RE 618 / Fin 618 – Real Estate Investment Analysis
Commercial Mortgage Finance Lecture Notes

1) Benefits and Costs of Leverage

Most real estate purchases involve substantial amounts of leverage.

a) Benefits of leverage:

- Diversification

  Suppose you have $1,000,000 to invest.

  – How many properties can you purchase if you only use cash?

  – If you borrow 80 percent of the purchase price, how much property can you purchase?

- "Working the spread"

- Amplifying the gain on disposal

  Using the example above, suppose each of the properties increased in value by 5% per year for 5 years. Then at the end, your investment in a single property would be worth _____, for a _____ gain on the investment.

  - But if you borrowed 80% of the purchase price, your total property would have increased to $6.381 million. Minus the $4 million you borrowed, this increases your total cash flow to _____ or a _____ capital gain.

    Note: this is really rough, and ignores early principal repayment. Nevertheless, the idea is clear.

b) Cons of Leverage
   - Leverage increases risk, both for annual cash flows and for any capital gains at the end of the holding period.

2) Long-term commercial mortgages

b) The basic structure of these loans is very much the same as it is with long-term residential mortgages.

- Fixed monthly payment
  - Although commercial borrowers often refer to the annual debt service (ADS) rather than the monthly payment.
- Balloon payments are very common on these mortgages.
  - Example: Consider a $2 million fixed-rate mortgage at 7.25 percent interest amortized over 20 years with a 10-year balloon.
- Prepayment penalties are very common if the loan does not contain a balloon provision.
  - Often are structured in the form of yield maintenance charges, in which the size of the penalty is proportional to the difference between current market rates and the interest rate on the mortgage

Why would prepayment penalties be more prevalent with commercial loans than they are with residential mortgages?

How might a prepayment penalty actually *benefit* a borrower?

c) Commercial mortgages are more likely to be funded by:

- Insurance companies, pension funds, and other institutional investors

- Mortgage loan conduits (to other parties or secondary market investors)

- Commercial banks are still a common source of financing for commercial real estate projects because of their _____.

d) Underwriting Guidelines

Note: Specific guidelines for a lender may vary by property type and use.

- Loan-to-value (LTV) ratios

- Recourse vs. non-recourse

  – A recourse loan is one in which the borrower or some other party is personally responsible for repayment of the loan.

- Debt-coverage ratio: DCR = NOI / ADS

NOTE: The lender will typically recalculate NOI using its own assumptions (e.g., vacancy rate, rents, etc.) to make sure that the investor/developer is not being too optimistic.

Example: Consider a property with a first-year NOI of $89,000 and a purchase price of $900,000. Financing is available at 9 percent interest, amortized over 20 years with monthly payments. The lender requires a maximum LTV ratio of 75 percent. What is the DCR for this property?

Suppose the lender sets a minimum DCR of 1.30. What is the maximum loan amount the lender will finance?

- Property characteristics
  - Size
  - Location
  - Age
  - Quality
- Other collateral
- Portfolio mix
- Lease analysis
  - Tenant creditworthiness
    - Remember, a lease is a debt agreement, so the lender must underwrite the tenant as well. If the tenant goes bankrupt, it is possible that the property may come back to the lender.
  - Lease Characteristics
  - Tenant mix

3) Financial Leverage

a) Recall that before we introduced the concept of a mortgage constant:

- The mortgage constant (MC) is the annual payment per dollar borrowed.

Consider again the example above (a $900,000 property with $89,000 in annual NOI financed over 20 years at 9 percent interest with a 75 percent LTV mortgage).

- The cap rate on that property is _____.

- What is the mortgage constant on this loan?

  – Question: Why doesn't it matter whether we calculate this using the larger or smaller loan amount (recall that the DCR limited the size of the loan the lender was willing to provide)?

- The MC represents the total cost of the loan, including both the interest and the principal portions of the loan.

- A project is said to have *positive financial leverage* if $R > MC$.
  - When a project has positive leverage, additional debt will _____ the borrower's cash on cash return.

- A project has *negative financial leverage* if $R < MC$.
  - When a project has negative leverage, additional debt will _____ the borrower's cash on cash return.

- A project has *neutral financial leverage* if $R = MC$ (=COCR).
  - In this case, additional debt will not affect the borrower's return.

- Is a project with negative financial leverage a bad project?

  Note: One way to lower the mortgage constant is to lengthen the term of the loan.

Note: The book discusses financial leverage on a total return basis (similar to the Capital Asset Pricing Model in corporate finance). But the mortgage constant / cap rate focus is the way most real estate investors think about financial leverage.