

Real Estate Capitalization Rates-Decoded (7/1/2014)

Most of you reading this paper are real estate lenders, consultants, advisors, and individual principal investor or, a combination of the above. The valuation techniques we are about to discuss should be a part of your DNA and in your investment calculus regardless of standing in business or personal life.

The capitalization rate is our universal metric of value for all income producing properties and the more we can mutually share or provide information on this subject with each other, the better for us all, our partners and our families.

I hope you read the enclosed paper with interest and enthusiasm.

The objective of this writing is to define,, and then build upon what a capitalization rate really is, it's varied aspects to approach valuation and, most importantly, the intra-perspective of these relationships with and to each other.

The capitalization rate is a single number, recognized as a fraction of the purchase or sales price and then expressed as a percentage to value of a target investment. You all know that, right? I just had to say it anyway and get that out of our way.

To properly evaluate your investment or acquisition, you need to develop a capitalization rate to apply to the existing or reconstructed net income of the property. It can be done two ways; one method is technical and the other method is based on investor behavior. The following paragraph below refers to the technical approach. The rest of this article is all focused on the behavioral approach.

Defining a Cap Rate

For appraisers, this valuation calculation is very mathematical in theory as well as in practice; (i.e. Capitalization is the process of converting an income stream into a lump sum capital value. The capitalization rate is the sum of the discount rate (i.e. Risk Premium Rate and the capital recovery rate (i.e. Safe Rate). In other words a return *on* and *of* invested cash. Appraisers arrive at capitalization rates principal three ways depending on their valuation assignments.

The Ring Factor - Straight Line Capital Recovery
The Hoskold Factor-Sinking Fund Capital Recovery
The Inwood Factor-Level Annuity Capital Recovery

I promise not to further bore you with mathematical algorithms or calculus formulas as often practiced in these academic circles.

As a common example of a capitalization rate, the mortgage constant (i.e. annual principle and interest payments combined and divided by the original loan amount, is an everyday example of a capitalization rate. Also, the Price/Earnings ratios of stocks you hear about all the time on TV and see in the financial newspapers are nothing more than an inverted capitalization rate expressed as a multiplier instead.



For our purposes, we will focus on cap rates as a determinant of value obtained thru the resources and data provided by the financial and sales markets and not thru mathematical "Ellwood" discount tables required of Ring, Hoskold, or Inwood.

This valuation rate is a great determinant and metric for the "fair" market value of a real property if it is an income producing asset. The word "fair" quoted above indicates that the market quotation (asking price) for a real estate investment is not necessarily a determinative value! There can be many nuances that may exist which result in temporary value distortions or adjustments such as political, macro-economic and/or human behavioral quirks within a specific market at a particular time that can significantly change the ultimate pricing. These nuances are all a part of the capitalization rate component known as the "Risk Premium" (more on that later).

An appropriate quote from the U.S. Treasury (1982) is:

"A determination of the proper capitalization rate presents one of the most difficult problems in valuation. Not only does the cap rate fluctuate from year to year, it also fluctuates within its own sector!"

Developing a Cap Rate

Key to our scripted conversation of this paper is to gain a collaborative and universal perspective as to what material and relevant factors are built into the final or overall cap rate that you will need to use evaluate your new or upcoming existing investment opportunity. This rate is just one single number, but it's makeup is truly a double helix. That is, like a screw thread, the overall cap rate is mutually intertwined at its base. This combined base is:

A Safe Rate: This is the opportunity cost component based upon a preselected "safe" index wherein there is almost 100% certainty that this portion of investment will come back to you in whole at some point in time, risk free. Such an index may be the 3, 5 or 10 Year Treasury, Baa rated corporate bonds or alternatively, SWAPS (which is a mutual exchange of currencies expressed as a ratio to each other).

A Risk Rate: This is an additional premium added on and to the safe rate mentioned above to compensate for:

1. Illiquidity
2. Upcoming governmental redevelopment, regulatory and entitlement costs required of the targeted investment (if any)
3. Constantly changing Tenant Profiles and Related local market trends
4. Investor Behavior and their Psychological Quirks
5. U.S. and Local Inflationary Expectations
6. Interest Rates and their Future Expectations whether to rise or fall

In summation, the combination of the Safe Rate and Risk Premium Rate will equal the overall Capitalization Rate to value the properties' net operating income before debt service.

The first four (1, 2, 3, and 4 above) are a significant part of the risk premium. These specific issues are subject to investor and judgmental sentiment and will vary with each building acquisition.



1. Illiquidity

The inherent illiquidity of real estate ownership will increase or decrease free cash flow depending on Federal Monetary Policy that directly and indirectly affects the motivation of bank lending and underwriting; the availability of supply and competition of Securities conduit loan products created via Wall Street Investment Banks, and; Private Hedge Fund commercial lenders. All of these sources are competing to loan you money if you and/or the project qualify.

For office properties over 100,000 square feet as studied here, regional banks are minor finance players unless syndicates are formed. These syndicates can be expensive and complex due to varying and competing individual lender motivations.

2. Government Redevelopment

The building of offsite and onsite infrastructure or rehabilitation costs are necessary for many newly acquired properties, some projects costing much more than others. Regulatory restraints together with rising environmental thresholds by government mandates can cause significant delays and increased acquisition costs including legal, consulting, planning and building permit approvals. This “uncertainty” of third party approvals can have a major effect on the level of risk premium built into and added to your acquisition costs and the overall final cap rate required to compensate you. Be aware that even for cosmetic upgrades, properties will be subject to environmental review even if they are not historic or even located in a historic district. Additionally, even with a negative declaration report conclusion, the city can still disallow your quest in San Francisco.

3. Tenant Requirements

As corporate businesses change their priority planning from the manufacture of technical hardware to say, software development as in the San Francisco Bay Area, office-tenant profiles will change as well.

Academic campuses can also influence and draw new skilled employee availability to an area, which in turn will attract out of area employers to relocate to our community. This new employment profile brings with them these new skill sets and can change tenant build-out requirements in many cases. San Francisco has seen a major shift to this phenomenon. These changes in tenant build-out requirements can substantially increase building turnover and related leasing costs or, in a worst case scenario, can even render some properties physically or economically obsolescent to the newly modified leasing market. The economic reason here is that it would cost more to build-out for that type tenant than current market rents tenants are willing to pay. Physical example would be a building with no auto parking available and a tenant business with a high employee count whose workers are from out of the area. There are many other examples of these types of obsolescence that are common in every locale, both citywide and nationwide.

The three categories discussed above are risk assessments that are cost driven that must be considered in order to develop a cap rate for building valuation or for that matter, even to purchase at all! The subsequent three risk premium components (#4, #5, #6) outlined on page 2 are more market driven.



4. Investor Behavior

There are three areas of human behavior that influence the risk premium component of a cap rate. They are:

Investor Perception: Reliance on “gut” judgment of an investment

Investor Comparison: An investor’s logical comparison to other similar investments as to rate of return

Investor Sentiment: The emotional weight an investor puts to the risk premium (Intrinsic Value)

We’ll talk about “comparison” later in more detail on page 7 but investor perception mentioned above is one human “quirk” that can make or break grounded investment judgment. Three (3) behavioral perceptions come to mind as classic examples as applied to real estate acquisitions quirks:

Principles of Risk Judgment

1. **Gambler’s Fallacy:** (The tenancy to over-predict)
Example- Heads or Tails! The first five tosses come up heads. Perception: The sixth toss has to be a tail right? Wrong! Odds are equal 50/50.
2. **Winning Streaks:** (Process of Observation)
Example: LeBron James of the Heat hits 90% of his 3 pointers. He’ll hit the next shot for sure because as he is on a hot streak versus a prior cold streak where he only hits 70%. Right? Wrong! Odds are still equal 50/50.
3. **Recency Bias:** People give more weight given to recent events versus distant events on the same type: (old sales comparables versus new) Right? Right.

These are all emotional tags (reactions) that we characteristically attach to objects and concepts. Investment decisions carry these same tags.

Observation: Cap Rate conclusions should more predictive, more empirical and less emotional.

There are other fickle areas such as investor momentum behavior you must be aware of and sensitive to as well. The stock market is a great example of investment momentum..... the school of fish collaboration theory phenomena. They all move in sync together at the same time with their decisions and actions.

5. Interest Rates

Every informed investor, including you, have a theory of where you think interest rates may be going in the next one (1) to three (3) years. For sure, if I knew and could predict them, I wouldn’t be writing this paper, I’ll be on the beach or golf course in Maui.



Most investors look to today's events (fiscal, monetary, political and geo-political) to help form an opinion to anticipate future rates..... as they should!

However, a treasure trove of empirical evidence to formulate an informed prediction of interest rates is buried in the historical past and lies right under your nose.

Consider the following combined display of facts following here that track historical U.S. Treasury Rates-10 year married to their respective periods of duration of their high/low cycles.

<u>Cycle</u>	<u>Period</u>	<u>Rate Peak</u> (10 Year Treasury)	<u>Rate Bottom</u> (10 Year Treasury)	<u>Cycle Term</u>
1	1977-1981	16%	11%	4 Years
2	1981-1983	11%	9%	2 Years
3	1983-1987	9%	6%	4 Years
4	1987-1994	6%	5%	7 Years
5	1994-2000	5%	5%	6 Years
6	2000-2006	5%	4%	7 Years
7	2006-2013	4%	1.4%	7 Years

For the historical decade from 1977-1987, 10 Year Treasury Rates peaks went from 16% to 6% and the consecutive 3 cycles were about 2-4 years in duration each-fairly short. From 1987 thru today, rate peaks went from 6% to 1.4% and the consecutive cycles were about 7 years each-fairly long. These cycle periods endured five (5) separate recessions so these cycles have gone thru thick and thin.

In July of 2012, the 10 Year Treasury Bond interest rates hit close to it's 1.4% nadir and since are already at 2.5% and on their way up from there. If 26 years ('87-'13) of four historical interest rate cycles (Peak to Peak) are approximately seven (7) years each consistently, doesn't that foretell another potential high interest rate peak in 3-3.5 years 2016-2017 considering we were at our interest rate low point in 2012?

Whether you are building, interpreting or predicting a capitalization rate, interest rates do have influence on building the Cap Rate valuation metric. This is where historical data can really help you but good judgment is also important too to balance the impact of that influence. Here's why:

What would push the cap rate up is an increase in the 10 Year Treasury Rate (the Safe Rate mentioned early on). If the 10 Year Treasury rises say 100 basis points (1%), long term mortgage rates will respond with a 40 basis points increase (40% of 1%) based on empirical studies at Freddie Mac (Federal National Mortgage Association). This then reduces cash flow on leveraged real estate (most real estate is leveraged to some degree for tax reasons). This in turn will push up the overall cap rate by about 40% of the Mortgage Rate Increase (40% of 40%) as cash flow is now less (The higher the cap rates the lower the value).

Observation: Changes up or down in cap rates are considerably less than the stated changes in Treasury and mortgage interest rates.

The offset that would push the cap rate back down is increased market place activity. Higher Treasury Yields (Interest Rates) are a reflection of and are a direct monetary response to



increased economic growth and worker productivity in the absence of, or even with, moderate controlled inflation. This domestic growth produces local employment which in turn fills office buildings, reduces vacancy and increases rents which in turn offset the higher debt service interest costs caused by the increasing interest rates. This then lowers the overall cap rate as cash flow is now replenished via higher rents and lower vacancy (the lower the cap rate, the higher the value).

Observation: Your judgment call here is based upon your “informed” assessment of the market.

6. Inflation

Historically there has been a correlation between Federal Reserve Monetary Policy and inflation (Parallel Fiscal policy is up to Congress and the President which fiscal discipline is currently non-existent). Monetary Policy can take different forms depending on the Federal Reserves’ strategy to induce inflation which up to a point (2-3%) is indeed healthy for the overall economy.

A portion of risk premium in the cap rate formula is to be set aside for investor inflationary expectations however, as stated earlier, even though inflation does affect risk spreads, the risk premium increase is not as drastic as often thought. Inflation’s presence doesn’t reduce the cap rate but it doesn’t increase the cap rate a lot either as long as you have already accounted for an adequately conceived, built-in “risk-rate of return” -buffer. Ben Graham, the financial wizard circa 1934-1974, calls this risk premium the “margin of safety”.

To demonstrate this, here are the periodic protective risk spreads (buffers) in cap rates actually used during high, moderate and low inflation periods over the past 35 years:

Year:	1978	1983	2001	2008	2012	2013
<u>National Overall</u>						
Office Cap Rates:	8%	6%	9.6%	7.1%	7.1%	7.0%
10 Year Treasury:	16%	9%	5.0%	3.5%	1.8%	2.5%
Risk Spread: (Margin of Safety)	-8%	-3%	4.6%	3.6%	5.3%	4.5%

You can readily see, the “spread buffers” or “margin’s of safety” are the investor’s shock absorber that protects your return of principle invested plus a minimum safe rate of interest as well. Note, these buffers (Risk Premiums) are fairly constant during all the periods 2001-2013 (3%-5% on a national level). In the late 70s and early 80s, inflation was 7-8% as were cap rates the same or slightly higher by 100 to 150 basis points depending on the property and location. . More on this important point on page 7.

Risk Premium and Overall Cap Rate Summary

As you can see from our previous discussion, three (3) of the risk components (Illiquidity, Redevelopment Costs and Tenant Profile) are more cost driven and the risk premium importance given them is very relevant but can be very subjective as to each project’s locale, character and respective cost impact.

As you can now see, the remaining three (3) risk components (Investor behavior, interest rates and inflationary expectations) are also very important and not as volatile as you would expect based upon empirical review and historical data above.



There is however, a number 7 ingredient not previously mentioned in the risk spread components discussed above. That is the external national economic and political influences upon our local market as versed to other markets. More vulnerable markets like Oklahoma City or DeMoines may be more severely impacted by national trends and policies versus San Francisco/Silicon Valley which is fortunate enough to be in a technological innovation and economic capsule not directly affected by or dependant upon, national trends and events. Therefore, the risk premium in cities more affected by, national trends may require additional weight given onto the cap rate (say 50% local and 50% national) versus San Francisco which would be 75% local and 25% national influence. That's why national cap rates usually exceed those of the San Francisco Bay Area.

The following chart outlines this fact along with a summary of Historic Risk Premiums:

**Commercial Office
-13 Year History-
Risk Premium Spreads**

<u>Year</u>	<u>San Francisco Cap Rate</u>	<u>10 YR Treasury</u>	<u>Risk Premium</u>	<u>Risk Exposure Overall Rate</u>
2001	9.10%	5.04%	4.06%	44%
2002	9.30%	4.51%	4.79%	51%
2003	7.23%	4.04%	3.19%	44%
2004	5.43%	4.33%	1.10%	20%
2005	6.52%	4.30%	2.22%	34%
2006	7.76%	4.73%	3.03%	39%
2007	5.25%	4.57%	0.68%	13%
2008	5.76%	3.51%	2.25%	39%
2009	6.75%	3.17%	3.58%	53%
2010	5.46%	3.26%	2.20%	40%
2011	7.28%	2.80%	4.48%	61%
2012	6.38%	2.10%	4.54%	71%
2013	6.26%	2.50%	3.70%	59%
San Francisco Average:	6.80%	3.74%	3.06%	44%
National Average:	7.74%	3.74%	4.04%	52%

To tie all this together; you start with the safe rate described on page two of this paper. That would be the 10 Year Treasury Rate in our model (2.5% or 250 basis points). Then we build upon the base rate from there which include the seven ingredients of the "risk premium" (3.3%-330 basis points). This risk premium in our example is an average of the San Francisco office market broken down as follows:



<u>Risk Component</u>	<u>Basis Points</u> (1%=100 Basis Points)	<u>% of Risk Premium</u>
1. Illiquidity of Asset:	30	9%
2. Rehabilitation Costs:	35	10%
3. Tenant Requirements:	15	4%
4. Investor Behavior/Judgments:	45	14%
5. Interest Rate Anticipation:	55	17%
6. Inflationary Expectation:	70	21%
7. National vs. Local Influences:	80	25%
Risk Premium Basis Points:	330	100%

Risk premiums for a 100,000 square foot plus commercial office property-downtown San Francisco should, on balance, require an average risk premium of 275 to 375 basis points above the 10 Year Treasury depending on the specific property. When the treasury rate eventually tops 6% interest the risk spread should drop 100 to 150 basis points for and top out at a maximum overall cap rate of 8-8.5% similar to the 1970s experience. The current built-up cap rate for San Francisco is 2.50% Safe Rate and 3.30% risk rate for an overall built-up cap rate of 5.80% as of July 2013 as detailed above.

Market Sales and the Comparison of their Respective Capitalization Rates

Having the requisite knowledge to build a realistic overall cap rate from scratch as reviewed and constructed above carries enormous influence on your valuation judgment when deciding what price to offer in your upcoming investment purchase or existing ownership building valuation.

Nonetheless, if we digress back into behavioral psychology, we, as investors, want to know what others are doing too. We want to know how we stack up. Are we overpaying or getting a good deal? Compared to what? No matter how empirically we formed our perfect cap rate as per above we must mentally justify to ourselves and others that we made a good decision at the right price at the right time. These are the “green shoots” of market analysis and human psychology that nothing will change.

Based upon the previous analysis we developed a cap rate of 5.80% for a San Francisco office acquisition based on today’s spreads (10 Year Treasury 2.50% plus 330 spread basis points).

To cross check the above conclusions, Baner Financial Interests has developed a ***capitalization rate market comparison model***. I will share it with you.

It is premised upon a financial recreation of each office sale’s income stream before debt (net operating income) this income stream requires that market rate leasing rents established today must be investigated 8-10 years back, as do comparable building sales as well . When you go this far back, you start to see the same buildings being resold together with repetitive leasing patterns. This provides you solid historical gross revenue, sales data and investment trends going forward (*Regardless of what some say is the “new normal”, we don’t change much in our habits at all*).



Next, vacancy factors over this 8-10 year period need to be examined so as to qualify (and quantify) the past and current impact of Treasury and Mortgage interest rates, inflation, construction in progress and competition coming online, all to be aligned with fluid national and local policies and their resultant affects to our local market.

Operating Expenses need to be segregated as to building operations, utilities and taxes. These categories, as a rule, do not correlate and must be treated separately year by year. Very importantly, Proposition 13 reassessments on new acquisitions must be accurately incorporated to each sale so as not to over or under estimate this impactful expense to building operations.

The resultant Net Operating Income (NOI) for each property is then finally divided by the recorded purchase price which, as a matter of practice, must be cross-checked for accuracy by two (2) to three (3) separate sales comparable sources (the disparities here can be alarming). Also, each sale should be physically viewed and internally graded (on a scale of 1-10, 10 being the best) to ascertain no major nuisances that could distort or adversely affect data obtained or, could render the sale useless for relevant comparison purposes. I call these "outliers".

By dividing this reconstructed market NOI by the verified sales price of each property sale, you now have what I call, a "Raw" Cap Rate. But rather than take an average of say 35 sales in the year (which is what a raw cap rate represents), the building sales must be weighted as they all relate to one another by square footage (i.e. a 105,000 square foot building with a 6% Cap along with a 755,000 square foot building with a 5% Cap should not reflect an average of a 5.5% cap conclusion). It should be a weighted 5.12% Cap so as to treat all buildings as a proportional percentage of the whole. This prevents a minority of a few significant outsized sales from overwhelming and distorting reliable general marketplace conclusions.

Using the methods above for all 164 sales mined and correlated within San Francisco Financial District office buildings since 2003, the "raw" and weighted cap rate comparable conclusions are as follows:

San Francisco Sales/Cap Rates

	<u>Raw Cap</u>	<u>Weighted Cap</u>	<u>Use</u>
2003	7.23%	7.23%	7.2%
2004	5.85%	5.43%	5.5%
2005	6.98%	6.52%	6.6%
2006	7.94%	7.76%	7.8%
2007	5.83%	5.25%	5.5%
2008	6.34%	5.76%	6.0%
2009	8.10%	6.75%	7.0%
2010	6.19%	5.46%	5.6%
2011	7.83%	7.28%	7.4%
2012	6.38%	6.38%	6.4%
2013	6.72%	6.26%	6.2%



So we now have empirically concluded, the built-up and market overall cap rates for the San Francisco Financial District and environs. They are:

Built-Up Rate= 5.8%
Market Rate= 6.2%

Where does all this leave us going forward?

For San Francisco

1. **Liquidity:** Now thru 2017, Commercial Real Estate financing will be fluid and readily available through a variety of sources, especially in the securitized Conduit CDO and CMBS markets.
2. **Regulation:** More restrictive and expensive than ever. Add at least 1-3 months to your existing approval process just for rehabilitation. New development entitlements could take up to 3-31/2 years in San Francisco.
3. **Tenant Profiles:** For 2013 and 2014, open space is the new preference for the tech related companies. They represent 60% of the market soon to be 40-45%. Financial, Legal, financial and some institutional tenant companies are simplifying their current space build-out requirements to be more efficient being forced to by rising rents.
4. **Investor Behavior:** For the 100,000 square feet plus office market, Equity REITS and Foreign Joint Ventures with local talented operating partners will predominate equity capital with San Francisco a prime and very targeted investment locale for all.
5. **Inflation:** Will remain flat for a year or so (2013 into 2014) as current business investment and their spending sentiment is not as optimistic or enthusiastic as our government and Wall Street might see it.
When the money printing stops and, as I said in my previous newsletter in January 2013, by warning of this stoppage which will be announced in the summer (as it was) money printing by The Federal Reserve will start to slowdown in the fall of 2013.
Expect a large rotation of cash into real estate when this happens from not only the investors already in the bond market but from Wall Street investors too. This further correlates with #1 above regarding the liquidity of San Francisco real estate on the equity side. Inflation will then pick up in 2014 to 3%-3.5% from the current 1.8%-2%. This increase will be very bad for stocks as they don't do well in inflation and very good for real estate as it historically performs very well in inflation and likes it.
6. **Interest Rates:** Will be erratic but will show a trend line up, up and up. The 10 Year Treasury, a U.S. benchmark was, 60 days ago-1.7%; today 2.5%; end of 2013 3.2%; 2014 3.7%; 2015 4.2%; 2016 5% and 2017 5.5%. This is where the next rate peak should occur (see page 5).



Summation

Overall Capitalization Rates for San Francisco will continue to improve by staying the same or going lower in the near term despite their rising higher (thus lowering values) in 2015-2016 when many high-rises and large blocks of office space come online at once locally. Fortunately, San Francisco's net employment growth will soften the increased supply impact leaving capitalization rates and rents about where they are or a little higher (see page 3). This rent increase phenomena is additionally influenced by all-in development land and construction costs which are currently "perceived" to be \$650 per square foot requiring \$70 rents will in reality turn out to be \$750-\$800 per foot requiring \$80-\$85 rents per square foot per year. This will help pull up the rest of the existing inventory in the leasing market.

There you have it! Cap Rates-Decoded.

William B. Baner
Managing Member
Baner Financial Interests