RE 3381

REAL ESTATE FUNDAMENTALS CLASS:

REAL ESTATE MARKETS AND VALUATION MODULE

SPRING 2014

CLASS NO. 8

FEBRUARY 17, 2014

For Next Class:

- **Read Assigned Material**
- **Review my class notes for any questions you might have: I will give my Module Final Exam Review**
- **SMU Real Estate Society Spring Meeting: May 1st, 5-8 pm, Collins Center (details to follow)**

DMN 9.17.13

FORBES | 400 WEALTHIEST AMERICANS

Stocks, real estate help super-rich get richer

Gates is tops; Alice Walton No. 1 in North Texas; Pickens off list

FROM STAFF AND WIRE REPORTS

NEW YORK — Life is good for America's super-wealthy.

Forbes on Monday released its annual list of the 400 richest Americans. While most of the top names and rankings didn't change from a year ago, the majority of the elite club's members saw their fortunes grow over the past year, helped by strong stock and real estate markets.

"Basically, the mega rich are mega richer," said *Forbes* senior editor Kerry Dolan.

BILL GATES

Dolan noted that the list's minimum net income increased to a pre-financial crisis level of $1.3 billion, up from $1.1 billion in 2012, with 61 American billionaires not making the cut. "In some ways, it's harder to get on the list than it ever has been," she said.

Microsoft Corp. co-founder Bill Gates remains America's richest man, tak-

See LIST'S Page 6D

List's minimum climbs to $1.3B

Continued from Page 1D

ing the top spot on the list for the 20th straight year, with a net worth of $72 billion, up from $66 billion a year ago.

Investor Warren Buffett, the head of Berkshire Hathaway Inc., posted another distant second-place finish with $58.5 billion, but increased his net worth from $46 billion. Oracle Corp. co-founder Larry Ellison stayed third with $41 billion and was the only member of the top 10 whose net worth was unchanged from a year ago.

Brothers Charles and David Koch, co-owners of Koch Industries Inc., stay tied for fourth with $36 billion each, up from $31 billion in 2012.

Wal-Mart heirs Christy Walton, Jim Walton, Alice Walton and S. Robson Walton took the next four spots.

North Texas billionaires

Twenty-two billionaires from Dallas-Fort Worth were named to the Forbes 400 list.

Rank	Name	Net worth in billions	Age	Residence	Source
8	Alice Walton	$33.5	63	Fort Worth	Wal-Mart
40	Harold Simmons	$10.0	82	Dallas	Investments
42	Andrew Beal	$9.8	60	Dallas	Banks, real estate
49	Elaine Marshall & family	$8.3	71	Dallas	Diversified
74	Ray Lee Hunt	$5.6	70	Dallas	Oil, real estate
93	Robert Rowling	$4.9	59	Dallas	Investments
103	Trevor Rees-Jones	$4.4	62	Dallas	Oil & gas
134	Ross Perot	$3.5	83	Dallas	Computer services, real estate
143	Kelcy Warren	$3.4	57	Dallas	Pipelines
166	W. Herbert Hunt	$3.0	84	Dallas	Inheritance, oil, real estate
166	Jerry Jones	$3.0	70	Dallas	Dallas Cowboys
193	Robert Bass	$2.8	65	Fort Worth	Oil, investments
209	David Bonderman	$2.6	70	Fort Worth	Private equity
209	Richard Rainwater	$2.6	69	Fort Worth	Real estate, energy, insurance
222	Mark Cuban	$2.5	55	Dallas	Online media
222	Timothy Headington	$2.5	63	Dallas	Oil & gas, investments
260	Edward Bass	$2.1	68	Fort Worth	Oil, investments
260	Lee Bass	$2.1	57	Fort Worth	Oil, investments
296	Ray Davis	$1.9	71	Dallas	Pipelines
296	Gerald J. Ford	$1.9	69	Dallas	Banking
314	Sid Bass	$1.8	70	Fort Worth	Oil, investments
314	Ross Perot Jr.	$1.8	54	Dallas	Computer services, real estate

SOURCE: *Forbes*

1717 Main St
Comerica Bank Tower

INCOME CAPITALIZATION

Principle: Market value is the present value of future benefits. For income-producing real estate, those benefits include the right to receive income during ownership and the right to resell the property at some point in the future.

Relation to Appraisal Principles:

1. Anticipation and Change

- Present value of future benefits = Value
- Change is constant

2. Supply and Demand

- Supply > demand, then price/rents 
- Demand > supply, then price/rents 

INCOME CAPITALIZATION (cont.)

Steps: 1. Analyze potential gross income

Gross Income includes all income from all sources, not just rent.

Types of Leases:

- Flat
- Variable
- Step-up or step-down
- Revaluation
- Annual Increase
- Percentage

Expense Allocations in leases

- Gross Lease
- Modified Gross Lease
- Net Lease

2. Consider and quantify appropriate allowances for future vacancy and credit loss ("V&CL").

   • Current conditions vs. stabilized conditions

3. Quantify and estimate all expenses necessary for the proper operation of the property:

   - Fixed Expenses
   - Variable Expenses
   - Reserves for Replacement (Y/N?)

4. Estimate net operating income ("NOI")

   - Variations of NOI include:
     - Pro forma
     - Trailing 12 months
     - Annualized

   Which one is "right"?

INCOME CAPITALIZATION (cont.)

Steps (cont):

5. Estimate "below the line" expenditures, on a year-by-year basis

   - Leasing Expenses
     - TI's
     - Leasing Commissions
   - Capital Expenditures
     - Include Reserves?

6. Convert NOI to a present value via capitalization

   - Direct Capitalization
     V = NOI ÷ OAR
   - Yield Capitalization
     aka: Discounted Cash Flow Analysis (DCFA)

REVIEW:

PGI

\- V & CI

= EGI

\- Expenses

= NOI ← THE "LINE"

\- Leasing Costs (TI's & Commissions)

\- Capital Expenditures

= Cash Flow

Strengths:

1. Most prevalent method used by institutional investors

2. Enables owners/managers to quantify and benchmark returns

Weaknesses:

1. Many variables results in numerous chances for error

2. Requires detailed knowledge of specific market and property characteristics

TYPICAL PRO FORMA OPERATING STATMENT

VERY NICE OFFICE BUILDING		
STABILIZED PRO FORMA		
(164,717 SF)		
Revenue	**Total**	**Per SF***
Potential Gross Rent (Contract)	$3,569,640	$21.67
Expense Recoveries	182,600	1.11
Potential Gross Income	3,752,240	22.78
Less: Vacancy Allowance (4.0%)	-150,090	-0.91
Total Effective Gross Income	3,602,150	21.87
Less: Expenses		
Cleaning & Trash	128,500	0.78
Repairs & Maintenance	265,000	1.61
Utilities	260,000	1.58
Roads & Grounds	40,000	0.24
Security	75,000	0.46
G & A	25,000	0.15
Management Fee @ 3.0% of EGI	108,065	0.66
Insurance	13,500	0.08
Taxes	325,000	1.97
Landlord Expenses**	28,000	0.17
Total Expenses	1,268,065	7.70
NET OPERATING INCOME	**$2,334,086**	**$14.17**
* Figures may not add due to rounding		
** Non-recoverable expense		

Income Capitalization: Valuation Methods

Once income has been estimated the next step in the valuation process, using the Income Capitalization Approach, is the actual "capitalization" of income into a value estimate. There are two generally accepted methods: Direct Capitalization and Yield Capitalization. Each will be briefly described in the following.

I. DIRECT CAPITALIZATION PROCESS

Upon estimating NOI, the next step is the selection of the proper Capitalization Rate from sales (i.e., "the market") and from survey data.

Capitalization rates ("Cap Rates"; "OARs") are used to value income producing real estate by "Direct Capitalization". Discount rates are used in "Yield Capitalization", more commonly referred to in the real estate marketplace as "Discounted Cash Flow Analysis" (or, "DCFA"). **Note: I will not test you on all of the rate/yield discussion on pages 448-449 of your handout.**

Direct Capitalization, at least on its surface, is a straight-forward, easy to understand and easy to apply valuation tool, because it requires one direct step, as depicted in the formula below:

$$V = \frac{I}{R}$$

Where: V = Value
I = Net Operating Income
R = Cap Rate

A cap rate is defined as "any income rate used to convert a single year's income into a total property value".

While there are numerous methods to estimate a cap rate, such as Band of Investment using mortgage-equity analysis, or land-to-building ratios with some form of Residual Technique, the most prevalent and generally the most supportable method to estimate a cap rate is from the sale of a comparable property: this process is defined as Direct Capitalization, as seen in the formula below:

	NOI	$800,000
÷	Sale Price	$10,000,000
=	Cap Rate	8.0%

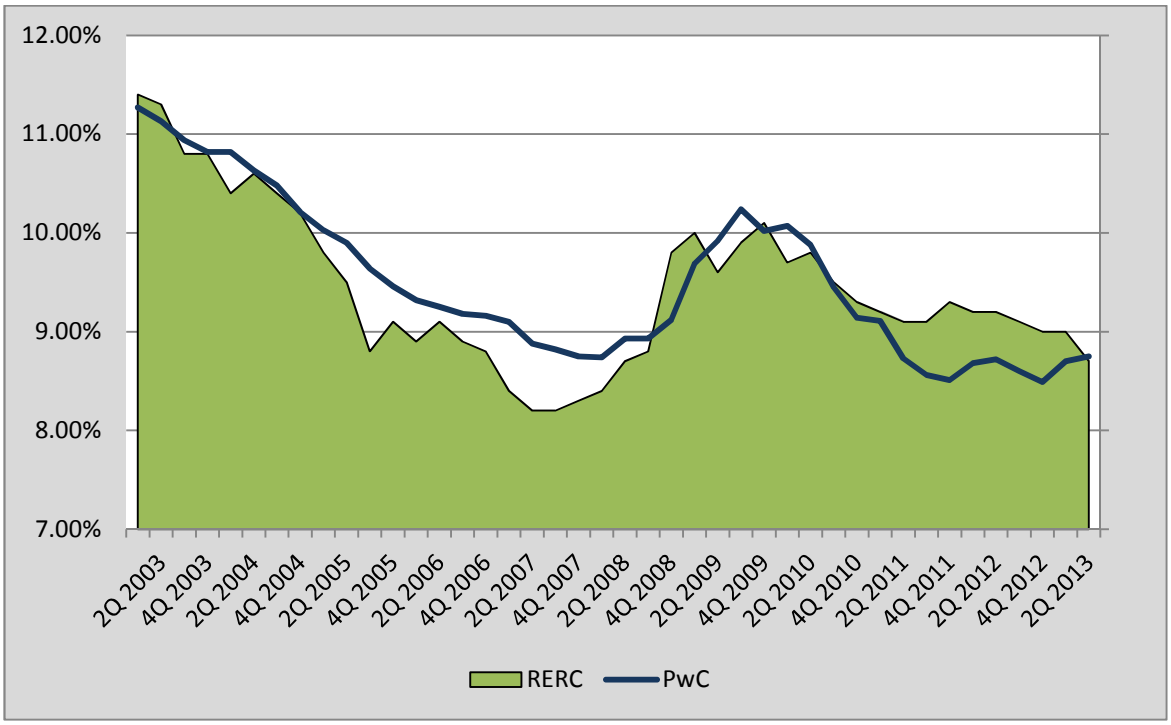
◆ Cap Rates from Sales Data

COMPARABLE OFFICE BUILDING SALES													
				PHYSICAL DATA			ECONOMIC DATA			SALES DATA			
Sale No.	Building Name/Address	DOS	Tenancy	YOC	Stories/ SF-NRA	% Occ.	EGI/SF	NOI/ SF	Exp/ SF	GIM (x)	OAR (%)	SP/SF	Comments
1	Millennium I/ 15455 Dallas Parkway, Addison	1 month ago	Multi/ A	1999	14/ 357,000	88 (p)	$20.95	$9.93	$8.82	6.18x	**6.75**	$147.06	Property was 88% occupied at date of sale. Amenities consist of bank and food service.
2	Granite Tower @ the Centre/ 4055 Valley View Lane, Farmers Branch	1 month ago	Multi/ A	1999	10/ 240,153	99 (a)	NAV	10.49	NAV	NAV	**7.50**	139.91	Purchased by CB Global Innovative Partners. Amenities include day care and a conference facility.
3	Premier Place/5910 N. Central Expressway, Dallas	3 months ago	Multi/ A	1986/ 1998	20/ 395,901	85 (p)	22.39	9.89	9.09	5.18	**7.25**	136.40	Property includes a fitness center located on top of the parking garage.
4	Chateau Plaza/ 2515 McKinney Avenue, Dallas	6 months ago	Multi/ A	1986	18/ 171,764	98 (a)	23.40	9.31	10.45	5.38	**7.58**	128.48	Dean Foods, which occupies 50%+ of building, has a termination option at any time after 12/03 with a penalty. Lease expires 12/05.
5	Parkway Centre II/ 2805 Dallas Parkway, Plano	9 months ago	Multi/ A	1999	6/ 151,988	98 (a)	23.04	12.03	7.40	6.18	**8.31**	144.75	Second phase of 2-building project along Dallas North Tollway. Purchaser assumed short term floating rate loan; considered cash equivalent.
(p) = pro forma (a) = actual													

SALE NO. 1	SALE NO. 2	SALE NO. 3	SALE NO. 4	SALE NO. 5
				

DIRECT CAPITALIZATION PROCESS

- **Survey Data on National (not Dallas) Cap Rates (suburban office)**



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DIRECT CAPITALIZATION PROCESS

◆ Direct Capitalization Problem

Data:

1. The comparable sales (presented earlier) are ranked below, in order of their comparability to subject:

   (1 = most comparable; 5 = least comparable)

Rank	Sale No.	OAR
1	3	7.25%
2	4	7.58%
3	5	8.31%
4	2	7.50%
5	1	6.75%

2. Assume that the preceding PwC/RERC survey data are representative of general investment characteristics from the national (not Dallas) market, about 7.50%

3. Subject's pro forma NOI is estimated at $2,334,086.

Question: What is your opinion as to subject's indicated value via Direct Capitalization?

II. YIELD CAPITALIZATION PROCESS (aka "DCFA")

This method specifically values the two benefits of owning income producing real estate: 1.) The periodic receipt of cash flows and 2.) The proceeds upon resale in the future.

Input Required:

1. Year-to-year forecasts of income and operating expenses ("above the line)"

2. Year-to-year forecasts of tenancy costs ("below the line")

    - Tenant improvements ("TIs")
    - Leasing commissions
    - Capital expenditures

3. Forecast of individual tenant's renewal probability

4. Holding period: The hypothetical period of property ownership

5. At end of holding period, property sold ("Reversion")

6. Discount Rate: In real estate, generally considered synonymous with unleveraged Internal Rate of Return ("IRR")

A discount rate is a yield rate used to convert anticipated future payments or receipts into present value. The resulting present value represents the amount of capital to be invested so that the investor's expected yield equals the specified discount rate.

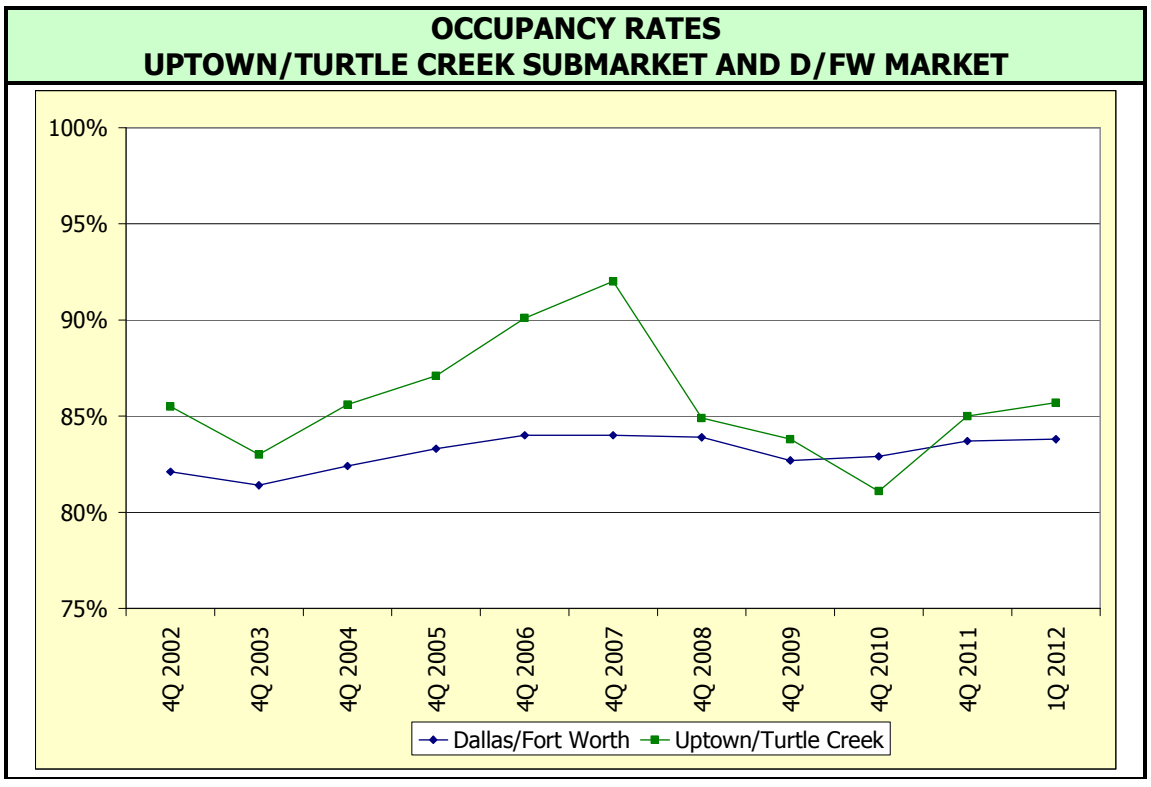
7. Lease-by-Lease ("LxL") Program

    - ARGUS
    - DynaLease
    - PRO-JECT
    - Customized

DCFA HOT SPOTS

◆ Income Forecasts

- Rate of increase - does income/rent ever go down? (See Dannis' Blog next page….)
- Market vs. Contract Rent
- Vacancy (and Credit Loss)



Question: From this day forward, what will occupancy average/be over the life of ownership?

Real Points

Daily Reports on Commercial Real Estate

Chuck Dannis: What if We Do Have Hyperinflation?

Category:
Economy
Author:
By Chuck Dannis
Post date:
September 10th, 2013 9:14am

Chuck Dannis

It doesn't matter where you are when you are discussing the current state of the commercial real estate market—be it at a high-powered convention, at a cocktail party, hanging out in your backyard, or sitting in a classroom. When the topic of "inflation" comes up, real estate folks start to get a tad nervous (inflation being defined as the change in the Consumer Price Index, or the "CPI").

This is not the forum to analyze what direct effect inflation has on real estate returns from an academic standpoint nor debate whether or not "real estate as an inflation hedge" works in all markets, all the time. But just as an refresher as to what happened when the United States did experience hyper-inflation, I did a quick look back at the time period of 1980-82, when this hyperinflation period is matched against certain local real estate price indices.

It is worth noting the U.S. only experienced inflation at these levels twice before: 1916-1919 and in 1946. (That does give me some comfort, I guess.) When I start comparing how certain segments of the real estate market reacted here in Dallas when we had this short period of hyperinflation, the conversation becomes quite interesting. The following chart shows the average annual percent increases for each year.

Year	Office Rents	Apt. Rents	Home Prices	Gross Retail Sales	CPI
1980	18%	9%	12.4%	NAV	16.9%
1981	23%	11%	10.2%	9%	11.4%
1982	11%	16%	14.1%	6%	5.7%
Note: Sources vary – see author					

If I was having the perfect real estate dream, I would have the hyperinflation of the early '80s, the low interest rates of the post-2008 recession, and full employment in the 6 percent range. Talk about sweet dreams. But, in realty, the way our economy is shaping up, I just hope real estate lives up to its reputation of being a hedge against inflation.

- Like 2

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1 comment

1. It will live up to its reputation and has replaced gold as the consummate hedge. Why should this cycle be any different than the multitude which have preceded it? With job and population growth having strong momentum and vacancies filling, it is only a matter of time before the developer/lender cowboys start absorbing land, the best hedge. Prices for well located, vacant tracts are still severely undervalued, many well under 2004 pricing. "Buy land, they aren't making any more of it".

   Good article, Mr. Dannis

   Robert Grunnah @ 1:25 pm on September 11, 2013

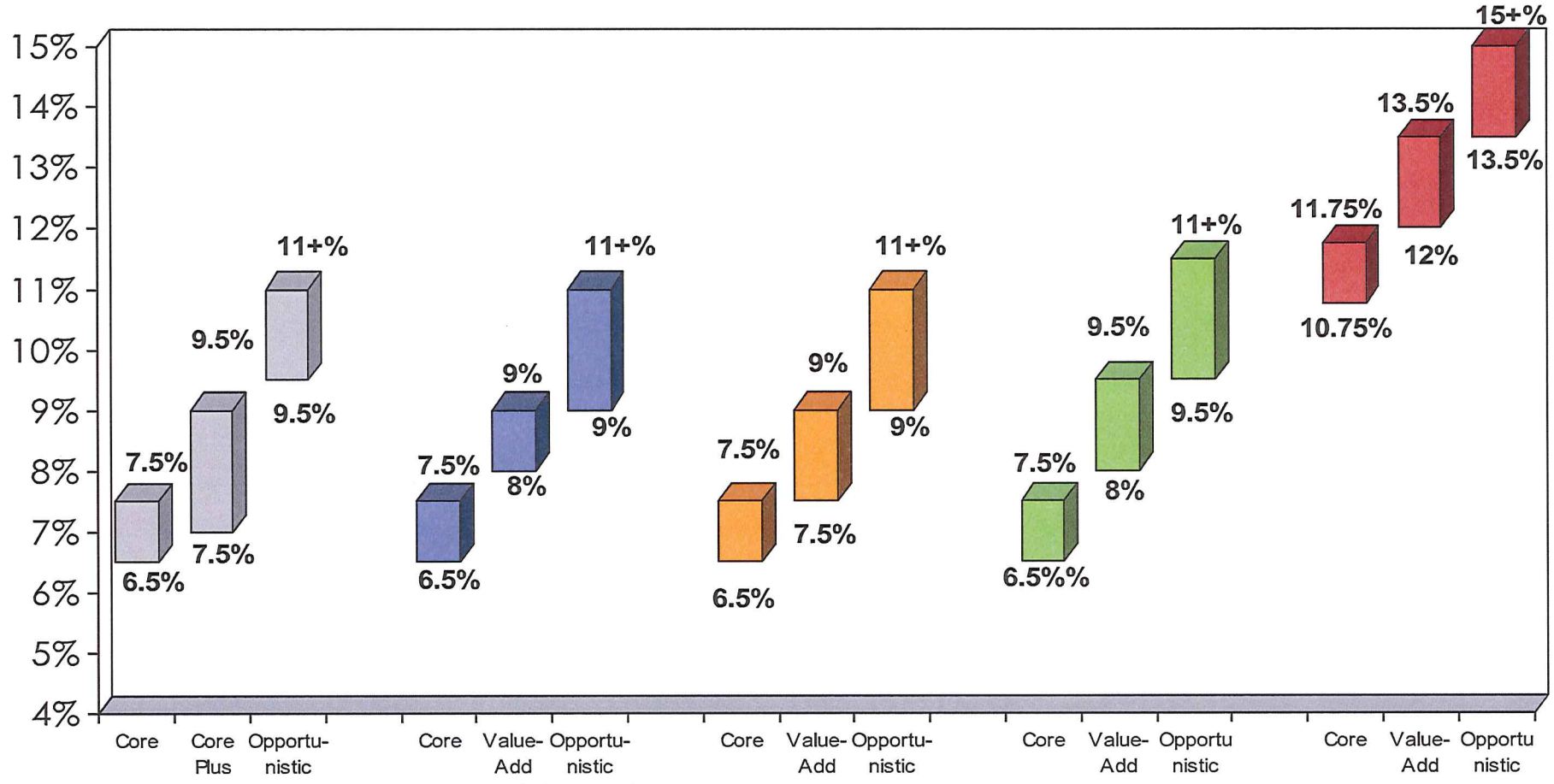
Leave a Comment

- **Expense Forecasts**
  - Rate of Increase (Decrease?)
  - Historical vs. Market norms - what's best benchmark?
  - Real estate tax adjustments
- **Tenant Retention Ratio**
  - Property-specific vs. market norms

- **TI's and Leasing Commissions**
  - New vs. Renewal (= weighted average)
  - Cyclical impacts
- **Holding Period**
  - What is typical vs. what is required (i.e. client specific) vs. what is logical?
- **The "Reversion"**
  - What is it?
  - How is it estimated?
- **Discount Rate**
  - What is it?
  - Where do you get it? (See overhead)

Capital Markets Overview

"All Cash" IRR Yield Targets by Asset Class



Initial Yield:	6.0% - 6.5%	5.5% - 6.5%	4.5% - 5.0%	6.0% - 6.5%	4.0% - 6.0%

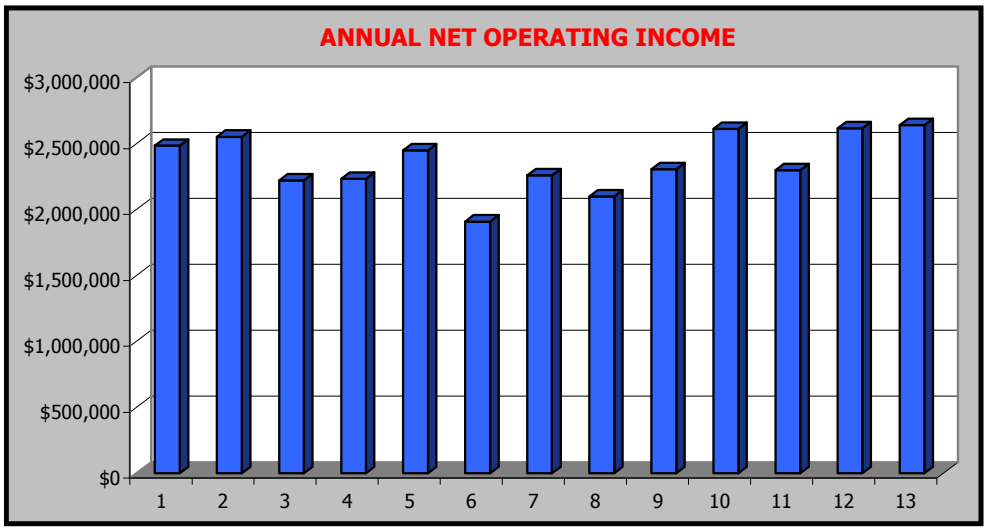
Source: HFF, April 2012

Here's the DCF on our "Very Nice Office Building":

SCHEDULE OF PROSPECTIVE CASH FLOW

In Inflated Dollars for the Fiscal Year Beginning 2/1/2006

For the Years Ending	Year 1 Jan-2007	Year 2 Jan-2008	Year 3 Jan-2009	Year 4 Jan-2010	Year 5 Jan-2011	Year 6 Jan-2012	Year 7 Jan-2013	Year 8 Jan-2014	Year 9 Jan-2015	Year 10 Jan-2016	Year 11 Jan-2017	Year 12 Jan-2018	Year 13 Jan-2019
POTENTIAL GROSS REVENUE													
Base Rental Revenue	$3,565,655	$3,618,143	$3,537,665	$3,546,899	$3,621,019	$3,634,800	$3,594,108	$3,804,474	$3,977,756	$4,109,926	$4,224,256	$4,417,050	$4,531,572
Absorption & Turnover Vacancy			(210,231)	(153,458)		(482,262)		(288,075)	(207,158)		(405,848)	(157,823)	(234,425)
Scheduled Base Rental Revenue	3,565,655	3,618,143	3,327,434	3,393,441	3,621,019	3,152,538	3,594,108	3,516,399	3,770,598	4,109,926	3,818,408	4,259,227	4,297,147
Expense Reimbursement Revenue													
Cleaning/Trash	19,012	24,689	23,446	21,662	25,224	20,438	16,220	11,421	11,809	13,899	15,424	8,701	12,583
Repairs & Maint.	39,206	50,916	48,354	44,676	52,020	42,148	33,450	23,553	24,353	28,666	31,804	17,943	25,948
Utilities	38,468	49,954	47,438	43,833	51,038	41,353	32,818	23,108	23,895	28,124	31,204	17,605	25,460
Roads & Grounds	5,916	7,686	7,297	6,744	7,853	6,361	5,048	3,556	3,675	4,327	4,800	2,709	3,919
Security	11,096	14,408	13,685	12,646	14,721	11,929	9,468	6,665	6,892	8,113	9,000	5,078	7,345
G & A	3,698	4,803	4,563	4,214	4,907	3,975	3,155	2,222	2,298	2,704	2,999	1,693	2,448
Management	16,627	21,372	18,427	16,703	19,917	13,940	11,802	7,877	8,473	10,478	11,031	6,176	9,277
Insurance	1,997	2,592	2,464	2,276	2,652	2,147	1,705	1,199	1,241	1,460	1,620	916	1,322
Real Estate Taxes	46,603	60,522	57,476	53,106	61,834	50,101	39,760	27,996	28,951	34,071	37,804	21,326	30,844
Total Reimbursement Revenue	182,623	236,942	223,150	205,860	240,166	192,392	153,426	107,597	111,587	131,842	145,686	82,147	119,146
TOTAL POTENTIAL GROSS REVENUE	3,748,278	3,855,085	3,550,584	3,599,301	3,861,185	3,344,930	3,747,534	3,623,996	3,882,185	4,241,768	3,964,094	4,341,374	4,416,293
Collection Loss	(1,608)	(1,376)	(1,135)	(1,271)	(1,318)	(1,202)	(1,394)	(1,302)	(1,479)	(1,600)	(1,471)	(1,680)	(1,646)
EFFECTIVE GROSS REVENUE	3,746,670	3,853,709	3,549,449	3,598,030	3,859,867	3,343,728	3,746,140	3,622,694	3,880,706	4,240,168	3,962,623	4,339,694	4,414,647
OPERATING EXPENSES													
Cleaning/Trash	128,500	132,355	136,326	140,415	144,628	148,967	153,436	158,039	162,780	167,663	172,693	177,874	183,210
Repairs & Maint.	265,000	272,950	281,138	289,573	298,260	307,208	316,424	325,917	335,694	345,765	356,138	366,822	377,827
Utilities	260,000	267,800	275,834	284,109	292,632	301,411	310,454	319,767	329,360	339,241	349,418	359,901	370,698
Roads & Grounds	40,000	41,200	42,436	43,709	45,020	46,371	47,762	49,195	50,671	52,191	53,757	55,369	57,030
Security	75,000	77,250	79,568	81,955	84,413	86,946	89,554	92,241	95,008	97,858	100,794	103,818	106,932
G & A	25,000	25,750	26,523	27,318	28,138	28,982	29,851	30,747	31,669	32,619	33,598	34,606	35,644
Management	112,400	115,611	106,483	107,941	115,796	100,312	112,384	108,681	116,421	127,205	118,879	130,191	132,439
Insurance	13,500	13,905	14,322	14,752	15,194	15,650	16,120	16,603	17,101	17,614	18,143	18,687	19,248
Real Estate Taxes	315,000	324,450	334,184	344,209	354,535	365,171	376,126	387,410	399,033	411,004	423,334	436,034	449,115
Landlord's Expenses	28,000	28,840	29,705	30,596	31,514	32,460	33,433	34,436	35,470	36,534	37,630	38,759	39,921
TOTAL OPERATING EXPENSES	1,262,400	1,300,111	1,326,519	1,364,577	1,410,130	1,433,478	1,485,544	1,523,036	1,573,207	1,627,694	1,664,384	1,722,061	1,772,064
NET OPERATING INCOME	2,484,270	2,553,598	2,222,930	2,233,453	2,449,737	1,910,250	2,260,596	2,099,658	2,307,499	2,612,474	2,298,239	2,617,633	2,642,583
LEASING & CAPITAL COSTS													
Tenant Improvements			381,951	287,822		829,042		484,321	367,345		170,869	813,924	86,057
Leasing Commissions			175,251	134,626		410,658		239,903	181,962		84,639	403,170	42,627
Capital Reserve	16,472	16,966	17,475	17,999	18,539	19,095	19,668	20,258	20,866	21,492	22,137	22,801	23,485
TOTAL LEASING & CAPITAL COSTS	16,472	16,966	574,677	440,447	18,539	1,258,795	19,668	744,482	570,173	21,492	277,645	1,239,895	152,169
CASH FLOW BEFORE DEBT SERVICE & TAXES	$2,467,798	$2,536,632	$1,648,253	$1,793,006	$2,431,198	$651,455	$2,240,928	$1,355,176	$1,737,326	$2,590,982	$2,020,594	$1,377,738	$2,490,414


ANNUAL NET OPERATING INCOME
$3,000,000
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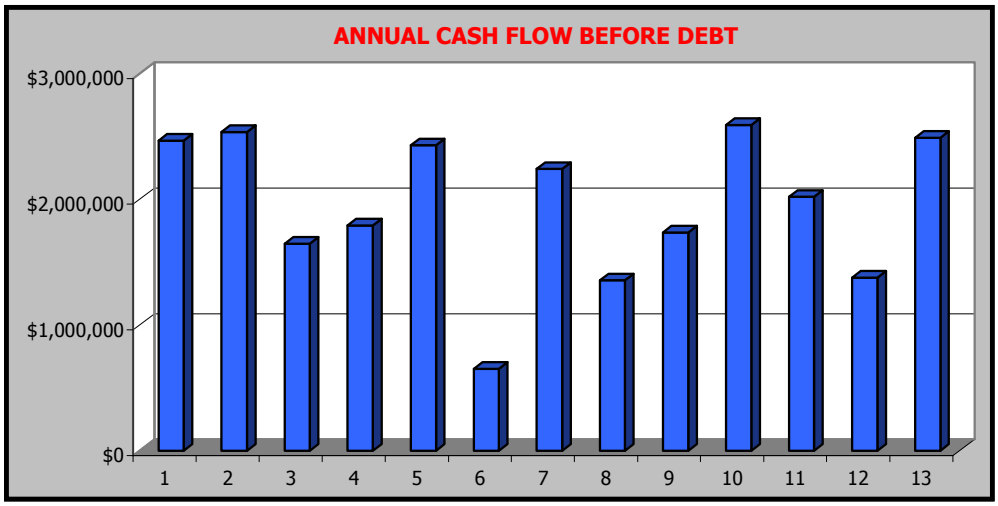
ANNUAL CASH FLOW BEFORE DEBT
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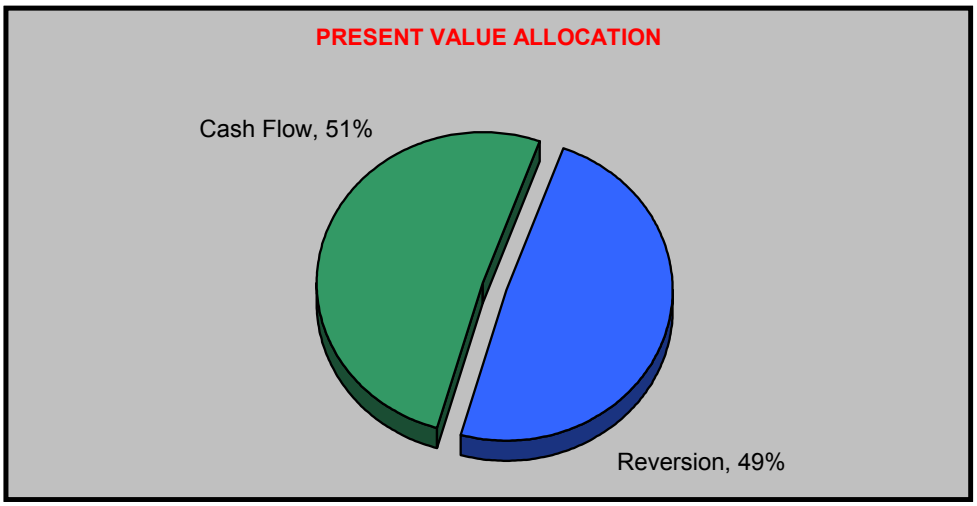
PRESENT VALUE ALLOCATION
Cash Flow, 51%
Reversion, 49%

For Our "Very Nice Office Building," the DCF results in the following range of values, using a range of Exit Cap Rates and Discount Rates:

RESALE - CAP RATE MATRIX

Cash Flow Before Debt Service plus Property Resale in Year 12 Jan. 2018

Discounted Annually (Endpoint on Cash Flow & Resale)

For the Cap Rates	Net Proceeds From Sale	P.V. of Property @ 7.75%	P.V. of Property @ 8.00%	P.V. of Property @ 8.25%	P.V. of Property @ 8.50%	P.V. of Property @ 8.75%
7.25%	$36,211,355	$29,640,652	$29,053,945	$28,482,810	$27,926,777	$27,385,391
7.50%	35,004,310	29,147,801	28,574,611	28,016,592	27,473,288	26,944,255
7.75%	33,875,139	28,686,746	**28,126,202**	27,580,453	27,049,057	26,531,580
8.00%	32,816,541	28,254,507	27,705,818	27,171,573	26,651,340	26,144,697
8.25%	31,822,100	27,848,465	27,310,912	26,787,473	26,277,727	25,781,261

Ultimately, it is the purchaser/investor/valuer's judgement as to which of these market returns result in the best supported estimate of market value.