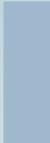




REIT valuation



Real estate finance

(a) Basics



Basics

- **Real Estate Investment Trusts**
 1. buy, sell and hold real estate assets on behalf of a diffuse shareholder base
 2. manage these and other assets
 3. **are not taxed at the corporate level**
- Three basic types: equity, mortgage, hybrid
- Can be public or private
- UPREITs (U for “umbrella”) hold positions in corporations that invest in real estate, including other REITs

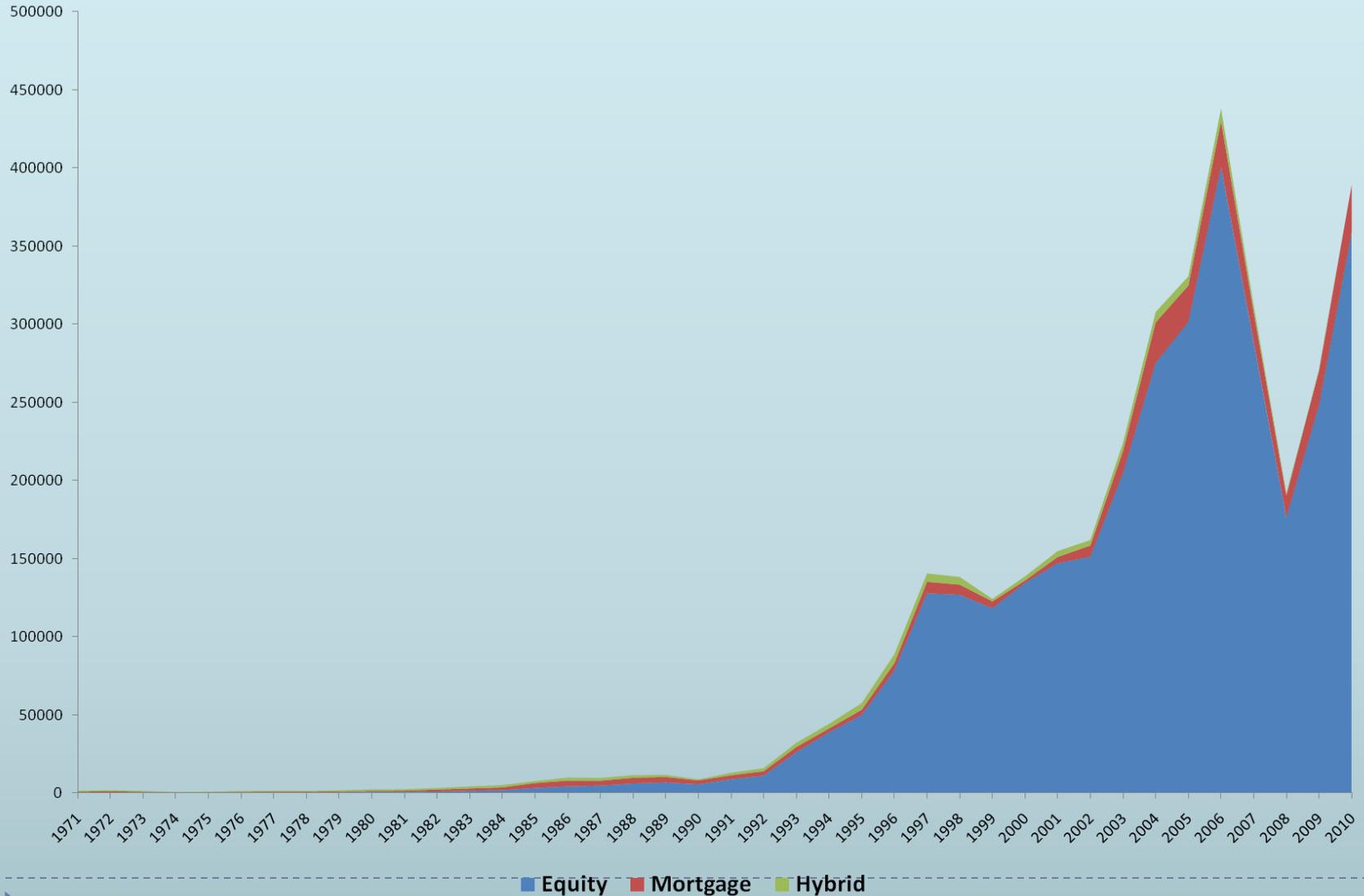


Brief history

- REIT act, 1960: REITs may be treated as untaxed, pass-through entities provided they satisfy a number of requirements
- Current requirements include:
 1. 75% of holdings in RE, cash, or US paper
 2. 75% of income must come from rents, dividends, mortgage interest, gains from the sale of qualifying assets or holdings in other REITs
 3. **90% of taxable income must be distributed to shareholders***
 4. At least 100 shareholders
 5. Top 5 holders cannot hold more than 50% of shares
- 1986 tax reform removed two big downsides of REIT structure:
 1. Management activities were severely restricted
 2. Other forms of incorporations (LPs, especially) enjoyed preferential depreciation rules
- 1991 Kimco Realty IPO ushered in a new era for REITs



Market capitalization of Public REITs



(a) Financial metrics



Standard ratios

- REITs prepare the same accounting statements as all corporations hence standard financial management principles apply
- As usual, a quick snapshot of financial situation should center on:
 1. Profitability and market ratios (EPS, ROIC, operating margin...)
 2. Liquidity ratios (current assets/current liabilities...)
 3. Leverage ratios (D/E, DCR...)
 4. Payout ratios and dividend yields



Principles of valuation

- Firm value = Value of Operating Assets
+ Value of Non-Operating Assets

- REIT Value = Value of Revenue Generating Properties
+ Value of Management Services
+ Value of Land and Properties under development
+ Value of other idle assets (cash, e.g.)



Valuing operating assets (a la McKinsey)

- Value of Operating Assets = PV of FCFF at WACC
- Return on Invested Capital (ROIC)
 - = $(\text{NOI} - \text{Depreciation}) / (\text{Invested Capital})$
 - = Net operating profits / IC
- Net Investment (NI)
 - = $\text{NOP} \times \text{Investment Rate}$
 - = Gross Investment – Depreciation
 - = Addition to IC
- **Note:** FCFF = NOP – NI
- **Note:** analysis usually uses NOPAT rather than NOP, but T=0 for REITs, except for operating taxes already included in NOI
- **Also note:** IC is invested capital in operating assets



Basic sources of value

Assume that IR, ROIC are constant and that both NOP and FCFF grow at rate g . Then, one shows:

$$g = \text{ROIC} \times \text{IR}$$

and

$$\text{Value of OA} = [\text{NOP} \times (1 - g / \text{ROIC})] / [\text{WACC} - g]$$

so that

$$\text{NOP multiple} = [(1 - g / \text{ROIC})] / [\text{WACC} - g]$$



Amaze your boss: the 10mn-route to value

- Define IC = Property / Plant / Equipment, Total (Net)
 - (Land + Construction in Progress)
 - + Net receivables
 - Net Payables
- NOP = GOP - Depreciation
- NI = Change in IC
- Calculate 5-year average of ROIC, NI, use to guess g. Get NOP multiple (req WACC.)
- Value of firm = NOP x multiple + Book Value of other assets*
- Subtract market value of debt, divide by number of shares, compare
- Bim boom, badaboom: value-per-share estimate in 10 clicks



ROIC vs. WACC

- A company creates value by investing if and only if
 $ROIC - WACC = \text{Economic Value Added (EVA)} > 0$
 - Ideally, ROIC on new investment vs. “target” WACC
 - Bloomberg provides a snapshot of all these objects (<WACC>) and the spread between them, but you need to check them
 - Should be part of any fundamental analysis
-



REIT-specific measures: FFO and AFFO

- FFO (Funds from operations), the industry's preferred measure of earnings, is a moving target, read statements carefully

- FFO* = Net income
 - Gains (Losses) from sales of property
 - + Depreciation/Amortization
 - + FFO from joint-ventures
 - (\approx NOP + Depreciation - Interest)

- AFFO = FFO
 - CAPEX
 - + Adjustments for accrual items
 - (\approx FCFE?)



FCFF and FCFE

- Somewhat oddly, the industry takes AFFO as FCFE and uses it as the basis for most DCF or multiple analysis (Why?)
- FCFF and FCFE can be (should be) computed according to standard approach
- FCFE =
 - Net increase in cash and cash equivalent
 - + Distributions to shareholders
 - Net Proceeds from share issuance
- FCFF = FCFE + Interest Expense
- Note: $AFFO \approx FCFE - \text{Net borrowing}$
- Fine as a proxy for FCFE if capital structure is stable



Alternatively

- FCFF = Cash Flow from Operations
+ Interest Paid
– Net Cash Used for investing Activities

 - = Operating Income*
+ Accrual (non-cash) expenses
- Capex
- Working Capital expenditures
-
- FCFE = FCFF – All interest expenses



Typical accrual corrections

1. Depreciation
 2. Impairment charges (write-offs)
 3. Amortization of deferred costs
 4. Straight-line rent adjustments
- Let the consolidated statement of cash flow do the leg-work for you, but do read footnotes



(a) Multiples



A very odd question

- What is a REIT worth?
- Question makes sense for a private REIT, but for a public REIT?
- What is wrong with market cap? How on earth could an analyst know better than a continuum of people who are putting their money where their mouth is?
- So why do we play along?
 1. That's what people do and we need to understand what people do
 2. Yields interesting questions: why do some REITs trade at low FFO multiple? What creates value?
 3. A useful framework for thinking of company's strengths and vulnerabilities



Method

- Compute the ratio of market capitalization to:
 1. FFO
 2. AFFO
 3. Net revenues
 4. NOP
- Then, compare to peers, and to own history
- Trivial, yet compelling
- What determines multiples? (Research and use in your analysis/presentation)



(a) NAV



Method

- Break down operating revenues in subcategories, preferably in 12-month looking forward terms:
 1. NOI by segment and location
 2. Management income
 3. JV income*
- Apply relevant cap rates to each, be very conservative for last two (20% cap rate, say)
- Estimate value of inactive assets: undeveloped land. Use Morris' data for adjustments to land book value. Watch out for land impairment provisions (read footnotes and pay attention to consolidated statement of cash flows.)
- Add up to get Gross Asset Value, subtract market value of debt* to get Net Asset Value
- Compare NAV premium/discount to peers and own history
- Massive sensitivity analysis is a must



Impairment charges

- GAAP requires that companies estimate fair value of assets and write-off big losses vis-à-vis book value
- Most REITs recognized massive impairment charges in 2009
- For those, book value may approximate fair value decently
- Impairment tests are weak however and only require action when gap between book and future cash flows is severe (we're ok at this juncture in most cases)
- Note for future reference: past impairment losses may be reversed



Market value of debt

- Assume that the company got finance from a zero with 10 years to maturity issued at a yield of 5%
- A ten year zero for this firm would now cost 10% (what could cause this?)
- The ratio book value to market value is $(1.1/1.05)^{10}$
- Conclusion: adjust book value of debt whenever the cost of debt has changed significantly due to market conditions or firm events
- If only Bloomberg did it for us...



(a) DCF



Method

- Calculate current FCFE and FCFF
- Project forward (i. naively, ii. fundamental item by fundamental item)
- Calculate cost of equity (CAPM) and cost of debt
- Discount FCFE at required return on equity, discount FCFF at WACC
- Get two market numbers for each set of parameters, plus get two growth rates implicit in current valuation
- Perform massive sensitivity analysis, compare to NAV numbers, discuss, do the same assuming that AFFO is FCFE...
- Compare premia and discounts to peers and history, explain differences



How to forecast FCFF an or FCFE

- Start from the top: revenue growth
- Then, provided other basic components of FCFF are a stable fraction of revenues, impute them
- Otherwise, forecast them separately too



Factor approach

- Decide what main factors drive revenues within the set for which readily available forecasts exist: GDP, IP, PCE...
- Estimate the historical relationship of revenue growth to these factors
- Project forward, with fudge/judgment corrections



Physical approach

- Rental revenues = Capacity (SF) x Rent/SF x (1 - Vacancy Rate)
- Three objects to forecast
- First one is fairly easy to gauge from past behavior and annual report fodder on acquisition plans
- Last two require market analysis, segment by segment



In practice...

- Make explicit forecasts for up to 5 years or use off-the-shelf estimates
- Calculate residual value using standard perpetuity formula
- Defend your g from fundamentals (ROIC and NI)



WACC

- Use current cost of debt and projected cost of debt if available from 10-K
 - Or use industry data (as in Bloomberg)
 - Use CAPM for cost of equity, trying a couple different benchmarks
 - Use book value for D/E ratio first, then measure the effect of market value adjustments for debt
 - Discount FCFF at WACC, discount FCFE/AFFO at the required return on equity
-



(a) Analysis



Key problem/opportunity areas

- Tenant quality
- Lease composition (locked-in leases can be both good and bad, depending on market conditions)
- Debt composition (future access to finance and cost)



Sources of value/growth

1. Income from existing properties (ROIC)
2. Acquisitions (NI)
3. Development (NI)
4. Service income (ROIC)
5. Financing (clean up/refinance costly debt, e.g.) (WACC)



Conclusion

- Triangulate: measure value in as many sound ways as you can think of
- Focus on critical assumptions and big items, on “what moves the dial” (to quote Mike Dubis, our resident REIT expert)
- Compare to peers

