

Value is Lower when Depreciation is an Operating Expense: A Current Issue

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INTRODUCTION

STANDARD ACCOUNTING PROCEDURE DEDUCTS DEPRECIATION as an operating expense when computing the NOI for real property.¹ When the resulting NOI is incorporated in an estimate of value using NOI/R, the final estimate is lowered due to the deduction. In contrast, standard procedure used by the real estate profession, including appraisers, counselors and financial analysts, uses the depreciation amount only as a deduction in the calculation of taxable income from the property.² The NOI is unchanged and, consequently, the final value estimate is unaffected.

The current common knowledge and procedure practiced by the accounting profession and used by finance practitioners should be of concern to the real estate professional.³ The use of depreciation as an operating expense is found in accounting texts and taught to finance students and professionals. It affects the real property professional in two important areas. The first is the estimate of value because of the decline in NOI. The second is the estimate of the overall capitalization rate, $R=NOI/Value$, which is the most commonly used real property financial ratio. This ratio often is used to send market signals on profitable/non-profitable properties and buy/sell in individual transactions, which could be incorrect because of this deduction.

This article examines the depreciation deduction in more detail. The purpose is to identify an issue that should be addressed. One recommendation is for the counselor to request and review the financial analysis supporting a value or rate estimate. Neither should be accepted and used without a preliminary scrutiny.

Source material to support this discussion must originate with several groups. The Appraisal Institute text provides insight on the procedure taught to professional appraisers interested in the market value of the property. The CCIM Institute course materials contain the concepts and procedure taught and used by a large group of commercial brokers and investment specialists. A third option is the textbooks used in higher education accounting, finance and real estate curriculums to illustrate the material taught to higher education students who enter the real estate business.

It is probable that when Congress established the asset classes for the depreciation deduction, it was devoting all of its attention to creating a lower tax liability on property as a means of providing a lower tax income stream back

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to the owner. The objective was to return the initial cost of the property prior to the end of its useful life. The issues of potentially lowering the NOI and the overall cap rate were not on the agenda or even a priority at the time this legislation was enacted. These results became important when the income accounts, such as NOI, became increasingly important to real estate professionals in the current marketplace.

THE ISSUE

The traditional procedure used to calculate NOI is shown in the second column of Figure 1 without a depreciation deduction. The overall capitalization rate of 8 percent can be compared to the 6 percent estimate using the typical accounting and finance procedure.

	Benchmark	Accounting
Potential Revenue	\$100,000	\$100,000
– Vacancy	10,000	10,000
Effective Revenue	90,000	90,000
– Operate Expense	45,000	45,000
– Depreciation		11,250
NOI	45,000	33,750
R with no Depreciation	8%	—
R with Depreciation	—	6%
Value (NOI / R)	562,500	562,500
Land Value	123,750	123,750
Building Value	438,750	438,750
Depreciation per Year	—	11,250
Depreciation % of Value	—	2%
Cap w/o Depreciation	8%	—
Cap with Depreciation	—	6%

Source: Epley, 2010

The real estate analyst must make an immediate decision on which procedure to incorporate into an estimate of value.

The recommendation is to rely on the traditional procedure using the original property revenue and income

numbers generated by the property in the current market, and use the subsequent calculations that produce the value estimate. In this manner, the traditional method is the point of focus, which can be justified in the common real estate body of knowledge represented by the references. For this reason, the traditional method has been labeled the “benchmark” because the resulting overall capitalization rate relies on the revenue number to be the market justified benchmark.

Cost of capital: The capitalization rate is composed of two elements that are combined to represent the total cost of capital. Each has a right to claim a portion of the NOI from the investment as return to its interest in this investment.⁴

The first is a claim by all equity contributors to receive a return on their equity in the property. The second is a claim by all debt contributors to receive a return on their loan of debt funds. A unique feature of these two contributors in a typical real estate investment is that each may also claim a regular return of the amount contributed. For example, the debt contributor may want the debt funds returned concurrently with the interest payment. The total regular payment is known as amortization and can be calculated easily with a financial calculator.

In sum, the total NOI is available for distribution to the two groups of investors who combined their funds to pay the purchase price. This arrangement can be illustrated in the band of investment that is used sometimes to derive Ro.⁵

$$R_o = R_e (E/V) + R_m (M/V)$$

where R_o = overall capitalization rate

R_e = equity capitalization rate, or the initial before tax cash flow/initial equity funds

R_m = mortgage capitalization rate, or the annual debt service/original debt

E = initial equity

M = initial debt

V = initial property value, which is purchase price or appraised value

Note that both contributors have a right to claim a share of the NOI relative to the proportion of funds contributed to the property. **Both have a right to claim a portion of the amount shown for the depreciation deduction because it is not a cash account.** This is explained below.

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Adjusting the Ro: An analyst may receive a recommendation that a simple adjustment to the capitalization rate is acceptable when depreciation follows the accounting method. The result will produce the correct 8 percent in the illustration above, which is quick and straightforward.

The recommendation here is not to make this adjustment. A better method is to use always the benchmark revenue and expense numbers and allow the resulting Ro to be calculated from the original figures. In this manner, every reader and user will know exactly how this number was produced.

WHAT DO WE KNOW ABOUT REAL PROPERTY OPERATING EXPENSES?

Operating expenses may be defined as all cash expenses necessary each year to maintain the collection of rents and revenue.⁶ Examples of such expenses include utilities, property insurance, property taxes, accounting and legal fees, management and personnel, and normal maintenance. Excluded are items that are not cash expenses such as the following:

Annual debt service: Loan payments do not maintain the collection of rent and revenue. They can continue when income stops.

Reserves for replacement: Cash set aside for replacing fixtures over the long term does not affect the annual operation of the property. An appraiser may present an argument that the maintenance account must be substantial, should the reserves account be missing. The reason is that expenses to repair and replace features and fixtures are necessary on a regular schedule to maintain the revenue stream and remain competitive in the market.

Agent leasing fees: Charges for negotiating lease space and rates for the sale of the property are special non-operating expenses.

Tenant improvements: Special one-time expenses for changes within a tenant's rented space are not included.

Capital expenditures: Anticipated major repairs that extend the useful life of the property are not charged in total in the year the expenditure is made. Normally, these are expensed in a separate category.

Depreciation: It is not a cash expense.

WHAT DO WE KNOW ABOUT DEPRECIATION?

The actual depreciation charge is determined by Congressional tax legislation that places assets in classes and assigns the write-off to each class.⁷ Charging of depreciation is purely an accounting entry and does not directly involve the movement of funds. It is not viewed as a new source of funds although it reduces tax liability by protecting income from taxes. It is an attempt to allocate initial cost of asset over the useful life of the asset.⁸

During an asset's useful life, its revenue-producing capability declines because of wear and tear. The depreciation deduction is an attempt to match expenses with revenues in a systematic manner.⁹

The depreciation deduction has been used as an attempt to allocate the initial basis, or cost, of the real property over its useful life and return this amount to the owner. The total amount charged to depreciation represents the amount allocated to expense, although a cash payment is not actually made. It is not an accumulation of cash and should not be viewed as a source of cash. In effect, it lowers the final net operating income and creates a lower tax liability.¹⁰

Weygandt, Kieso and Kimmel summarize the essential issue in their statement that,

"No attempt is made to measure the change in an asset's value during the ownership. Therefore, the book value (initial basis minus depreciation) may be different from the asset's market value."¹¹

FIRST YEAR ESTIMATE OF NOI BY THE REAL ESTATE PROFESSIONAL

The real property First Year Financial Statement should be assembled with a well-known procedure:

Potential Gross Income from All Sources

– Lost income from vacancy and collection

= Potential rental income

+ Other income

= Gross operating income

– Operating expenses

= Net operating income

– Agent fees for leasing and negotiating space

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- Reserves for replacement
- Annual debt service
- Capital expenditures (expensed)
- = **Before tax cash flow**
- Annual income taxes owed on property taxable income
- = **Cash flow after taxes**

When Is the Annual Depreciation Deduction Used?

The depreciation deduction is used as a reduction in the taxable income calculation in the following procedure:

Net operating income for year "X" only

- Interest paid on eligible debt for year "X" only
- Depreciation deduction for year "X" only
- = Taxable income
- × Investor's tax rate
- = Annual income taxes owed on property taxable income

Consider the following multi-family property as an example of the typical method used by a real estate analyst to deduct depreciation:

Asking price	\$950,000
Initial basis:	15 percent allocated to site 85% to bldg; 27.5 yrs. useful life; straight-line
First year rental revenue	\$159,600
Projected annual growth rate:	4%
Projected additional annual revenue	\$4,920
Vacancy and bad debt	3.5%
First year operating expenses	\$46,000
Projected annual growth rate:	2%
First year debt service	\$66,919
First year interest:	\$60,571.
Individual owner's tax bracket	28%

The first-year NOI would be:

(gross revenues) - (vacancy and bad debt) +
(additional revenue) - (operating expenses),
\$159,600 - (\$159,600 x .035) + \$4,920 = \$158,934 gross
operating income

\$158,934 - \$46,000 = \$112,934 NOI

The annual income tax liability would be:

(NOI) minus (annual interest) minus (depreciation)
times (owner's tax bracket),

\$112,934 - \$60,571 - the depreciation amount.

The depreciation amount is found by:

.85 × (initial basis) × 1/27.5,

.85 (950000) × 1/27.5,

\$807,500 × .036364,

= \$29,364 depreciation deduction ¹²

Substituting above,

\$112,934 - \$60,571 - \$29,364 = \$22,999 .taxable
income,

and,

\$22,999 × .28= \$6,440 income tax liability on this
property

In this illustration, depreciation of \$29,364 was used to
lower the taxable income to \$22,999.

RECOMMENDATION

Several recommendations can be made to any analyst or user of real estate income accounts and the overall capitalization rate. First, always use the *benchmark* method shown earlier. It is supported by the professional real estate literature. Second, try not to apply adjustments to the overall cap rate when depreciation is included. Always rely on the benchmark approach that all real estate professionals will understand. Third, always examine the revenue and expense accounts to confirm the correct use of the depreciation deduction. Never rely on or use a Ro without conducting the preliminary due diligence. Fourth, encourage the appropriate trade group such as counselors, appraisers, brokers and managers to emphasize the benchmark approach to other accounting and finance trade groups when valuing real estate. Fifth, recommend to all text authors that the benchmark approach shown here be included as a traditional technique that incorporates this account in a different manner.

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CONCLUSION

The common use of the non-cash deduction of depreciation as a real property operating expense will lower net operating income and cause the resulting estimate of value to decline. In addition, use of this NOI figure will lower the property's overall capitalization rate. The lower value and cap rate estimates will send incorrect transaction signals into the marketplace.

Real estate professionals view depreciation as a deduction against taxable income when the property's income taxes are computed. It is not an operating expense as it does not represent a true cost of maintaining the property's revenue stream.

The conclusion is that all users of property and cap rates should request the financial analysis worksheet to review the depreciation deduction. ■

ENDNOTES

1. Illustrations representative of the common knowledge taught to accounting students are shown in Jerry J. Weygandt, Donald E. Kieso and D. Kimmel, *Accounting Principles, 8th Edition*, John Wiley (New Jersey 2008), pp. 728–729.
2. Illustrations representative of real estate trade groups and academia include: Appraisal Institute, *The Appraisal of Real Estate 13th Edition*, 2009, Chapter 21; William B. Brueggeman and Jeffrey Fisher, 2001, *Real Estate Finance and Investments*, McGraw-Hill, Chapter 9; CCIM Institute, 2007, *Financial Analysis for Commercial Investment Real Estate*, CII, one of a series of professional courses offered by the CCIM Institute; Donald R. Epley, *Common Real Estate Principles and Practices*, 2008, www.universityreaders.com, Chapters 8–9.
3. Examples can be found in Richard A. Brealey, Stewart C. Myers and Alan J. Marcus, *Fundamentals of Corporate Finance*, McGraw Hill, 1995, Chapter 17; and Stephen A. Ross, Randolph W. Westerfield and Jeffrey Jaffe, *Corporate Finance*, McGraw Hill, 2005, Chapter 2; Stanley B. Block and Geoffrey A. Hitt, *Fundamentals of Financial Management, 8th Edition*, 1997, Richard Irwin, pp. 37–40, 356.
4. Appraisal Institute, op. cit., pp. 460–461. Also, Shannon Pratt has a good discussion of a similar calculation for combined corporate equity and debt called the weighted average cost of capital in *Cost of Capital: Estimation and Applications*, John Wiley, 2008, Chapter 7.
5. Ibid., pp. 505–507.
6. CCIM Institute, op. cit., pp. 2.10–2.12.
7. IRS Publication 946, "A Brief Overview of Depreciation," Aug. 8, 2008, www.irs.gov.
8. Weygandt, Kieso and Kimmel, op. cit., Chapter 10.
9. Ibid.
10. Ibid.
11. Ibid.
12. The depreciation deduction for the first and last years of ownership would require an adjustment for the mid-month convention that is not shown here.