The Impact of an Undivided Interest on Real Estate Value

BY ROBERT F. REILLY

Both individual taxpayers and industrial/commercial taxpayers (regardless of organization structure) can own an undivided interest (also called a fractional interest) in real estate. The value of these undivided interests can impact the fee simple value of the underlying real estate for state or local ad valorem property taxation purposes. Accordingly, the value impact of the undivided interests on the underlying real estate should be considered for property tax assessment, assessment appeal, or assessment litigation purposes.

This discussion summarizes the fractional interest characteristics that affect the value of the real estate subject to assessment. It also describes the valuation approaches and methods that the valuation analyst (whether fee appraiser or assessor) may use when considering the value impact of the fractional interest on the subject real estate assessment.

Real Estate Fractional Interest

A real estate fractional interest, also called a tenancy in common interest, exists when two or more co-tenants each own a separate fractional share of an undivided real estate parcel. For purposes of this discussion, the terms fractional interest and undivided interest are used synonymously. Unlike a joint tenancy ownership, tenants in common have no right of survivorship. A tenancy in common requires only the unity of possession of the subject real estate.

In the absence of a contractual agreement between the co-tenants, each co-tenant may possess and enjoy the entire property. For example, a co-tenant has the right to use and to enjoy a share of the property's income. Although each co-tenant has an equal right to possess and enjoy the real estate, a fractional owner cannot (1) exclude the other co-tenants or (2) designate any portion of the real estate as his or her own.

Considerations in Fractional Interest Ownership

When considering the impact of a fractional interest on the value of the subject real estate, the valuation analyst should

---

Robert F. Reilly *is a managing director of Willamette Management Associates in Chicago, Illinois. He has been the principal analyst on more than 2,500 valuations of businesses, business interests, and intellectual properties in virtually every industry and business sector. He is a certified public accountant accredited in business valuation and a chartered financial analyst. Robert holds a master of business administration (MBA) in finance and a bachelor's degree in economics, both from Columbia University in New York.*

be aware of the following issues regarding ownership.

State Statute Co-tenant Rights, Privileges, and Obligations

There are three key areas in which state statutes are generally used to determine the rights, privileges, and obligations of co-tenants.

- *Partition.* A co-tenant may legally compel a partition of the real estate. Such a partition requires a court action. When the real estate is partitioned, each co-tenant takes a particular part of the real estate—according to his or her respective ownership interest.

  The purpose of a partition is to allow the tenants in common to sever their joint ownership. The partition enables each tenant to take possession, enjoy, and improve a separate real estate parcel at his or her own pleasure. If, because of its physical or functional characteristics, the real estate cannot be equitably divided in-kind, then the entire property may be ordered by a court to be sold and the sale proceeds from the entire property divided among the co-tenants.

- *Conveyance and Sale.* Tenants in common each hold separate ownership interests that can be sold, conveyed, or transferred without the consent of the other fractional interest owners. However, one tenant in common cannot bind nonconsenting co-tenants to any disposition of their undivided interest in the real estate.

- *Contribution and Costs.* Each co-tenant has a right to a financial contribution from his or her co-tenants. That is, each co-tenant is responsible for the costs associated with his or her co-tenancy interest, including property taxes and property insurance.

Written Agreement of Co-tenancy

The greater the number of undivided interests in the real estate, the greater the potential for co-tenant conflict over how the real estate is managed. Many potential co-tenant conflicts could be avoided if the co-tenants executed a written agreement that described how the real estate will be used or managed.

Debt Obligations

The hypothetical buyer of an undivided interest will typically consider whether the real estate is encumbered by a mortgage loan. If so, the hypothetical buyer will typically be concerned with the following issues:

- whether the co-tenants are jointly and severally liable for the mortgage obligation.
- whether the mortgage obligation is assumable by the undivided interest buyer.
- whether the sale of the undivided interest or a partition of the real estate results in the call of the mortgage obligation.
- whether the undivided interest holder is at risk of losing his or her interest if the lender forecloses on the real estate.

Ability to Subdivide the Real Estate

A hypothetical buyer of an undivided interest will generally prefer an interest in a real estate parcel that is capable of being subdivided rather than one that cannot be divided.

Restrictions on the Transferability of an Interest

Any restrictions on the owners' ability to transfer the subject real estate or their individual fractional interests may be relevant to the valuation.

Historical Sales of Undivided Interests

Although such sales are uncommon, any history of arm's-length sales of the subject real estate's undivided interests may be relevant to the valuation.

Adequacy of Property Income to Cover Property Expenses

The valuation analyst will typically consider the income-producing capacity of the real estate. This analysis will typically examine whether the property generates sufficient gross income to cover the real estate property tax, the property maintenance expense, and any other operating costs.

Valuation Approaches and Methods

Valuation analysts commonly use two approaches and methods when determining the value impact of a fractional interest: (1) the market approach/sale transaction analysis method and (2) the income approach/partition analysis method. Following is a summary of these valuation methods.

Market Approach—The Sale Transaction Analysis Method

The sale transaction analysis method is based on a comparison of the subject fractional interest to empirical studies of actual arm's-length sales data of fractional interests.

To begin the process, the valuation analyst prepares an appraisal of the fee simple interest market value of the entire real estate parcel. The valuation analyst reviews (1) the subject real estate's physical, fractional, and economic characteristics and (2) any relevant real estate market dynamics. In addition, the valuation analyst may conduct primary research of the relevant market influences from other publicly available sources. These property-specific and market-specific considerations are typically described in the real estate appraisal report.

This real estate market value indication is then compared to empirical studies of undivided interest sale transactions. Many of these empirical studies are summarized in the next section. In this comparison procedure, the valuation analyst "fits" the subject real estate into the empirical sale transaction data. This comparison of the subject real estate to actual sale transaction data allows the valuation analyst to select a property-specific discount for the undivided interest.

The undivided interest value is then estimated by multiplying (1) the total real estate fee simple market value by (2) the subject undivided interest ownership percentage. The result represents the undivided interest's pro rata allocation of the entire property's market value. Finally, the analyst multiplies (1) the pro rata allocation of the property market value by (2) the selected undivided interest price discount. This figure is the undivided interest value indication.

Figure 1 provides a simplified example of the sale transaction analysis method. This method—and this simplified illustrative example—are based on the analysis of empirical fractional interest sale transaction data. In this exhibit, Alpha Corporation owns a 40 percent undivided interest in Dockside Warehouse. The valuation date is December 31, 2009.

Sale Price Discount Empirical Data

A number of empirical studies have quantified the price discounts associated with actual undivided interest sale transactions. These discounts typically reflect the combined price adjustment for (1) lack of control (DLOC) and (2) lack of marketability (DLOM) inherent in the ownership of a fractional interest. The studies generally indicate that fractional interests in properties that generate significant income tend to sell for a below average price discount. The studies generally indicate that larger fractional interests (i.e., a greater than

Figure 1. Market approach/sale transaction analysis method

Alpha Corporation		
As of December 31, 2009		
Name of the Subject Property		
40% Fractional Interest in Dockside Warehouse		
1234 County Highway		
Oceanside, Your State		
Description of the Subject Property		
Type: 200,000 square-foot, one-story warehouse		
Location: Oceanside, Your State		
Year Built: 1998		
2009 Property Tax Assessment Value:	$14,000,000	
Most Recent Sale of the Subject Property:	none	
Estimate of 40% Undivided Interest Value		Value Indication
Fee Simple Interest Market Value Appraisal of the Subject Property [a]		$15,000,000
Multiplied by: Subject Undivided Interest Ownership Percentage		× 40%
Equals: Pro Rata Allocation of the Entire Property Fee Simple Market Value		$6,000,000
Selected Valuation Discount for the Subject Undivided Interest at 25% [b]		(1,500,000)
Implied Value of the Subject Undivided Interest		**$4,500,000**
Implied Value of the Subject Undivided Interest (rounded)		**$4,500,000**

Notes:

[a] *Based on a property fee simple interest market value appraisal performed by the valuation analyst as of December 31, 2009.*

[b] *Based on the valuation analyst's comparative assessment of the subject undivided interest to the published evidence of fractional interest actual sale transactions. These published studies of actual sale data indicate typical undivided interest price discounts within a range of 15–35 percent. Several of these published studies of undivided interest transaction data are summarized in the Sale Price Discount Empirical Data section of this discussion.*

a 50 percent ownership interest) tend to sell for a below average price discount. Several of these studies are summarized below.

Harris-McCormick-Davis Study

The authors of the Harris-McCormick-Davis Study conducted a survey of fractional interest sale transactions between unrelated buyers primarily located in the Southeast. The 21 sale transactions in the survey indicated an average price discount of 32.05 percent, with a standard deviation price discount of 8.29 percent.

The sale transaction price adjustments ranged from a price premium of 5.56 percent to a price discount of 86.95 percent. Both of these two extreme sale transactions were considered to be "unusual circumstances" and were discarded by the authors (Harris, McCormick, Davis 1983).

Healy Study

The study authored by Martin J. Healy, Jr., involved nearly 100 fractional interest sale transactions, all primarily in the vicinity of Portland, Oregon. Healy found a variety of non-arm's-length motives for some of the undivided interest sale transactions. Therefore, Healy rejected these sales data as not being characteristic of arm's-length sale transactions.

Of the fractional interest sale transactions that were retained in the sample, the average price discount was 23.5 percent. And, the range of price discounts was between 3 percent and 52 percent (Healy 1988).

Patchin Study
Peter J. Patchin collected fractional interest sale transactions from real estate appraisers' records for properties located in Minnesota, Texas, California, and states in the Southwest. The total number of fractional interest sale transactions in the Patchin study was 54. Some 29 of these sale transactions were apartment limited partnership interests.

The average price discount concluded in this study was 36.8 percent. The range of fractional interest sales price discounts was between 0 percent and 82.4 percent.

Peterson Study
Real estate appraiser William D. Peterson prepared an analysis of undivided interest arm's-length sale transactions. The fractional interest sale transactions occurred in the Tucson area from 1980 through 1986. The study included data from an unpublished study by appraisers John T. Hansen and Mark H. Klafter based on sale transactions in the same area through 1983.

The number of fractional interest sale transactions included in the Peterson study totaled 13. The average price discount indicated by these transactional data was approximately 50 percent. The range of the sale price discounts was from 23.4 percent to 83.45 percent (Peterson 1987).

Hall Study
Valuation analyst Lance Hall of the firm FMV Opinions prepared a study of undivided interest sale transactions that occurred over a 22-year period. The Hall study included 40 undivided interest sale transactions. This study concluded a mean price discount of approximately 34 percent (Hall 1998).

Humphrey Study
Real estate appraisers Walter and Bruce Humphrey conducted a study of 24 fractional interest sale transactions. The observed price discounts ranged from 0 percent to 67 percent.

The Humphreys did not develop a central tendency price discount from the study data. Instead, they provided a formula for quantifying a fractional interest price discount. In addition, the Humphreys suggested that 50 percent was the threshold price discount for undivided interests (Humphrey and Humphrey 1997).

Eckhoff Accountancy Corporation Study
Ted Israel, a partner in the Eckhoff accounting firm, analyzed 61 fractional interest sale transactions. The fractional interest properties were located in seven states and included (1) undeveloped land, (2) agricultural properties, and (3) commercial and multifamily residential rental properties.

The average price discount determined in the Eckhoff Accountancy Corporation Study was 37 percent, and the median price discount was 38 percent (Israel 2003).

Willamette Management Associates Studies
Willamette Management Associates (WMA) prepared a number of proprietary fractional interest discount studies in various parts of the country. In one unpublished study, WMA reviewed the real estate transfer tax records for two counties in the state of Washington during 1985–86. Of the total 23,000 real estate transactions, only 50 (0.22 percent, or one in every 460 transactions) were undivided interest sale transactions. Of the 50 fractional interest sales, only 9 transactions were at arm's length.

The average price discount associated with these transactions was approximately 15 percent, with a range of a 16 percent price premium to a 55 percent price discount (WMA 1987).

In summary, the evidence from all of these empirical studies supports the application of a pro rata allocation of an undivided interest valuation discount to the entire property fee simple market value. The undivided interest valuation discounts concluded in these various studies is in the range of 15 to 35 percent.

Income Approach—The Partition Analysis Method

In the partition analysis method, the valuation analyst quantifies the expected costs (i.e., out-of-pocket expenses and investor opportunity costs) to physically partition the subject real estate. This analysis typically includes two cost components. The first is the cost to bring a real estate partition lawsuit. The second includes the costs associated with the delays and the uncertainty related to the partition action.

Some of the costs typically considered in the analysis include:

- the legal and administrative expense of the real estate partition lawsuit.
- the probability of success of the partition lawsuit (as reflected in the selection of the present value discount rate).
- the amount of the co-tenant's time required to complete the partition lawsuit.
- the cost to survey the subject real estate.
- the engineering and structural costs to physically divide the real estate (if necessary).
- the cost to replace any shared property infrastructure, such as access, utilities, and the like.
- the price uncertainty related to the future partitioned real estate.
- the time required to complete the post-partition real estate sale.

This fair market value analysis of an undivided interest typically would not consider real estate sale commissions or other property-related direct selling expenses. The reason is that the fair market value conclusion represents the price that a property buyer would pay to a property seller—not the net sale proceeds in the pocket of the property seller after selling expenses have been deducted.

Figure 2 presents a simple illustrative example of the partition analysis valuation method. Alpha Corporation again owns a 40 percent undivided interest in the Dockside Warehouse. The valuation date is December 31, 2009.

Considerations in Fractional Interest Value

The principal considerations that impact the value of a fractional interest relate to the type and scope of the legal rights that the fractional interest owner can convey. The fractional interest derives its value from the relationships among the co-owners—not from the pro rata percentage of the real estate's fee simple interest market value.

An undivided interest lacks many of the elements of ownership control and of marketability that a real estate fee owner has. Some of these aspects include:

- Lack of typical mortgage financing

  In general, other property co-owners may be unwilling (1) to obligate themselves to repay borrowings that went to the subject fractional interest owner or (2) to expose their ownership interest in the subject real estate to foreclosure.

- Lack of typical sale channels

  Because of the lack of typical mortgage financing, a fractional interest transfer is more likely to be a cash sale. Also, without the signatures of all of the co-tenants, real estate brokers and multiple listing services will not handle undivided interest offerings. Securing the agreement of the property co-owners is something that an individual co-owner cannot control.

Figure 2. Income approach/partition analysis method

Alpha Corporation As of December 31, 2009	
Expected Time Period for Successful Legal Partition and Sale of Partitioned Property [a]	1.5 years
Fee Simple Interest Market Value Appraisal of the Subject Property [b]	$15,000,000
Multiplied by: Expected Property Price Appreciation at 4% per year for 1.5 Years [c]	× 1.061
Equals: Expected Future Sale Price of the Subject Property	$15,915,000
Multiplied by: Subject Undivided Interest Percentage	× 40%
Equals: Pro Rata Allocation of the Expected Future Sale Price of Fee Simple Interest	$6,366,000
Minus: Pro Rata Portion of Partition Costs, Assumes 10% of Expected Future Sale Price [d]	– 637,000
Projected Future Value of Undivided Interest at Partitioned Property Sale Date (net of Partition Costs)	$5,729,000
Present Value Discount Factor at 15% Discount Rate for 1.5 Years Partition/Holding Period [e]	× .8089
Present Value of Partitioned Real Estate Sale Price (net of Partition Costs)	**$4,634,188**
Implied Value of the Subject Undivided Interest (rounded)	**$4,600,000**

Notes:

[a] *The estimated amount of time to pursue a state court partition legal action. Includes the expected marketing time to sell the partitioned real estate.*

[b] *Based on the property fee simple interest market value appraisal performed by the valuation analyst as of December 31, 2009.*

[c] *Based on a 4 percent expected compound annual rate of price appreciation during the 18-month expected partition action and market exposure period.*

[d] *Estimated legal, engineering, site modification, and administrative expenses associated with (1) the partition action and (2) physical partitioning of the real estate.*

[e] *Based on the opportunity cost (or the required rate of return) of similar risk assets.*

- Lack of typical real estate buyers—that is, a relatively illiquid market

  The majority of real estate sales are fee simple, single ownership interests. And, the vast majority of real estate buyers appear to prefer fee simple ownership. The Willamette Management Associates analysis of real estate transfers within a sample geographic area (discussed earlier) indicated that fractional interests comprised only a fraction of 1 percent of the total real estate transactions for the subject period.

- The risk of unanticipated costs related to co-owner actions

  A fractional interest owner may, for example, have to incur the cost of defending his or her fractional interest against the actions of other co-owners. The single fee simple owner will not be subject to these types of expenses.

- Limited means for conversion of fractional interests

  A co-owner that wishes to dispose of a fractional interest has three alternatives: (1) complete the sale of the fractional ownership interest, (2) seek a voluntary property partition, or (3) request the appropriate court to involuntarily partition the subject real estate. The latter two alternatives involve time, expense, and uncertainty for the fractional interest owner that a single fee simple interest owner will not experience.

- Lack of guaranteed sales opportunities among co-owners

  Other co-owners, typically, are under no binding obligation to purchase another fractional interest. In addition, the other co-owners are not obligated to pay any particular price for the subject fractional interest if they, in fact, do decide to buy that undivided interest.

Summary and Conclusion

If an individual taxpayer or an industrial/commercial taxpayer owns an undivided interest, that interest may impact the value of the underlying real estate subject to state and local property tax. The valuation analyst can consider the approaches and methods described herein when estimating the value impact of a fractional interest on the real estate subject to assessment. The two methods summarized in this discussion were: (1) the market approach sale transaction analysis method and (2) the income approach partition analysis method.

No matter which approach and method the valuation analyst applies, the resulting value impact of the undivided interest on the property assessment is often subject to a contrarian review. Therefore, the appropriateness, accuracy, and quantity and quality of the undivided interest value data should be considered in the subject real estate assessment process.

References

Hall, L. 1998. Should the IRS surrender cost-to-partition discounts for undivided interests? *Valuation Strategies* January/February.

Harris, D.L., P.A. McCormick, and W.D. Davis, Sr. 1983. The valuation of partial interests in real estate. *ASA Valuation* December: 63–65.

Healy, Jr., M.J. 1988. Valuation of partial interests. *Appraisal Journal* 56 (3): 293–298.

Humphrey, W.H., and B.B. Humphrey. 1997. Unsyndicated partial interest discounting. *Appraisal Journal* 65 (3): 267–274.

Israel, T. 2003. Discounts on undivided interests in real estate. *Valuation Strategies* May/June.

Patchin, P.J. 1988. Market discounts for undivided minority interests in real estate. *Real Estate Issues* 13 (2): 14–16.

Peterson, W.D. 1987. Fractional interest discount study. Unpublished.

WMA. 1987. Fractional interest discount study. Unpublished. Chicago: Willamette Management Associates.