

تمرین پنجم – تامین مالی املاک و مستغلات

محاسبه قراردادهای مشارکتی

You are contemplating the purchase of an office building named Professional Tower. The building is currently fully leased. Information regarding the existing leases is shown in the following table:

Current Lease Information: Professional Tower					
Tenant	Sq. Feet.	Rent/SF	Remaining lease term	Annual rent escalation	Expense stop
Bank	70,000	\$14.28	3 years	50% of CPI	\$4 / SF
Law firm	10,000	\$14.79	4 years	50% of CPI	\$4.25 / SF
Mortgage Broker	16,000	\$15.00	5 years	50% of CPI	\$4.45 / SF
Total	96,000				

You expect the CPI to increase by 4% annually. Additionally, you observe that the current market rent per square foot is \$15.00 and you expect this to rise by 4% per year. When a new lease is signed, the tenant's initial rent is set equal to the market rent. A new lease also contains a "50% of CPI" rental adjustment.

Reimbursable expenses on the property are detailed as follows:

Year 1 expenses and their behavior over time		
Property tax	\$148,800	Constant in years 1 and 2. Increase by 10% in year 3 and then level thereafter.
Insurance	\$14,400	Increase 4% / year
Utilities	\$120,000	Increase 5% / year
Janitorial	\$76,800	Increase 3% / year
Maintenance	\$67,200	Increase 3% / year

When a new lease is signed, the tenant receives a new expense stop set equal to the level of reimbursable expenses in the first year of the lease. Once set at this level, the new expense stop is fixed for the remainder of the relevant time period. Given the lease expirations, you estimate vacancy equal to 5% of the sum of PGI and expense reimbursements starting in year 4. You will incur management expenses equal to 5% of the sum of EGI and expense reimbursements. These expenses are not reimbursable. Capital expenditures are assumed to equal 20% of NOI during the holding period for this building.

Assume you purchase this building for the asking price of \$8.5 million, expecting to sell it at the end of five years at a price of \$9.7 million.

1. Calculate the property before tax cash flows and calculate the property before tax IRR.

To help finance the purchase of the building, you can arrange for a mortgage loan for 70% of the purchase price of the property. The loan carries an 8% interest rate and amortizes over 20 years and

requires monthly payments. First, consider that you are the marginal investor in this property. In this instance, make the following assumptions:

- The land value was equal to 15% of the purchase price.
- The building can be depreciated for tax purposes over 39 years.
- Your marginal tax rates are 36% on income, 15% on capital gains, and 25% on depreciation recapture.

2. Assuming you take the indicated mortgage loan, calculate the after-tax cash flows to equity holders and calculate the equity after-tax IRR.

Next, instead assume that you represent an organization that is subject to no taxes whatsoever, but continues to utilize the specified mortgage financing.

3. Calculate the return to your organization's equity investment.

4. If your tax-free organization discounts its equity cash flows at the equity after-tax discount rate of the marginal investor, calculate how much more the building is worth to you relative to the marginal taxed investor. Express this in terms of a premium above \$8.5 million.

5. In case of tax free organization, assume there are two investors on the deal: finance party and manager. The investor will provide 90% of total investment/expenses in each period on the duty of equity holders. The investor party will receive first 10% interest on its investment each period and the rest of the cash flow will be divided evenly, until 15% return for the investors. For interests beyond 25% of return for investor, the cash will be divided 33% and 66% (so manager will receive 2/3 of excess flows). From the sale revenue, investor will receive its total investment and secured returns (10%) first and then manager will take its principal. Calculate the return for each party.

6. Compute Sharp Ratio for each party.

7. How the tax rate affect the return of each party.