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Risk Assessment

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Appraisers traditionally answer the question, "What is the value of this property?" Often, clients' greater need is to know what is the chance that a sale of that asset will produce a price different from the traditional one-number answer. This article presents methods to measure and report risk, uncertainty, future value, and sources of anomaly. It demonstrates how advice from appraisers in these areas can be of considerable assistance to clients in their evaluation of opportunity and risk.

In many instances, the question of value is best answered by an appraisal that addresses it as a simple point estimate. Courts can only award one amount as compensation for a taking. Authorities of taxation can levy only one tax, which must be derived from a one-number value estimate.

In other instances, an expression of value as a single number is inadequate to the larger purpose of the client. Sellers of real estate need an awareness of the breadth of the range of potential selling prices to properly price a property and evaluate offers. Buyers commit to a property's future and are interested in its prospects down the road, not only for what these can tell about present value but as information regarding an investment's future health. Lenders especially can benefit from a more comprehensive view. Lenders make up a large proportion of the appraisal industry's clientele. A lender's interest in a property is as future oriented as that of the buyer. The lender's risk is that the actual price achieved at a forced sale either at present or at a future date is less than today's most probable price. What a party in this position needs to know is not so much what is the one most probable price today, but what is the chance that a sale will not produce that much, not only today but as the loan matures. The larger question is risk assessment.

The purpose of this article is to discuss instances in which a more comprehensive view of value than a simple, present-day point estimate is available to the appraiser, to discuss how current practice has begun to address such issues, and to describe methods by which more comprehensive answers may be incorporated in standard practice.

ACCURACY OF THE ESTIMATE

One means by which appraisers can better assist their clients to assess risk is through commentary on the accuracy of the value estimate. Two properties with estimated values that are equal can bear different levels of risk as a result of varying degrees of certainty among estimates.

Presume, on the one hand, the appraisal of a house in a neighborhood of near-identical houses. Two similar houses have sold within the past four months for $98,000 each, and a

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third is under agreement for $101,000. The appraiser can report a value of $100,000 with perhaps 90% confidence of a selling price within a range of $98,000-$102,000.

By contrast, consider the appraisal of a parcel of industrial land in a depressed and inactive market. Several years ago, when the market was healthy, parcels of similar size consistently supported a level of value of $180,000 per acre. The few indicator of current market activity consist of scattered sales in a range from about $120,000$150,000 per acre and other sales in a range from $50,000-$80,000 per acre. (Some of the sales in the $120,000-$150,000 range are sales to abutters needing land for expansion. Many of the other sales are by banks that acquired ownership by foreclosure, listed the properties with competent brokers, and accepted the best offers made after marketing periods of six to 12 months.) The client needs to know the most probable selling price, assuming a nine-month marketing period.

The appraiser does not know whether abutters to the subject are specially motivated to pay a price consistent with the high-end sales and is convinced that the low-end sales are of properties competently marketed. The appraiser considers a price of $130,000 equally as likely as one of $70,000 and a price of $100,000 somewhat more likely than either of these. As in the case of the house, the value is $100,000. However, in this instance, the reporting of the breadth of the range is equally as important as the estimate itself. The client needs to be informed that, in this case, the 90% confidence interval[1] may be a range as much as 50% more or less than $100,000. To report otherwise would be to credit this market with greater consistency than it has shown. The $100,000 point estimate may have been sufficient reporting for the valuation of the house. Here, on the other hand, the information concerning the breadth of the range is an essential part of the reporting of value to a lender--considering the use of the property as collateral--or to a seller about to be confronted with offers that may differ substantially, through no fault of the appraiser and simply as a result of the market's imperfection, from the $100,000 point estimate.

Analysis of the breadth of the range is available for property valued through the income approach as well. At times, the best description is not a point estimate or the continuum of a range but separate values for the same property under different "states of nature."

In the income approach, the simple situation that best conforms to the standard valuation model is a property like a small, established multi-tenant commercial property. A retail strip may exhibit a high degree of consistency in rent per square foot; consistent, low vacancy; an established history of stable expenses; and a capitalization rate well supported by recent market activity. Its value may be estimated with a high degree of certainty.

At the other extreme is the mall that has lost its anchor. The duration of anchorlessness, the effect on rent for other tenants, vacancy, expenses, and the capitalization rate are all harder to determine, just as the question of whether a new anchor can be attracted at all is hard to answer. Several options that describe the situation with varying degrees of completeness are available to an appraiser.

An alternative is to deliver the value estimate as a single number by assigning a specific number to each of the variables, such as nine months to sign on a new anchor, $5.00 per foot rent for the new anchor, and so on. Such an appraisal answers the question of most probable selling price but fails to address the situation in its complexity. A more comprehensive appraisal that helps the appraiser and the client alike understand the varying views of the property likely to be taken by prospective buyers and the resulting breadth of the potential value range may be achieved through sensitivity analysis. As is common in packaged programs that are available for analysis of multi-tenant commercial properties, the internal rate of return (IRR) may be input not as a single number (say, 12%) but as a range from 10.5%-14% in half-percent increments. If the middle of this range is judged the more likely buyer view, it may be weighted additionally for statistical accuracy. Rent and expenses may be similarly input as series. The result from the various permutations is a range of potential prices, with a sufficient number of data points that the answer can be expressed in terms of mean, or most probable price, and standard deviation, from which accurate confidence intervals useful in the determination of the risk involved at differing loan-to-value ratios may be derived.

For the situation in which the mall's ability to attract any new anchor is in doubt, a third alternative is appropriate. The mall has one value, at the high end, in the event that a new anchor is immediately secured. It has another, at the low end, if no anchor can be found. These are mutually exclusive states that, if we were to supply our clients comprehensive analysis, would require separate reporting.

A property like the small, stable strip center, the simple situation, may exhibit a spread of +/-5%. For the anchorless center, the reporting of the most probable price may be as a point estimate. However, the 90% confidence interval, as expressed through the results of sensitivity analysis, may be as broad as give-or-take 40%. Finally, the separate values under the two alternative states--anchored and indefinitely anchorless, with even broader differences--provide the client with knowledge of the value's full range. A loan at a 75% loan-to-value ratio is less secure at the second center than at the first. At the second center, the amount of the loan, if made on the basis of a standard ratio to the point estimate of most probable selling price, may actually exceed the lower end of the range of potential prices, placing that portion of the lender's funds at immediate high risk.

PRESENT-VALUE ANOMALIES

Ordinarily, we would, for theoretical purposes, treat the real estate market as a perfect market, with perfect functioning of supply and demand. In fact, for such reasons as mismatches of available product to buyer needs and buyers and sellers' incomplete knowledge, the real estate market is often imperfect, especially in the case of commercial/industrial sub-markets. Anomalies result at either end of the value spectrum. Examples of such anomalies often originate from the activity of abutters.

Consider the appraisal of a parcel of vacant land in a commercial strip, where recent sales to fast-food chains are at a consistent level of $16 per square foot to $20 per square foot. The appraiser delivers a value estimate of $18 per square foot to the owner, an out-of-state heir, who wishes to sell. The owner sells the property for $20 per square foot to a buyer who immediately resells it for $40 per square foot to an abutter, a bank in need of land for site expansion. The client comes to the appraiser asking why the appraiser made no mention of the potential for a higher price from the abutter. The appraiser answers that the abutter's interest was widely known but that value, as appraisers conceptualize it, is estimated on the basis of the general market and not the market that includes parties like abutters whose actions are unpredictable. The client finds the answer less than acceptable and sues.

The appraiser could have avoided the suit by first defining for the client the scope of investigation into abutter motivation and providing a more comprehensive appraisal, which is essential in cases of obvious abutter interest.[2] The appraiser in this instance is certainly correct in reporting the value as the price on the general market, where the most likely buyer is without special abutter motivations. For the benefit of the client, however, the appraiser would do well to take the further step of informing the client of the potential for substantial additional value from any of a variety of parties who might reap special benefits from acquisition. These parties could be physically contiguous abutters or tenants whose businesses have become identified with the property and who would suffer a loss if forced to relocate. Although it would likely be improper to allow potential interest from such parties to skew the estimate of value above that indicated on the general market, and although rite actual, numeric estimation of the value to an abutter is beyond an ordinary appraisal's scope, mentioning the potential for additional value for an abutter, together with appropriate limiting conditions, assists the client and prevents accusations of incompleteness.

FUTURE VALUE

Projection of change in value in the future--not only as future value affects present value but as discussion of future value presents for the client a more complete picture of investment performance--is an additional arena in which appraisers can be of assistance. One school of appraisal thought is a reaction to the criticism that failure of investments to meet projections was a cause of bank failures in recent years. This philosophy rejects estimates of future value per se on the basis that estimation of value in the present is difficult enough without taking on the "wild card" of tomorrow's unknowns. Nevertheless, clients have a need to know. With appropriate limiting conditions, appraisers can avoid later criticism that their projections were off the mark. After all, the future is shaped by unknowable events like stock market crashes, interest rate fluctuations, and tax law changes. In some situations, value in the future can be described with as much certainty as value in the present. And who other than appraisers, as the experts on value, are in a better position to comment?

As an example, take the case of an office building with a current market-rate net income of $4 per square foot per year and a single lease, to a secure corporate occupant, signed when the market was stronger, producing a net income of $10 per square foot for four more years. Without the lease, the building has a value of $40 per square foot (the value of the fee simple estate). The lease produces a value of $60 per square foot (the value of the leased fee estate). Thus, the lease alone is the source of $20 per square foot in value, and that much of-the value will evaporate over the course of four years. The client needs to know the source of the $60-per-square-foot value. If the client is a lender making a loan against the $60-per-square-foot value at a loan-to-value ratio of 80%, then, by the end of year four, other conditions remaining stable, the loan balance may exceed the collateral value. Lenders typically take it upon themselves to foresee such circumstances. But if the appraiser assumes it is the lender's job to do so and the lender assumes the same of the appraiser, then, on occasion, neither will. The appraiser can benefit the client by making it a practice in such circumstances to alert the client to a relatively certain value change. (The appraiser should note, as with abutter analysis, that the information provided is beyond a standard appraisal's scope.)

Other foreseeable situations are less certain but can have equal impact. Take the case of a supermarket that is the major store in its sales area but that may be over-taken in that role if a larger superstore is built. The supermarket continues to pay steady rent, and an analysis based on current conditions produces one value. But if the new superstore is built, continued operation of the smaller subject may become in-feasible. Construction of the competitive facility is sufficiently uncertain that it does not substantially alter the subject's present value. However, given the potential for a large impact on the property's operation, any client with an interest in the property's future can benefit from an analysis of the value under changed conditions. The situation for this property's future value is similar to that of the anchorless mall, which has different values under different states of nature. One course of future value for the supermarket is for continued supermarket use. A second analysis that presumes discontinuation of the supermarket and conversion to alternate use provides beneficial information to a client concerned that a change in use necessitated by conditions beyond the borrower's control may produce collateral insufficiency.

Other situations that involve the potential for sudden, substantial value change are property types like hotels, health clubs, and restaurants at which the real estate is specially adapted to a business. Theoretically, real estate and the businesses that operate from it are wholly separate. Yet to the extent that value depends on rent[3] and rent on the success of a business, with rent sometimes paid as a percentage of gross business, value is a function of business. A comprehensive appraisal in such situations accounts for changes in the value of the lessor's interest resulting from the various stages of a business's failure or success.

Take the case of a building housing a successful restaurant. The restaurant pays base rent similar on a per-square-foot basis to the rent of other commercial space in the neighborhood and, in addition, pays rent under a percentage clause. The appraiser capitalizes the combined base and percentage rent to obtain the value of the real estate at the restaurant's current, successful stage. A restaurant follows a cycle, from establishment through growth to a plateau of successful operation, decline, failure, and vacancy, at which point the cycle begins again. How long a restaurant maintains successful operation is heavily dependent on the performance of key personnel, including the manager and, perhaps, the chef. A lender or buyer committing assets to the property's future needs an awareness not only of the value of the real estate at the business's successful stage but of the lower level of value to which such a property may rapidly fall as a result of the loss or incapacity of key personnel. The lower level may be demonstrated in sales of restaurant buildings, which typically take place at vacancy and often at foreclosure. A comprehensive appraisaI includes a value at each stage of the cycle and again assists in the assessment of risk.

CURRENT PRACTICE

The issues addressed here--future value, potential sudden change in value, anomalies of imperfect markets, and accuracy of the estimate--result in risk and opportunity for appraisers' clients. These are addressed to a degree in current practice.

Residential appraisers are familiar with form reports that ask for discussion of a neighborhood's prospects for employment stability, potential adverse influences, and price decline. The implicit function of such questions is risk assessment.

Appraisals made for relocation focus on the future by undertaking analysis not only of consummated historic sales but of unsold products currently on the market. Some relocation companies request an estimate of value not as of the current date but as of a date in the future, after a normal marketing period, and keep a scorecard of appraisers' success in predicting future value. Appraisers serving relocation companies already have come to terms with much of what has been discussed here. Those most successful at prediction can expect their workload to increase.

Commercial appraisers are asked to address the future in DCF analyses. Some appraisers' reluctance to do so is reflected in comments in the literature blaming DCF analysis for the difficulties commercial lenders recently experienced because of unrealized projections of future cash flows. The aversion of some to project cash flows and the readiness of others may be explained by the fact that appraisers do not always agree on the meaning of "projections." If an appraiser views a projection as a form of guarantee for which he or she can be held liable, then the awareness that much of what will shape future cash flows cannot be known could discourage him or her enough to avoid projection. If, instead, an appraiser considers projections as simply an informed reading of the expectations of market participants as of the appraisal's effective date and informs the client that this is their meaning, he or she tends to view projection as merely part of the valuation process.

Appraisers cannot avoid considering the future. When commercial appraisers employ the income capitalization approach, they model the behavior of buyers whose entire interest in a property is in the future. Whether the projection is as explicit as the cash flows in a DCF analysis or is more subtle, as in the choice of a capitalization rate that incorporates an expectation of appreciation, stability, or depreciation, projection of the future based on a reading of the market is unavoidable.

RECOMMENDATIONS

The impetus for adopting the kind of analysis suggested here as standard practice can be expected to come from those with the most to gain or, rather, the most to lose from not adopting this analysis. Those with the most to lose are buyers, lenders, and other parties that commit funds to ventures that may seem secure by current standards but that, in fact, are high risk. To the extent that these parties can communicate to appraisers their need for a more comprehensive valuation picture and appraisers can respond to these needs, a broadened scope can become part of standard appraisal practice.

To address the issues raised here, an appraiser might ask these questions:

- Is the subject property especially vulnerable to competition that, if installed, would change the subject's best use and reduce its value?

- If the valuation presumes the success of a business operated from the premises, does the appraisal alternatively consider the value, presuming failure of the business?

- To what extent is the value of the leased fee estate likely to change at the expiration of current leases?

- Do abutters or others appear likely to gain a special benefit by acquiring the property?

- Has the appraiser reported a confidence interval of 90%? 70%? 50%?

The last is likely to be the most problematic for appraisers because it requires quantification of something that, to date in standard practice, has largely been left unquantified. But appraisers may find ready sources for answers within the data used to generate the value estimate. For valuations based on the sales comparison approach, the variation of the indicators from the different sales compared with the chosen value for the subject is a simple measure. For valuations through the income capitalization approach, the range of indicators produced through sensitivity analysis is a useful source.

The "Marketing Period" section that has become part of many narrative appraisal reports is future oriented and opens the door to discussion of future value. An irregular income stream or new competition having the potential to alter value can be effectively addressed here. If a property occupied by a successful business is likely to experience a diminution in value in the event that the business fails, the situation may best be addressed in the "Reconciliation" section, where the indications for the leased fee estate from an income approach based on high current rent and for the fee simple estate from a sales approach based on low-end transactions involving vacant properties are likely to point up the difference. Where analysis under various methods described here requires effort beyond that ordinarily undertaken for the subject's property type, the matter is best addressed in the "Scope of Assignment" section. (Additional limiting conditions that alert the client that such analysis is undertaken only to the extent that it is explained in the text can also be stated here.) For instance, if during the course of an appraisal it becomes apparent that an abutter may be especially motivated to pay an above-market price for the subject, the appraiser's service to the client under the original scope is to alert the client to the situation and explain that measuring the value enhancement for abutters is not ordinarily undertaken. Estimating the actual value to the abutter, expressed as a number, requires further analysis, perhaps as a follow-up addendum to the original report, at the client's request, and likely at additional cost.

CONCLUSION

Value is often far more complex than what can adequately be expressed as a one-number answer. From their work in single-family residential markets and from training in theory that generally presumes perfect-market behavior, appraisers have adopted reporting methods that presume the adequacy of point estimates. Yet in the field, they encounter a multitude of situations that challenge their ability to describe value as one number. Small markets exhibit broad ranges in probable selling price. Anomalies result from abutter behavior. Weak underpinnings present the possibility of a sudden value shift as a result of the changing fortunes of a business housed at a property, the loss of an anchor, or competition. Trying to express this kind of information in the context of a single, present point estimate leaves the appraiser feeling inadequate to address the client's larger needs of opportunity and risk assessment.

Appraisers are faced with two alternatives: to limit their scope to one-number answers and thus their function, or to broaden their scope by addressing their clients' larger needs. Appraisers more than other professionals are perceived as the experts on value. The simple question put to an appraiser is, "What is this property worth?" The simplicity of the question masks larger issues. Value is complex. To discuss value for buyers, sellers, and lenders properly requires that appraisers not only provide a one-number answer but address value in its complexity. To the extent that appraisers can address not only the simple question but also the need for risk assessment that gives rise to it, they can provide their clients with more comprehensive services that are better suited to those clients' needs.

1. The "confidence interval" is a statistician's term to reflect the range within which an outcome for a randomly chosen variable is likely. The 90% confidence interval is the range within which the odds are 9 to 1 that an outcome (say, the selling price achieved by a house after marketing) will result. For large populations with distributions that follow the standard normal curve and for which the mean and standard deviation are known, confidence intervals can be stated with precision. The term is used here more generally to describe the situation for an appraiser with only a small sample of data available.

2. Analysis of the potential for enhanced prices from abutters and others, such as tenants and site assemblers, with special interests in acquisition is beyond the scope of most appraisals. To avoid accusations of incompleteness from clients unaware of this limitation of scope, appraisers are well advised to incorporate a limiting condition such as the following: "Unless otherwise stated, this appraisal takes no account of the potential for a higher price that may result from buyers such as abutters who may gain special benefits from acquisition. Discovery of the identity, motivation, and purchasing power of parties in a position to gain special benefits requires information not publicly available and is beyond the scope of this appraisal."

3 The rent considered here may be either actual or, in the case of owner-occupied property, imputed.