

# Deriving Unlevered Value – The REIT Approach

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## Abstract

This article demonstrates the application of the Modigliani and Miller valuation model to privately-held non-taxable real estate entities, such as real estate investment trusts (REITs). The International Financial Reporting Standards Foundation has recently published IFRS 13, which requires periodic valuation of privately held and publically held assets.

## I. Introduction

Real estate appraisal is the professional estimate of market value, also interpreted as the “most probable selling price,” where such a price is expected to be paid by a “typical” investor, ready, willing and able to purchase. Actual market prices for commercial property, while available to some extent, are not nearly as observable as are market prices for publically traded equities and debt.

The International Financial Reporting Standards Foundation has recently published IFRS 13 which establishes the definition of “fair value” and specifies the procedures for establishing same. Although IFRS 13 has not yet been wholly adopted in the United States, the U.S. Financial Accounting Standards Board has merged many aspects of IFRS 13 into ACS 820. Although IFRS 13 and ACS 820 are not exactly the same, accountant Hilary Eastman, writing for the online edition of *Economia* (May 2013) reports that:

Consequently, during the financial crisis the IASB and the U.S. Financial Accounting Standards Board (FASB) began working more closely together to align their respective fair value measurement guidance. As a result, IFRS 13 is nearly identical to the U.S. GAAP standard (ASC 820, formerly Statement of Financial Accounting Standards (SFAS) No. 157 Fair Value Measurements).

The new standard requires that fair value be established, on an annual basis, as an exit value between participants at the entity level. IFRS 13 defines fair value as “the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.” The fair value also includes a required assumption that the value be driven by its setting in the principal or most advantageous market.

The standard for “fair value” is not identical to “most probable selling price,” “fair market value” or “market value” as used in the real estate appraisal industry. The purpose of this paper is to show how the income approach applied to property held by real estate investment trusts, or REITs, is likely to produce appraised property value estimates which most closely meet the definition of “fair value” as stipulated in IFRS 13 and ASC 820.

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## II. Unlevered Value and Income Property

Appraisal theory states that the value of income property is based on the before tax income. That is, the net operating income drives property value estimates. Since net operating income (NOI) is unlevered, appraisal methodology conforms to the Modigliani & Miller Proposition I (no taxes) that the value of a firm is not affected by its capital structure. The valuation statement is typically:

$$V_L = V_U \quad [1]$$

Where the firm value with no debt financing,  $V_U$ , is the same as the value of the firm where leverage (debt financing) is employed. The simplest model used to estimate the most probable selling price is the perpetuity:

$$V = \text{NOI}/R_0 \quad [2]$$

This model, also called direct income capitalization, employs a “cap rate,” or  $R_0$ , in the denominator to evaluate the net operating income, or NOI, expected to be produced by the property as of the end of the coming year. Thus, twelve months of positive cash flows are collapsed into the annual equivalent which is assumed to be received at the end of the last day of the last month of the coming year. The value,  $V$ , carries no subscript because the value should be independent of the capital structure which finances the purchase of the asset. The model is a perpetuity and as such it ignores capital appreciation, but it can be modified to accommodate such expectations. Combining the models:

$$V = \text{NOI}/R_0 = V_L = V_U \quad [3]$$

The process to estimate appraised market value (i.e. most probable selling price) is simplified if the appraiser need not be concerned with the capital structure used to finance the purchase of the investment. The property under review is termed the “subject property” in appraisal parlance.

## III. Cell Tower Valuation

Suppose a cell tower produces annual NOI of \$3.5 million and that a real estate investment trust, or REIT, owns the tower. REITs pay no income taxes at the entity level provided that the bulk of net income is paid out to shareholders each year. Thus, the value of the cell tower owned by the REIT conforms to M&M Proposition I. Let  $V_{UN}$  represent the value of the property having no debt and no income tax and stipulating that  $R_0 = R_U = 0.10$ , the unlevered value of the untaxed cell tower is:

$$\begin{aligned} V_{UN} &= \text{NOI}(1 - T_C)/R_U \\ \$35,000,000 &= \$3,500,000(1.0)/.10 \end{aligned} \quad [4]$$

The expression  $(1 - T_C)$  reduces to unity, because there is no tax. Modigliani and Miller Proposition I (with taxes) states:

$$V_L = V_U + T_c D \quad [5]$$

In this case, of course, Equation 5 is reduced to the form of Equation 2 because the REIT income is not taxed. So the property value under REIT ownership is not distorted by taxes or influenced by the capital structure.

Modigliani and Miller Proposition II (with taxes) states that the tax deductibility of interest on corporate debt encourages managers to “lever up” the firm to increase value to shareholders. M&M states as managers use more debt in the capital structure, equity rates of return rise to adjust for the increasing risk of default. However, because income to REITs is not taxed at the entity level, there is only a benefit to using debt if the firm lacks enough equity funds to purchase the property. So, the REIT value, hence the property value, will remain uninfluenced by the use of debt.

To continue the example, suppose now that the cell tower owned by the REIT has this capital structure: 70% debt via a 7% amortizing mortgage with annual payments for a term of 25 years. The appraiser must make a separate evaluation of each position within the capital structure: debt and equity. Combining these two estimates then becomes the estimate of property value. Using the 7% annual loan factor 0.08581 and holding the overall return,  $R_U = 10\% = R_0$ , the appraiser can use the “band of investment” technique to find the return to equity,  $R_E$ :

$$R_U = w_L R_L + w_E R_E \quad [6]$$

The band of investment is really nothing more than the weighted average cost of capital, or WACC, except that in this example the model is not burdened with the tax deductibility of the interest on debt. The equity stake is 30% because the loan-to-value ratio is 70% as mentioned earlier. By the numbers, then:

$$.10 = .7(.08581) + .3(R_E) \quad [7]$$

Rearranging and solving for the required return to equity shareholders where the capital structure is predominantly debt:

$$(R_E) = .1331 \quad [8]$$

And the appraised value is still \$35 million. The appraiser is now in a position to compare the return to equity in this capital structure to returns to other shareholders having similar positions in similar properties. If the comparison is favorable, the appraiser may state with confidence that the fair value of the cell tower is the sum of its two capital structure components.

Now suppose the same property is held by a firm which pays income taxes at the entity level, such as a regular “C-Corporation.” The net operating income, or NOI, as defined in the real estate setting, may be approximated by earnings before interest and taxes, or EBIT in the

corporate setting. Therefore, this example uses the \$3.5 million income as the appropriate cash flow to evaluate throughout this example. The tax rate is 35%. So, the appraised value of the corporate-owned unlevered cell tower using Equation 4 is:

$$\$22,750,000 = \$3,500,000(.65)/.10 \quad [9]$$

Using Equation 5 the levered value in the taxable entity's cell tower becomes:

$$\$28,323,750 = \$22,750,000 + (.35 \times .7 \times \$22,750,000) \quad [10]$$

The appraiser may once again employ the band of investment technique to derive the prospective equity return,  $R_E$ , given the leveraged capital structure and the tax effects related thereto. As stated earlier, this model is nothing more than the weighted average cost of capital, or WACC:

$$\text{WACC} = w_d R_d (1.0 - t_c) + w_e R_e \quad [11]$$

The loan-to-value ratio is 70% and the equity stake is 30%, so:

$$.10 = (.7 \times .08581 \times .65) + .3R_e \quad [12]$$

Consolidating, rearranging shows the  $R_e = .20319$ .

In the example the highest appraised value is associated with the untaxed net operating income for the property with a leveraged capital structure held by a REIT. When using the perpetuity model shown here this will always be the case when compared to fair value of the same income property held by a typical corporation. It seems obvious that properties will be transferred into REITs to support the goal, stated or otherwise, of achieving the highest appraisal of fair value. Since IFRS 13 requires the appraisal of fair value be based on a transaction at the "entity level" it also appears that appraisals will assume the "transaction" will occur from one REIT to another. Where a transaction must occur between two standard "C-corps" the fair value will be lower than it would have been had the property been held in a REIT. Where a transaction is contemplated between a REIT and a standard corporation the appraiser must choose from a range of values.

#### IV. Conclusion

Real estate investment trusts offer what is perhaps the purest form of entity-level income property ownership because the income is not taxed and the use of debt is only driven by the need for capital. These two conditions conform neatly within the framework of financial theory originally derived by Modigliani and Miller. Appraisals of properties held either in non-traded or traded REITs are therefore likely to most closely meet the requirements on IFRS 13 and ASC 820.

## References

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