \$10,600    Capitalization Rate: 10.5%	\$101,000

The appraiser has given another round of serious consideration to the appraisal process. He has not reconciled divergent results of three procedures. Instead, he has reconciled the judgments made in the procedures that led to the divergent results. If he has performed the reconciliation objectively, he has not manipulated or "massaged" the numbers; he has refined them seeking that one best solution.

There is always a question of how much reconciliation is enough. Alfred Whitehead (1861-1947), logician, philosopher, and mathematician warned against the danger of "false concreteness." An appraiser who came up with the same number for all approaches would in most instances have had to adjust his input data to degrees of accuracy far beyond his ability to measure - for example, the \$50,420 land value, \$50,406 building value, \$10,137 operating income, and 10.054% cap rate of the theoretical, perfect appraisal. False concreteness can imply a level of accuracy that is not present and, thus, can be misleading. The appraiser should not go beyond his comfort level in the appraisal process. At the same

time he must recognize that if the cost approach and income approach are both usable and he has a 20% difference in the estimates from them, he has made a significant error. These widely different results, too, could be misleading to a reader.

The approaches seem to be truly independent only when there is inadequate comparable sales information, frequently a problem in appraisals of specialized or otherwise unique properties. With weak or non-existent market data, the sales comparison approach cannot be used. In such a situation the analysis of highest and best use is more difficult and speculative, and the appraiser must move to other areas or enterprises to help in the estimation of depreciation and selection of capitalization rates, or even in some cases, have to derive them directly from logical considerations. With only the tools of the summation and income approaches, the appraiser must become more artist than scientist as the need is even greater to search out the most reasonable judgments that produce harmonious results acceptable to both approaches.

It would seem that the real value of three approaches is that they provide the appraiser different tools with which to examine the market and use the data it offers. The solutions derived from these approaches provide a test of the appraiser's skills, knowledge and judgment, but more importantly, they provide a basis for reconciliation, a coming together of all the considerations in the appraisal process.

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## Endnotes

- 1 Appraisers would no longer be needed if anyone ever did.
- 2 Most of the definitions of market value refer to it as the most probable price which a property should bring in a competitive and open market.
- 3 Relativists might not agree, but it is true enough for a surveyor's reference grid.
- 4 A second surveyor would be expected to very nearly duplicate the results of the first while a second appraiser's result would be granted more latitude.