

THE NINE PERCENT SOLUTION

by Richard B. Gold

Against improving market fundamentals, real estate investors are faced with the paradox of why institutional real estate income returns show such little variation. Capitalization rates do not have the same volatility as market fundamentals, varying only by property type. Holding other factors constant, lower interest rates and higher occupancy levels can act to reduce risk premiums and benefit holders of real assets. However, theory and practice are not always born of the same mother. Cap rate surveys and industry data continue to indicate that real estate returns show little variation over time. When they do stray, capitalization rates are quickly brought back into line by an unknown financial gravitational force.

The article explains how this seemingly steady state is not only possible but can lead to an answer that is always nine percent. In bifurcating the capitalization rate into core and transitory components, this article provides a theoretical explanation of how increases in transitory factors can offset declines in the core cap rate and *vice versa*.¹ Ultimately, it is up to the reader to decide whether the factors that generate this answer hold true today, and more importantly, will hold true tomorrow.

The Historical Record Revisited

Unlike baseball or even the stock market, real estate has no official statistical abstract. Data on real estate returns are limited because of the private and complex nature of most real estate transactions. Even organizations such as the National Council of Real Estate Investment Fiduciaries (NCREIF) face significant data obstacles. Because NCREIF relies on appraisal-based values, reported income returns are considered biased. Although comprehensive data are available on REITs, dividend returns are not the same as income.²

Even if they were, there is ample evidence to suggest that REIT stock prices do not necessarily represent underlying property returns. Factors such as management quality, financial structure and future growth expectations (both internal and external) play a significant role in REIT pricing.

Because of the limitations of industry association data, survey data measuring investor expectations are presented instead. Exhibit I shows the results of survey data provided by Real Estate Research Corporation on expected investor returns during the period mid-1992 through 1995.³ Despite several years of steady recovery, apartment cap rates have remained within a narrow 40 basis point

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EXHIBIT I

Expected Going-In Capitalization Rates By Property Type

	10 Year Treasury	Warehouse	R&D	Regional Malls	Power Centers	Community Centers	CBD Office	Suburban Office	Apartments
92q3	6.6	9.5	10.3	7.7	9.6	9.5	9.6	10.2	8.9
92q4	6.7	9.6	10.0	7.6	9.5	9.5	9.7	10.3	9.1
93q1	6.3	9.7	10.6	7.8	9.8	10.0	9.8	10.4	9.1
93q2	6.0	9.5	10.1	7.7	9.4	9.8	10.3	10.5	8.9
93q3	5.6	9.3	10.0	7.7	9.2	9.6	10.4	10.6	8.8
93q4	5.6	9.4	9.8	7.7	9.6	9.6	10.0	10.1	8.7
94q1	6.1	9.4	10.1	7.6	9.5	9.6	10.0	10.0	8.7
94q2	7.1	9.3	10.4	7.7	9.1	9.7	9.7	9.9	8.7
94q3	7.3	9.3	10.4	7.7	9.3	9.8	9.7	9.9	8.8
94q4	7.8	9.2	10.2	8.0	9.2	9.6	9.8	9.8	8.7
95q1	7.5	9.4	10.1	8.2	9.4	9.7	9.7	9.8	9.0
95q2	6.6	9.2	9.6	7.9	9.4	9.5	9.2	9.2	8.9
95q3	6.3	8.9	9.9	8.0	9.3	9.4	9.4	9.2	8.8
95q4	5.9	9.0	9.6	8.2	9.2	9.2	9.6	9.2	8.8

Source: Real Estate Research Corporation

band during the last three plus years. Regional mall cap rates varied by only 50 basis points during the same period. These numbers seem counter-intuitive given the strength of the apartment sector and the uncertainty surrounding retailing in general and malls specifically. While it is true that Central Business District (CBD) office cap rates increased in 1993, this run-up seems somewhat curious since it lagged the weakened space market by several years. As if on cue, the spike was quickly erased and cap rates fell back to more normal levels. Reinforcing this are data showing that expected returns exhibit less variation across time than the risk-free ten-year treasury rate. Exhibit II illustrates the variance of each series between third quarter 1992 and fourth quarter 1995, and reinforces the stability of investor expectations relative to shifts in interest rates during the past several years.

EXHIBIT II

Sector Volatility (1992q3 to 1995q4)

	Variance (Basis Points)
10-Year Treasury	49
Warehouse	5
R&D	9
Regional Malls	4
Power Centers	4
Community Centers	4
CBD Office	10
Suburban Office	22
Apartment	2

Source: Real Estate Research Corporation

All else being equal, one would assume a strong positive correlation between movements in interest rates and expected returns. That is, higher interest rates should lead to higher cap rates as investors ramp up their yield requirements. Contrary to expectations, however, the 10-year Treasury shows little correlation with property-specific cap rates, as reflected in Exhibit III. In fact, movements in 10-year Treasuries are negatively correlated with several property types.

There is some evidence that, unlike interest rates, investors' expectations are influenced by market fundamentals. At a minimum, anecdotal evidence suggests that investors consciously discriminate between markets based on market expectations. Therefore, an office building in a recovering market, such as Boston, currently trades at a lower cap than a similar building in a soft market, such as Hartford, where uncertainty is rampant.

What is the relationship between property types and capitalization rates? In the case of warehouse properties, there is a significant positive correlation. Specifically, for the 14 quarters in which data are available, the correlation coefficient between warehouse cap rates and industrial vacancy rates was approximately .8. A weaker correlation was found between expected office cap rates and both suburban and CBD vacancy rates.⁴ While the relationship between cap rates and the space market is more compelling than cap rates and the financial markets, the period in question is rather brief, and it is difficult to draw firm conclusions from such a limited sample. In addition, while market vacancy rates appear to influence cap rates, other explanatory factors also can impact cap rates.

EXHIBIT III

Cap Rates and Treasuries Show Little Correlation (1992q3 to 1995q4)

	<u>10-Year Treasury</u>
Warehouse	- 2%
R&D	41%
Regional Malls	27%
Power Centers	- 27%
Community Centers	20%
CBD Office	- 42%
Suburban Office	- 21%
Apartment	7%

Source: Real Estate Research Corporation

When Is A Cap Rate Not A Cap Rate?

Most investors view cap rates as singular. In reality, they comprise two components:

1. A *core* rate which varies by property type and market, ownership and time. The core rate represents the risk-adjusted opportunity cost of owning real estate.
2. A *transitory* rate representing various premiums whose size and sign vary over the course of the real estate cycle.

The combination of the core and transitory rates determine the transactional cap rate. The core rate and the transactional cap rate are equal when the space markets are at or near equilibrium and buyer and seller expectations are aligned. In reality, transactions readily take place because neither buyers nor sellers can extract premiums as both have placed the same value on a building's cash flow.

Premiums exist when buyer and seller expectations differ or when externalities such as tax law or zoning changes occur. In these situations, a difference between the core rate and the transactional cap rate emerges, creating a *transitory* premium. For example, during the late 1980s and early 1990s few transactions were occurring in the marketplace. In a capital scarce environment, buyers were able to command a premium from sellers which drove cap rates higher. During the mid 1980s, the opposite occurred. In a capital-driven environment, real estate was hot and sellers received a premium from buyers in the form of below-core cap rates.

Premiums can emerge during any part of the real estate cycle, for example, from a change in real estate underwriting criteria. Whose numbers and coverage ratios are used will depend on a host of factors, not all of which relate directly to the asset class. In addition, buildings encumbered with long-term leases may command either a positive or negative premium. A positive premium would be

relative to buildings with shorter leases when market conditions have or are expected to deteriorate; a negative premium would be garnered if market fundamentals are on the upswing. The former occurs because of cash flow stability in a weak market, while the latter occurs because the lease duration works to reduce potential cash flow in a market with rapidly escalating rents. Other premiums can occur because of tax law changes. During the early 1980s, cap rates plunged in response to the 1981 Economic Recovery Tax Act (ERTA) which created non-market incentives for real estate owners. Of course, whatever the government gives, the government can take away, and the 1986 tax act did just that. Not surprisingly, cap rates shot up and owners were left holding properties whose values were propped up by benefits that no longer could be transferred to the next owner.

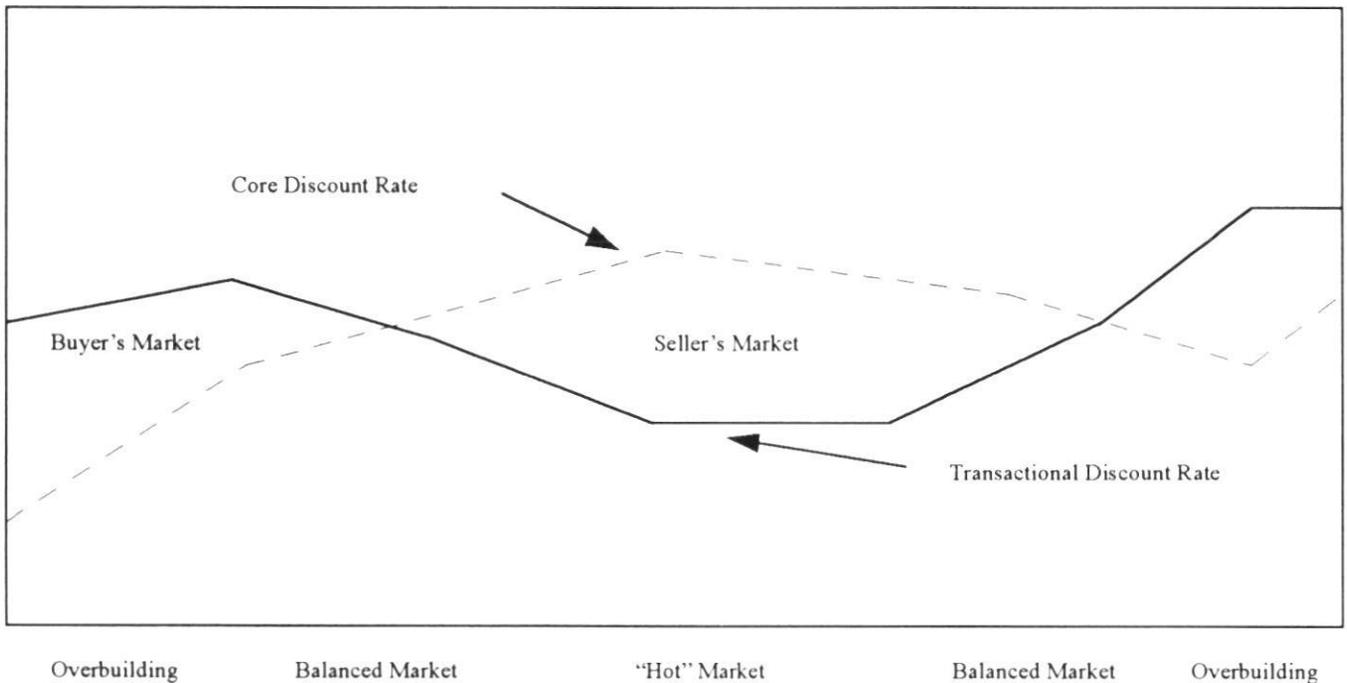
Exhibit IV shows the bifurcation of the transactional cap rate. During periods of overbuilding, the transactional cap rate is higher than the core rate, because buyers are able to extract a positive premium from sellers. This explains why appraised values and transaction prices differed so significantly during the bottom of the last market cycle. Appraisers valued buildings using the core cap rate, while buyers recognized their leverage and used it to their advantage.

As occurred during the late 1970s and early 1980s, premiums shrank and shifted to the seller when the market's appetite improved. During this period, institutional investors were willing to pay a premium for properties, and sellers were able to drive the transactional rate above the core rate. Ultimately, however, the market slows and the gap between the core and transactional cap rates disappears. Since markets rarely stay in equilibrium for an extended period of time, the core and transactional cap rates are constantly engaged in a dance with market forces selecting the tune.

Multiple premiums also can be present at any time. As already pointed out, market conditions are only one of several reasons why the transactional and core cap rates can differ. In addition, the core rate itself is not static. It can trend either up or down depending on a host of events. Changing expectations with respect to inflation and the pricing of alternative assets (stocks, bonds, etc.), can impact the core rate. Therefore, property values can be altered due to transitory changes in the cap rate which have nothing to do with the real estate cycle. Conversely changes in market conditions can affect cap rates but can also be amplified by shifts in non-real estate factors. The presence of multiple premiums helps explain why changes in interest rates and inflation may show little relationship to movements in cap rates.

EXHIBIT IV

Capitalization Rates Are Not Singular



So What Does All This Mean?

Clearly, the dynamics of cap rates can be quite confusing. For example, it is entirely possible that the core cap rate may shift upward only to be matched by an equally large decline in transitory cap rate premiums. The net result is dynamic stability. Therefore, investors must be selective in their assumptions regarding the nature and direction of cap rate changes. The continual presence of countervailing premiums suggests that variations in cap rates are much more complex than their movement or lack of movement implies. For example; the transactional cap rate can be artificially supported during periods of oversupply if the opportunity cost of holding real estate, as measured by interest rates, declines. Conversely, if bond prices are declining, cap rates may rise even as markets tighten.

None of this makes it easy for appraisers or investors trying to forecast discount factors. In fact, these dynamics help explain away much of the criticism leveled at appraisers during the past few years. When determining the appropriate cap rate, an appraiser must consider both the level and direction of the core rate as well as the net change in various premiums. These premiums may be property type, market or property-specific. It is the combination of the core discount rate and the net change in all premiums which determines the appropriate capitalization rate.

Conclusion

Imagine a world in which the core rate and various transitory premiums are inversely correlated. Under this scenario, whenever the core rate changes it is met by an equal but opposite movement in the transitory cap rate. Do such relationships exist? Consider the following. Stronger markets typically are assumed to be forerunners of lower cap rates. However, higher occupancy and rents go hand-in-hand with robust employment and income growth, neither of which brings much comfort to the inflation watchers at the Federal Reserve. Investors, being more realistic than economists, do not hold everything else constant. A nervous Federal Reserve translates into higher interest rates; higher interest rates translate into higher cap rates. These dynamics may explain why the answer is always nine percent.

REFERENCES

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- Steppe, Stephen. "The Answer Is Nine", The Institutional Real Estate Letter, September 1995.

NOTES

1. See Steppe [1995].
2. By law, REITs are required to return to investors 95% of all taxable income. This is different than private equity owners who have no such requirements.
3. The RERC survey queries investment advisors, bankers, pension funds and other similar investors as to their expected going-in cash-on-cash yield by property type. Therefore, the survey results are not actual returns and investor expectations may or may not be met.
4. Correlation coefficients using lagged vacancy rates as well as year-over-year changes in vacancy rates also were estimated with similar results.