

Debt Financing Rewards and Risks

By Wayne E. Etter

Using debt to finance income-producing real estate is an accepted practice. Although the rewards of debt financing can be significant, so are the risks. Unfortunately, many investors anticipate only the rewards of debt financing and give little attention to risks.

Obviously, when debt financing is arranged, both the lender and the investor anticipate that income will be adequate to service the debt; in fact, the usual assumption is that a property's net operating income will increase during the holding period. With fixed debt service, this assumption results in an improving margin of safety during the holding period.

Nevertheless, the use of debt gives rise to financial risk—the risk that there will be inadequate income to meet debt service requirements. Although there may be a trend toward the use of less debt in some real estate syndications, the possible benefit of using less debt is not well understood. In today's market, however, consideration should be given to revising the accepted practice of using as much debt as can be obtained to finance real estate. This could create a new investment product with reduced risk that appeals to investors wary of traditionally financed real estate.

Why Use Debt?

An approach to real estate investment analysis was presented in an earlier *Real Estate Center Journal* (see Additional Reading, page 23). It was explained there that the expected after-tax rate of return from a real estate investment is determined by the expected benefits of the investment—after-tax cash flow and appreciation—and the cash required to purchase the property. Investors determine a proposed real estate investment's expected rate of return and compare the result with the minimum return required to undertake the investment. A further test is a comparison of the property's estimated investment value with its cost. A property's investment value is equal to the present value of all the cash benefits expected by the equity investor, discounted at the investor's required rate of return, plus the amount of the mortgage.

Real estate investors wish to use debt if its use will increase the after-tax return on equity (ATRE) and the property's investment value. Using debt this way is known as financial leverage. For instance, the ATRE and the investment value were calculated for a typically structured income property using varying amounts of debt with the following results:

Amount of debt (%)	ATRE (%)	Investment value (\$)
None	13.26	301,198
50	17.23	334,943
75	23.84	351,815
90	37.27	361,329

When the amount of debt is held constant at 75 percent and the interest rate is varied, the following results are obtained:

Interest rate (%)	ATRE (%)	Investment value (\$)
10	27.04	362,974
12	23.84	351,815
14	20.42	340,106
16	16.77	327,506
18	13.26	314,829
20	9.90	302,103

Analyzing these results reveals that the ATRE and the investment value of the property increase as a larger proportion of the property is financed with debt having a constant cost. Also the ATRE and the investment value decrease as the interest rate is increased when the proportion of financing is held constant. Eventually, the ATRE and the investment value, when financed with high-cost debt, are less than the property's ATRE and the investment value without debt. Thus, the beneficial effects of debt financing are limited—expensive debt is worse than no debt.

Other factors also affect whether or not the use of debt is favorable. If the expected benefits (after-tax cash flow and appreciation) increase for reasons such as increased rent levels, reduced vacancy rates or operating expenses, increased rate of appreciation or reduced tax rates, the expected ATRE and the investment value will increase at any given debt level or interest rate. Therefore, increased investor expectations justify the use of higher cost debt. During periods of rapid property appreciation, high interest rates will not deter investors from using debt financing to buy properties.

An investor is indifferent between two investment opportunities having the same expected rate of return only if they have the same risk. Thus, the returns of various investments often are compared by evaluating both their risk and their expected return. The usual assumption is that riskier investments have increased returns. Such investments also can have increased losses; the line represents expected returns.

Risk exists in all projects, but some are more risky than others. The degree of risk depends on the difference between expected and actual outcomes. If the expected outcome is guaranteed, then the risk is negligible; if there is great uncertainty about the expected outcome, then the risk is significant.

As earlier stated, financial risk is present when debt is used. Because the investor and the lender believe that the debt can be managed when the property is financed, the principal source of financial risk is unanticipated variation in the property's income stream over time. There is a particularly important connection between business risk (the risk of failing to generate sufficient income), management risk (the risk of failing to respond properly to changes in the business environment and, therefore, failing to earn a satisfactory return) and financial risk (the risk of having inadequate income to meet debt service requirements). These and other risks faced by real estate investors were considered in an earlier *Real Estate Center Journal*.

If a project is believed to have little business and management risk, then a high proportion of potential gross income could be committed to the payment of operating expenses and debt service. If the opposite is true, a much lower proportion of potential gross income should be committed to the payment of operating expenses and debt service. A project's operating expenses are somewhat fixed in the short-run and vary directly with potential gross income over time; the operating expense ratio should be constant over time. Limiting the total funds available for the payment of operating

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expenses and debt service has a direct impact on the amount of funds available for debt service and, therefore, the amount of debt, called *allowable debt*.

Projects believed to have little business and management risk (i.e., there is little expected variation in the income stream) could have higher levels of debt without creating excessive financial risk. On the other hand, projects believed to have significant exposure to business and management risk should have much less debt so that excessive financial risk is not created. For example, assume two properties are identical except for risk:

	Low-risk property	High-risk property
Potential gross income	\$100,000	\$100,000
Percentage allowed for operating expenses and debt service	.90	.60
Funds available for operating expenses and debt service	\$90,000	\$60,000
Operating expenses	30,000	30,000
Available for debt service	\$60,000	\$30,000
Divide by mortgage constant	.1275	.1275
Allowable debt	\$470,588	\$235,294

At any given mortgage constant, \$60,000 will service twice as much debt as \$30,000. This approach allows the risky building much less debt financing and achieves a result similar to what is observed in other types of enterprises. Risky businesses must borrow less than safer ventures.

What Are the Benefits of This Approach?

The foregoing approach to risk results in some properties being financed with much less debt than is considered normal. But, for either building, the use of more debt to increase the expected ATRE or investment value increases the likelihood of default.

Suppose, therefore, that a property is financed with more than the amount of allowable debt to raise its expected ATRE and investment value. This will cause total risk to exceed an acceptable level given the investors' required return. Under such a circumstance, investors should increase their required rate of return. The additional return expected from the additional debt is not without additional risk—greater risk must be matched by a greater required return—and, therefore, the calculated increase in the ATRE is not an additional benefit received without cost. Likewise, when estimating a property's investment value, investors must apply a higher discount rate to the expected benefit stream. As a result, the beneficial effect of using more debt may be offset by the effect of the higher discount rate with the possible result of a decrease in the property's investment value.

On the other hand, it is possible to use even less debt or no debt to further reduce the exposure to financial risk and, thereby, reduce total risk. Using less debt (or no debt) should increase the investment quality of a property; such a course of action should result in investors reducing their required rate of return for the property and applying a lower discount rate when calculating investment value. As a result, the reduced benefits from using less debt may be offset by the willingness of investors to accept a lower ATRE and by the effect of the lower discount rate with the possible result of an increase in the property's investment value.

Assume, for instance, that a commercial property is leased to quality tenants; the lease has several years to run and there is reason to believe the current tenants will wish to renew their lease. The property may be classified as a low-risk property because there is a reasonable probability that the difference between the property's expected income stream and actual income stream will be small. If the property is conservatively financed (perhaps even 100 percent equity), it will be even more attractive to conservative investors. Under such circumstances, the property's income stream will be highly predictable; investors will pay a premium price for such a property.

Next consider a property characterized by more business and financial risk—fewer quality tenants with less assurance of lease renewal when the current leases expire. There is a greater probability that there will be a difference between the expected income stream and the actual income stream. Financing such a property with, say, 75 percent debt may result in the property's total risk being excessive. But, if this property is financed with less than 75 percent debt (again, perhaps even 100 percent equity), investors may view the property as an attractive investment. Properly estimated, the property's investment value may be higher with less or no debt.

Thus, the question is: Can an investor's lower required rate of return or discount rate offset the beneficial effects of financial leverage on a property's expected rate of return and investment value? If so, income-producing real estate could be transferred from the high-risk investment category when it is financed with a large proportion of debt to a much lower risk category. Only by relating investors' required returns with risk and by calculating the investment value of a property using various assumptions can this question be answered. If the answer is positive, more investors might be attracted to real estate because income-producing real estate can become a much less risky investment. ☐

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