UNDERSTANDING THE INTERNAL RATE OF RETURN USED IN COMMERCIAL REAL ESTATE TRANSACTIONS

The IROR used by real estate developers may be confusing to those who are familiar with the IROR used to make corporate investment decisions.

by Leonard Sliwoski

The financial analysis techniques used to evaluate traditional manufacturing, distribution and retail businesses are not appropriate for evaluating commercial real estate projects. These techniques evaluate business requirements for buildings, machinery and equipment, inventory, accounts receivable, etc., on the basis of income statement and balance sheet analysis, ratio analysis and statement of cash flow analysis.

Real estate projects are either sold or leased by developers after completion; they are not used to house ongoing businesses. As a result, real estate projects are "stand alone" enterprises; each project has a particular geographic location, composition of tenants, theme, etc.

Because of the peculiarities of individual real estate projects, the analysis of commercial real estate transactions revolves around a unique financial statement called the developer's pro forma income and expense schedule, which is calculated as follows:

gross rent
− vacancy factor
= effective gross rent
− operating expenses
= net operating income
− debt service
= cash flow available for distribution

Based upon this financial schedule, real estate developers determine the desirability of a particular project by using one of three types of analysis: cash on cash return, cash flow rate after tax or the internal rate of return (IROR). In recent years, the IROR analysis has become the developer's predominant analytic tool because it incorporates the three benefits of investing in real estate—cash flow, taxes and appreciation—and because it also takes into account compound interest considerations.

However, one's first exposure to the IROR used in real estate transactions may be confusing, particularly for individuals who are familiar with the IROR calculations that are taught in collegiate finance classes and used in large corporate settings to evaluate potential capital investment projects. This article compares these IRORs to provide insight into the computation and use of the IRORs and to eliminate confusion.

IROR As A Return On Investment

The IROR that is taught in college finance courses and used to make corporate investment decisions is a return on investment (ROI) versus a return on equity (ROE) computation. It employs three variables:

1. Initial project cost, which is equal to the full

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cost of the purchased assets whether they are financed with debt or equity.

2. The periodic after-tax cash flows, which are equal to the annual after-tax cash flows generated by the project. This number in any given period is determined as follows:

   total cash revenues
   − total cash expenses
   + income tax shield

   where:

   income tax shield = the sum of depreciation and other non-cash expenses × business marginal income tax

3. The terminal after-tax cash flow, which is determined as follows:

   net sales price
   − income tax due (or + income tax savings)
   = terminal after-tax cash flow

   where:

   net sales price = sales price − the expenses of the sale income tax due = net sales price − adjusted basis (gain or loss) × the income tax rate

The computation of this IROR involves either trial and error or use of an appropriate hand-held calculator or computer program. Once determined, this IROR is compared with the business' cost of capital. Based upon this comparison, an appropriate investment decision can be reached.

The IROR As A Return On Equity

The IROR model utilized by developers in commercial real estate transactions is an ROE computation. This IROR also employs three variables:

1. Initial project cost, which is equal to the equity money that is contributed to the project by the real estate developer. This cost does not include any part of the debt monies that are used to finance the project.
2. The periodic after-tax cash flows, which involve the computation of the cash flow available for distribution as depicted on the developer's pro forma income and expense schedule and a separate computation of income taxes. The cash flow available for distribution is calculated as follows:

   gross rent
   − all cash payments (including principal payments)
   = cash flow available for distribution

   Income taxes are computed as follows:

   cash flow available for distribution
   − depreciation expense
   − amortization of capitalized fees
   + amortization of principal balance on loans
   = earnings (loss) before tax
   × income tax rate
   income tax due (savings)

3. The terminal after-tax cash flow, which is determined as follows:

   net sale price
   − income tax due (or + income tax savings)
   − remaining principal balance on project loans
   = terminal after-tax cash flow

   where:

   net sales price = sales price − the expenses of the sale
   income tax due = net sales price − adjusted basis (gain or loss)
   × the income tax rate

This IROR also can be solved either through trial and error or, more conveniently, with the use of an appropriate hand-held calculator or computer program. Once determined, this IROR is compared with the developer's required IROR which, in essence, is the developer's required ROE. It is based on the perceived risk of the project and the projected ROEs generated by alternative investment options available to the developer.

Conclusion

The traditional IROR model taught in collegiate classes and utilized in corporate investment decisions is a ROI concept. As with any other type of ROI computation, this IROR determines the rate of return on the project itself independent of the project's funding sources. This calculation is appropriate for large corporations that are attempting to make capital investment decisions and that have various funding sources as components of their capital structures, including long-term debt, preferred and common stock, which must be blended and weighted to determine the true cost of corporate capital. Specific ROIs, or IRORs, from potential capital projects can be compared with the cost of capital, and investment decisions can be made. Thus, capital investment decisions involve comparing the ROI from a given project, its IROR, to the corporation's cost of capital.

The real estate developer's IROR is an ROE concept. It computes the rate of return to the developer based on the equity monies that are contributed to the project. Unlike large corporations, real estate developers rarely have excess cash, and they usually have limited funding sources. With cash being the most constraining resource, the developer is interested in a rate of return from the prospective project that considers the limited cash which is available to be invested. This return is most accurately measured by the ROE associated with the project, which is what the IROR as computed in commercial real estate transactions represents.

In summary, IROR computations differ because the capital structures and financial environments in which large corporations and real estate developers operate require different financial analysis tools to evaluate potential investment projects. Each IROR computation has its own utility. When the IROR from a potential corporate capital investment project, which represents its ROI, is compared with the corporation's cost of capital, it will lead to a sound investment decision. When the IROR from a potential real estate project, which represents its ROE, is compared with

the developer's required ROE, it also will lead to a sound decision. Although the differences in computing the two IRORs initially may be confusing, they should be understandable when considered in light of the financial environments and funding sources associated with large corporations and commercial real estate developers.

NOTES

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