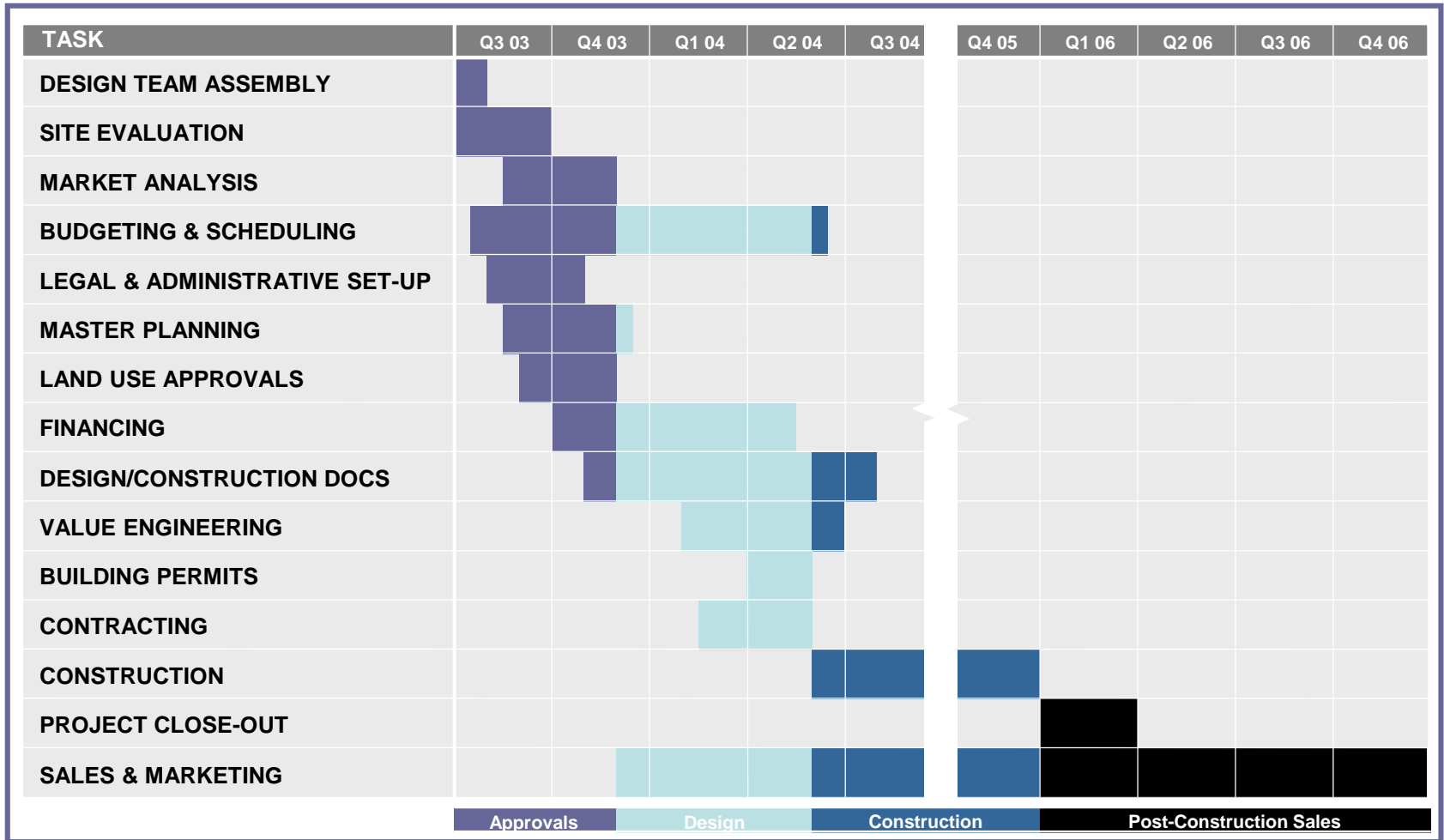


Fundamental Skills for Real Estate Development Professionals: Financial Analysis

ATHENIANRAZAK^{LLC}


Development Process



ULI Education Programs

In-Person Programs

Real Estate Development Process: Part I

Real Estate Development Process: Part II

Basic Real Estate Finance

Real Estate Finance I

Real Estate Finance II

Basic Pro forma Modeling Using Excel

Fundamentals of Land Development: Tools and Strategies

Construction Fundamentals for Development Professionals

Advanced Pro Forma Modeling Using Excel

Multifamily Housing Development and Investment

Private Equity Capital: Understanding and Navigating the Options

Mixed Use for the New Economy: ULI Study Tour

Advanced Real Estate Finance: Capital Sources and Deal Structures

Value-Add Real Estate Development and Investment (Real Estate Entrepreneur Series)

Structuring Your First Real Estate Deal (Real Estate Entrepreneur Series)

Executive Small Scale Developers Workshop (Real Estate Entrepreneur Series)

ULI Education Programs

Online Programs

Creating an Effective Investment Proposal Template

21st Century Real Estate Portfolio Management

Creating Reliable Valuations for Distressed Assets

Basics of Real Estate Finance

Evaluating Project Viability Using Internal Rate of Return (IRR) and other Financial Metrics

Excel Tips and Shortcuts for Real Estate Professionals

Hotel Pro forma Development for the Beginner

Introduction to Modeling Investment Waterfall Distributions

Introduction to Pro forma Modeling with Excel

Pro forma Modeling a Single-Family Home Community

Pro forma Modeling with Excel: Part II

Understanding and Navigating the World of Real Estate Private Equity

Understanding and Utilizing the Time Value of Money (TVM) Concept

Understanding Commercial Cap Rates

Underwriting Office and Multifamily Real Estate Investments

The ABCs of Land Development

Public-Private Partnerships Today: Tools, Tactics, and Opportunities

Using Public-Private Partnerships to Create Value-Added Conversions

Determining Project Viability: Residual Land Valuation and Predevelopment Task Management

Managing Successful Entitlements: Building Community and Political Support for Land Use Projects

ULI Education Programs

- For more information
 - www.uli.org/programs/education
 - Or contact
 - Dave Mulvihill at:
David.Mulvihill@ULI.org

Basic Finance Concepts

- Financing Phases & Types
- Evaluation Tools
- Time Value of Money
- Risk and Return on Investment
- Investment Value

Key Project Planning Questions

- Does the market need my project?
- Can I bear the cost of getting the project to the point of construction?
 - Scheduled tasks and costs
 - Sources of funding for each task
- Will the project, if built, be profitable?
 - Overall profitability based on project value less project cost
 - Amount of debt, amount of equity

Project return is expressed many different ways

- Gross Rent Multiplier
- Cash-on-cash
- Return on sales (ROS)
- Return on costs (ROC)
- Return on equity (ROE)
- Net Present Value
- Internal Rate of Return
- Key measure: Your Hurdle Rate (aka Discount Rate)

Financing Phases & Types

- Financing Phases
 - Predevelopment
 - Construction
 - Bridge/Mezzanine
 - Permanent
- Debt
- Equity

Risk and Return on Investment

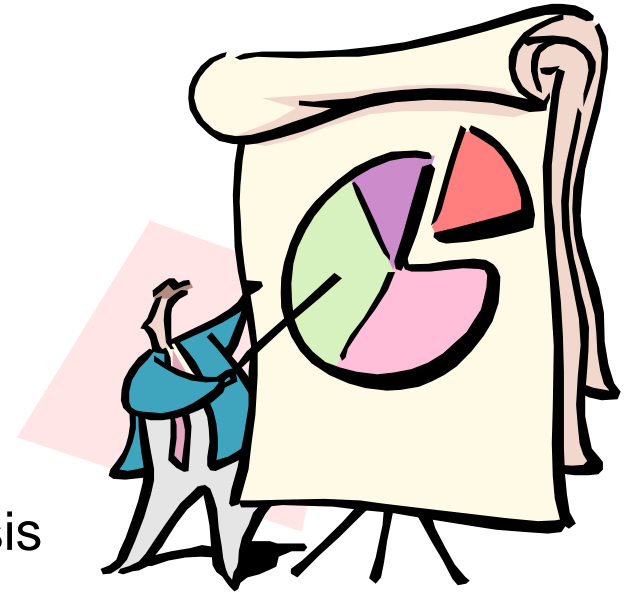
- What's a reasonable return?
- Evaluation of Risk determines required return in relation to alternate investments
- What do you expect back from:
 - U.S. Government (T-Bills)
 - Bank (Demand Deposit)
 - Corporate Bond
 - Mutual Fund
 - Tech Stock
 - Your No-good Brother-in-Law

Risk and Return on Investment

- Expected rate of return
- “Risk-Free” rate of return + risk premium
- The difference between rates of return for different investments reflects market adjustment for comparative *perceived* risk
- Variables include
 - Safety of principal
 - Duration of investment
 - Timing of cash flows
 - Difficulty of execution

Predevelopment Analysis Types

- **Market Analysis: Is the project needed?**
 - Determining market support for a proposed project in the proposed location
 - Evaluates supply & demand
 - Estimates potential income
- **Feasibility Analysis: Will the project work?**
 - Adding financial evaluation to Market Analysis
 - Determines whether the proposed project can achieve the desired financial objectives
 - Considers production cost
 - Involves discounted cash flow analysis



What is Value?

- Value of an Investment is measured by what you get back vs. what you put in
- Evaluated against all other potential uses for investment funds
- “What you put in” is not just cash
- In real estate development, what you put in is a list of items which are spread over time

Methods of Calculating Value

- Appraisal Methods
 - Comparables
 - Replacement Cost
 - Income Approach
- Investment Methods (variants of Income Approach)
 - “Single-number” Analyses
 - Cash-On-Cash (Return on Equity)
 - Income Capitalization using Capitalization Rate
 - Discounted Cash Flow Analysis
 - Net Present Value (NPV)
 - Internal Rate of Return (IRR)

Sources of Return on Investment

- Definition of “What You Get Back” depends
 - on property type (sale vs. rent)
 - on valuation method
 - Using Cash on Cash or Income Capitalization
 - Stabilized Net Operating Income
 - Using Discounted Cash Flow
 - Periodic Cash Flow
 - Value Appreciation (realized at reversion)
 - Tax Shelter

Single-number Analysis: NOI

- Uses a single number (e.g.; Net Operating Income for rental properties) as basis of value calculation

Operating Income
<hr/>
Gross Rent
Less:
Operating Expenses
Utilities
Real Estate Taxes
Cleaning
Maintenance & Repairs
Property Management
Insurance
<hr/>
Net Operating Income

- Does not include income taxes, depreciation or debt service
- Equivalent to corporate EBITDA

Cash-On-Cash (ROE)

- Measures the rate of return on equity only
- Most often used in for-sale projects but also benchmarks rental projects

$$\text{ROE} = \frac{\text{Cash Flow Before Taxes}}{\text{Total Equity Invested}}$$

Capitalization Rate (Cap Rate)

- Measures the rate of return on *total* capital invested (i.e., the estimated rate of return on a property at the time of purchase or initial stabilized year)
- Used in rental properties

$$\text{Cap Rate} = \frac{\text{NOI}}{\text{Total Capital Invested}}$$

What is *Total Capital Invested*?

Total Development Cost
or
Total Purchase Price of the Property
or
(introducing the concept of deal structure)
Equity (Investors) + **Debt** (Lenders)

Cap Rate vs. P/E Ratio

- Cap rate is the inverse of the P/E ratio used in the stock market

Cap rate	P/E Ratio
2%	50
3%	33
4%	25
5%	20
6%	16.7

Corporate Equities vs Real Estate Returns

A high P/E (low cap rate) signals expectations of growth in income.

	P/E Ratio	Cap Rate
John Deere	9.6	10.42%
Ford Motor	11.5	8.70%
Boeing	12.7	7.87%
Microsoft	13.1	7.63%
Apple	13.1	7.63%
General Electric	18.4	5.43%
Google	29.6	3.38%
Class A CBD Office, 1995	12	8.00%
Class A CBD Office, 2007	20	5.00%
Class A CBD Office, 2012	9.1 - 25.0	4.0% - 11.0%

Pop Quiz!

- What is the project value?

<u>Net Operating Income</u>	<u>Cap Rate</u>	<u>Value</u>
\$3,000,000	5%	\$60M
\$3,000,000	7.5%	\$40M
\$3,600,000	6%	\$60M
\$5,000,000	10%	\$50M
\$2,500,000	5%	\$50M

Limitations of “Single Number” Value Calculations

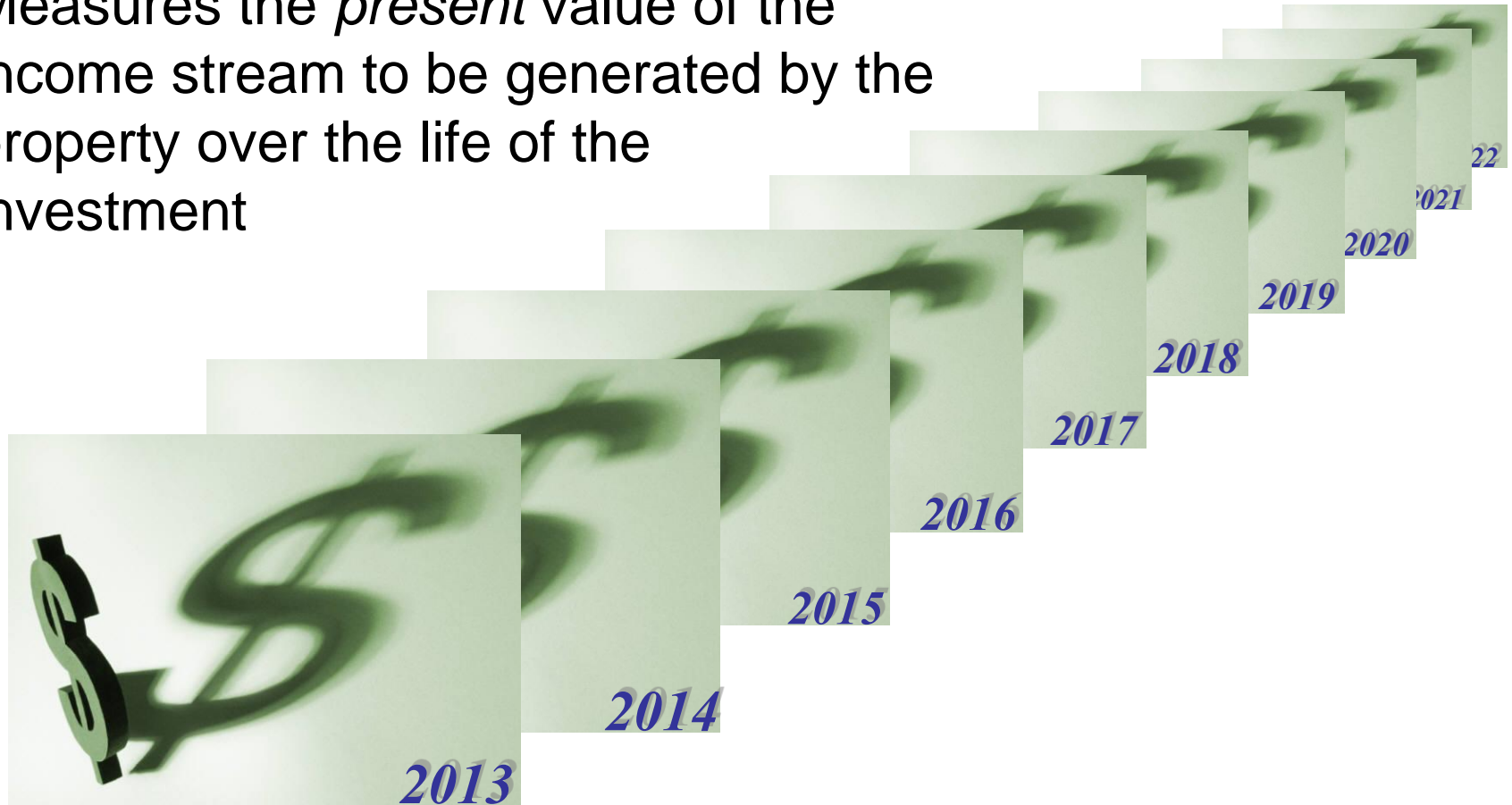
- Cash-on-Cash and Income Capitalization Approaches have significant limitations. What are they?
- They don't consider potential fluctuations in cash flows over time
 - Cash flows occur over time but they use only one fixed value as basis of income
 - Don't allow for varying rates of growth of income and expense components
- Their adjustment for risk is a blunt instrument
- Don't fully consider effects of leverage
- Don't consider value appreciation

Time Value of Money



Discounted Cash Flow Analysis

- Measures the *present* value of the income stream to be generated by the property over the life of the investment



Present Value

- Present Value is a short-form methodology used to evaluate a future cash payment or receipt, a function of
 - Future (face) value (FV)
 - Discount Rate (i)
 - Time (n periods)

$$PV = FV / (1 + i)^n$$

- Note: In this sense, the *Cap Rate* is a specialized discount rate - a real estate “term of art”
 - Rate of expected return, expressed as a percentage, indicating current market conditions for valuing a project

Present Value Example

Single payment received (FV) = \$10 million

Your Discount Rate (i) = 10%

Received 12/31/2016 (n periods) = 7.2 years

$$PV = FV / (1 + i)^n$$

$$PV = \$10,000,000 / (1 + .10)^{7.2}$$

$$PV = \$5 \text{ million}$$

Note the Rule of 72!

72 divided by interest rate (as a whole number) equals years it will take money to double

Discounted Cash Flow Analysis

- Discounted Cash Flow analysis is the only really valid way to measure project return
 - Fully accounts for the time value of money
 - Allows for variable cash flows
 - Allows for differential growth rates of income and expense components
 - Allows explicit & discrete inclusion of tax benefits and value appreciation (through reversionary value)
- Yields two key benchmarks
 - Net Present Value
 - Internal Rate of Return

Net Present Value (NPV)

- The value (*in terms of today's dollars*) of all future cash flows, positive and negative, from the project as discounted by the required rate of return (aka discount or hurdle rate), *minus* the cost of acquiring the property.

Present Value @ $i = 12\%$	Initial investment	Income for each period			
		1	2	3	4
(\$100.00)	(\$100.00)				
\$5.36	←	\$6.00			
\$5.58	←		\$7.00		
\$5.69	←			\$8.00	
\$69.91	←				\$110.00
(\$13.46) = NPV (sum of all PV's)					

Internal Rate of Return (IRR)

- The discount rate (stated as a percentage) at which the present value of future cash flows is exactly equal to the initial capital investment
- i.e.; rate of return where $NPV = 0$
- In this example the IRR of the cash flows is 7.63%

Present Value @ $i = 7.63\%$	Initial investment	Income for each period			
		1	2	3	4
(\$100.00)	(\$100.00)				
\$5.57	←	\$6.00			
\$6.04	←		\$7.00		
\$6.42	←			\$8.00	
\$81.97	←				\$110.00
\$0.00	= NPV (sum of all PV's)				

Importance of timing cash flows

0	(\$1,000,000)
1	\$500,000
2	\$500,000
3	\$150,000
4	\$50,000
5	(\$100,000)

IRR = 6.53%

0	(\$1,000,000)
1	(\$100,000)
2	\$50,000
3	\$150,000
4	\$500,000
5	\$500,000

IRR = 2.14%

Capitalized Value: a back of the envelope approach

~~Shock & Awe~~ ~~Stupendous~~ Towers

Size	450K GSF x .88 efficiency	=	400,000 SF
Rent	Market Rents	=	\$30 NNN
NOI	400,000 SF, 92.5% occupied @ \$30/SF =		\$11,100,000/yr
Cap Rate			7.5%
Capitalized Value	\$11.1M / 7.5% =		<u>\$148M</u>

Components of Cost

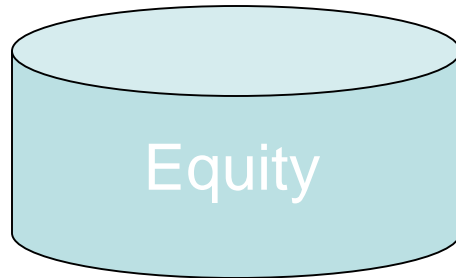
Land	25,000SF @ 18FAR = 450KSF @ \$25/FAR-FT	\$11.3M
Hard Costs	450KSF @ \$175/SF	\$79M
Soft costs	10% of Hard Costs	\$8M
Mktg/Comm's	8% of lease values (\$12M NOI x 10 yrs x 8%)	\$9.6M
Financing/Carry	30 months @ 6.5%, 50% avg balance + 1 ½ points + One year carry	\$15.3M
Contingency	10% of non-land costs	\$11M
	Total Cost	\$134M

So...

- How do we pay for it?

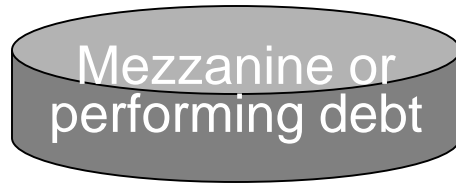


The Capital Stack



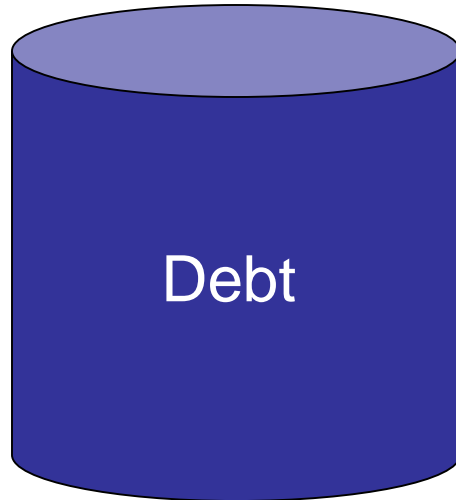
Equity

20% to 60% of project costs
Pays return based on performance



Mezzanine or
performing debt

Gap financing to cover costs not supported
by debt or equity.
Usually paid through performance.



Debt

40% to 80% of project costs
Pays interest, secured by lien

Debt

- Annual interest of 4% to 6.5% hedged, 10 to 30 year amortization.
- 5 to 10 year balloon payment.
- Loan amount a fraction of asset value
- Developer may be required to guarantee performance through recourse provisions:
 - Project completion
 - Cost estimates
 - Lease up

Equity

- Total target return varies by sector.
- Preferred return 9%-12%
- Usually 15% to 25% "target" total annual return.
- Developer usually must co-invest about 10% of equity.

Equity (continued)

- After debt, "profits" pay
 1. Return of principal
 2. A preferred return of 9% to 12%
 3. A promotional return to achieve target, with some return to developer.
 4. After target is reached, higher return to developer.

More debt financing / More leverage

- Debt costs less than equity (why?)
- Higher leverage means higher returns on equity
- Return is expressed as
 - "leveraged" : return on equity
 - "unleveraged" : return on total costs

Target Returns: Each use is different

Sector	Target IRR*	Timing of sale or lease	Anchor Tenant
Land Development	20-30%	With phasing	Depends on phase
For-sale residential	8-20%	Pre-sales for each phase	None
Multi-family	7.5-11%	Lease-up after construction	None
Office	7-12%	Pre-leasing desirable	Desirable
Retail	7-12%	Pre-leasing usually req'd	Desirable
Industrial	7-12%	Lease up after construction	Occasional

*Unleveraged Internal Rate of Return. Higher leverage increases return on equity.

Sources of Development Financing

- Debt (construction or permanent)
 - Seller
 - Bank or Thrift
 - CMBS
 - Life insurance companies
- Equity
 - Seller
 - Private investors
 - Capital firms (REIT's, life insurance, equity firms)
 - Institutions (pension, foreign wealth funds, etc.)
- Public
 - County, city and other local entities
 - Grants, tax credit programs
 - Federally insured funding sources

Calculation of Possible Financing for Shock & Awe Towers

- Cost \$134 million
- $(400,000\text{sf} \times \$30/\text{sf} \times 92.5\% \text{ occ}) = \$11,100,000 \text{ NOI}$
- Back of Envelope showed that if Cap Rate 7.5%, value is \$148 million
- “Sensitivity”
 - If Cap Rate 8%
 - Value (V) = $\text{NOI}/\text{Cap Rate} = \$11.1\text{M}/0.08 = \$140\text{M}\pm$

Calculation of Possible Financing (cont'd)

- Lenders Triangle
 - Loan to Cost (LTC) – used in construction loans
 - Loan to Value (LTV) – used in permanent financing
 - Debt Coverage Ratio – used in permanent financing
 - Debt Yield – relatively new metric, used mostly by conduits and CMBS, not penetrated to money center banks yet, but gaining traction

Calculation of Possible Financing (cont'd)

Metric	Allowable Loan Amount	Debt Svc
• LTC = Loan Amt ÷ Total Dev. Cost	90% X \$134 million cost = \$120.6M	\$10.1M
• LTV = Loan Amt ÷ Value	75% X \$148M = \$111M	\$9.2M
• DCR = NOI ÷ Debt Service	@ \$111M: 11.1M ÷ 9.2M = 1.21 @ \$120.6M: 11.1M ÷ 10.1M = 1.10 If DCR limit is 1.25, loan max: 11.1M ÷ 1.25 = \$8.88M Max loan = \$107M	
• Debt Yield = NOI ÷ Loan Amount	11.1M ÷ 10% = \$111M	

(loan payments calculated @ 6.75%, 25 year amortization)

IRR of Shock & Awe Towers

	0	1	2	3	4	5	6	7	8	9	10	Sale
Project Cost	(134.0)											
Gross Rent		14.8	15.2	15.7	16.2	16.7	17.2	17.7	18.2	18.7	19.3	
Op Ex		(4.0)	(4.1)	(4.2)	(4.4)	(4.5)	(4.6)	(4.8)	(4.9)	(5.1)	(5.2)	
NOI		10.8	11.1	11.5	11.8	12.2	12.5	12.9	13.3	13.7	14.1	
Tax Benefits	5.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Value Appreciation												234.9
Total Cash Flows	(129.0)	11.1	11.4	11.8	12.1	12.5	12.8	13.2	13.6	14.0	14.4	234.9
Project (Unlevered) IRR	12.9%											
Debt	111.0	(9.2)	(9.2)	(9.2)	(9.2)	(9.2)	(9.2)	(9.2)	(9.2)	(9.2)	(9.2)	(86.7)
Cost of Sale												(29.6)
Equity	(18.0)	1.9	2.2	2.6	2.9	3.3	3.6	4.0	4.4	4.8	5.2	118.6
Equity (Levered) IRR	27.1%											