

The overall capitalization rate or “cap rate” is used to convert income to value. One of the easiest ways to think of the relationship of a cap rate to value is the acronym IRV: Income divided by Rate = Value or I/R = Value. As the cap rate goes down, the value goes up. Officially, the direct capitalization is defined by The Appraisal Institute in the Dictionary of Real Estate as follows (page 65):

“A method used to convert an estimate of a single year’s income expectancy into an indication of value in one direct step, either by dividing the net income estimate by an appropriate capitalization rate or by multiplying the income estimate by an appropriate factor. Direct capitalization employs capitalization rates and multipliers extracted or developed from market data. Only one year’s income is used. Yield and value changes are implied, but not explicitly identified.”

To complicate matters, a cap rate can be calculated on last year’s net operating income (often called trailing), a forecast of next year’s expectations of net operating income (forecast). Moreover, the “true” cap rate is often a perspective, not a fact. For example, the seller may believe the cap rate was a 5.5 percent, implying a higher value, while the buyer may believe the cap rate was a six percent, implying a higher return. And, the broker involved in the deal may report a 5.75 percent cap rate. While all three perspectives are important to understand, it doesn’t exactly determine the cap rate.

For comparison purposes, it is best to understand the forecast or stabilized cap rate (for example, this is the cap rate used in an appraisal) and the trailing cap rate to understand expectations of buyers and sellers in the transaction. It is also important to understand if expenses were adjusted to market, particularly real estate taxes, in the forecast or stabilized cap rate. For the purposes of this publication, the stabilized cap rate will be addressed because it is typically the most consistent cap

rate considered for comparison purposes (for example, it is the basis of Investor Survey’s on cap rates).

Capitalization Rates And Techniques

To understand the cap rate, four techniques will be analyzed: direct cap comparables, two mathematical models called the Band of Investment, the Mortgage Equity Technique or Akerson format, and Survey Research.

- **Direct Cap Comparables** – Deriving comparables from similar properties that have sold is generally the preferred technique when sufficient information is available. For example, what cap rate is reported? The trailing or the stabilized? Comparable cap rates are summarized in Table 13.1.

In this case, one of the properties (sales 4) sold upon completion of construction and the cap rates reflect a forecast of net operating income without an operating history. The other three comparables represent stabilized cap rates or one year ahead forecast but are based on stabilized properties (physical and economic occupancy) with at least three years of stabilized operating history. The range is 174 basis points (bps), suggesting a large range. Bear in mind, this underscores how important it is to understand the perspective of the person verifying the cap rate. And these cap rates represent market expectations at the time of sale. The perception of investors of the self-storage market two years ago may vary to current conditions. Therefore, additional analyses are warranted.

Table 13.1 – Comparable Cap Rates

No.	Yr. Built	Sale Date	Rentable Area	Occ. %	Price SF	OAR
1	2001	Mar-2017	56,214	97%	\$144.09	5.12%
2	2000	Jul-2018	56,780	80%	\$138.96	5.00%
3	1983	Mar-2018	55,218	96%	\$124.05	6.24%
4	2000	Jan-2017	112,640	92%	\$170.45	5.75%
Low Cap Rate:						4.58%
High Cap Rate:						6.24%
Average (Mean) Cap Rate:						5.32%

Source: Compiled by NKF

Table 13.2 – Survey Research

Investment Type	Cap Rate Range	Average
PwC Real Estate Investor Survey: 3Q 2017	5.00% – 7.00%	5.78%
PwC Real Estate Investor Survey: 1Q 2018	4.50% – 7.00%	5.65%
PwC Real Estate Investor Survey: 3Q 2018	4.50% – 7.00%	5.66%
PwC Real Estate Investor Survey: 1Q 2019	4.50% – 7.00%	5.66%
NKF Self-storage Investor Survey: 3Q 2019	4.50% – 8.50%	5.60%

Source: Compiled by NKF

Section 13 • Overall Capitalization Rates

• **Investor Surveys** – Survey research is based on periodic publications of the current thinking of investors, compared to historical performance data of comparable sales. Surveys are generally used as support and should not be relied upon as a primary source. They are very useful to understand real-time market dynamics. Surveys can vary in scope of research, so it is worthwhile to review a wide variety of publications. The results of the most recent self-storage investor surveys are summarized in Table 13.2 on page 123.

It is interesting to compare the sales data in Table 13.1 to the survey research in Table 13.2. For example, an average cap rate of 5.32 percent was indicated by the comparable sales chart, and the investor survey (most recent data)

Table 13.3 – Cap Rates by Investment Class

	Class A	Class B	Class C
Cap Rate Range	4.50% – 5.50%	5.50% – 6.25%	6.25% – 8.50%
Cap Rate Average	5.00%	5.50%	6.50%

Source: NKF Self-Storage Investor Survey: 2nd Qtr. 2019

Table 13.4 – Band of Investment

Mortgage and Equity Assumptions

Loan to Value Ratio	70%		
Interest Rate	4.25%		
Amortization (Years)	30		
Mortgage Constant	5.90%		
Equity Ratio	30%		
Equity Dividend Rate	5.00%		
Weighted Average of Mortgage Equity Requirements			
Mortgage Requirement	70%	x	5.90% = 4.13%
Equity Requirement	30%	x	5.00% = 1.50%
Indicated Capitalization Rate (Rounded)			5.63%

Source: Compiled by NKF

Table 13.5 – Mortgage Equity Analysis

Loan-to-Value Ratio	70%
Interest Rate	4.25%
Amortization Term	30 Years
Mortgage Constant	5.90%
Equity Yield Rate (Y _E)	14.25%
Projection Period (n)	10 Years
Compound Annual Appreciation / Depreciation	3.5% per Year
Total Appreciation/Depreciation	41.06%

Source: Compiled by NKF

indicates a 5.6 percent cap rate. This may reflect national data compared to geographic specific data. The investor survey data also suggests a slight downward trend over the past 3.5 years, suggesting self-storage real estate values have increased. Survey research may bifurcate among quality of the asset class as indicated in Table 13.3. An explanation of facility classes can be seen in the sidebar on the opposite page.

This is useful because cap rates vary by the physical and economic characteristics of a property. In general, the higher quality or class of property, the lower the cap rate (resulting in higher values). Survey research can also be supplemented by direct interviews with market participants such as real estate brokers who specialize in the self-storage asset class. In this regard, local participants can provide anecdotal but vital understanding of the local market conditions. For example, in markets with a lot of new construction, the cap rates may be impacted.

• **Band of Investment** – This technique is based on returns to debt and equity, sometimes called a built-up model. It accounts for market-based financing with a market-based return to equity. The return to equity for a single asset is typically higher than a comparable self-storage annual return to investor or dividend (does not account for appreciation of the asset). Another way to look at the equity dividend or cash on cash is the annual return on every dollar of equity. Since most properties are purchased with a combination of debt and equity, the technique has relevance in the market. A Band of Investment Analysis example is summarized in Table 13.4.


In this example, the model solves for a cap rate that is similar to the average of the latest investor survey and in the range of the comparable cap rate data. Mathematical models like the Band of Investment or Mortgage Equity Technique should generally bracket the concluded market cap rate. These tools are useful because they allow for comparison of equity dividend returns and equity yield returns to be compared to alternative investments. Alternatively, a Band of Investment can also solve for returns to land and building.

• **Mortgage Equity Analysis** – This analysis derives from the idea that real property investments are a combination of two components: debt and equity. It differs from the Band of Investment because it accounts for total yield: equity dividend and appreciation over time. It is a useful tool because it also solves for a levered equity yield (that includes both cash flow or equity dividend and appreciation over time). Self-storage as an asset class has demonstrated superior returns for many years.

For example, comparing total return of self-storage REITs over the last 25 years, self-storage has provided an 18.8 percent return on average and is superior to other core sectors such as office, industrial, retail, or apartments (based on NAREIT data). As a result, institutional investors have been storing capital in the sector. The Mortgage Equity Analysis solves for equity yield, a common metric of the comparison of returns among investments for the institutional market. The equity yield rate estimated is lower for a single asset (in this case estimated at 14.25 percent) than publicly traded REIT data because REITs offer greater liquidity. And, when your neighbor brags about how well their IRR performed last year, self-storage equity yields may give you bragging rights! The mortgage equity example, with the same mortgage requirements as the Band of Investment example for consistency, is presented in Tables 13.5 and 13.6.

Cap Rate Summary

Table 13.7 summarizes the four techniques utilized to derive a cap rate and understand self-storage investment returns.

In general, market derived data is best. However, the data represents historical views. Survey research represents what investors view now going forward and is the best estimate of current market sentiment. These analyses are further supported by two mathematical techniques to test the reasonableness of the cap rate market data presented. There are other good tools and analyses, such as a Debt Service Coverage Ratio, debt yield, and residual techniques that can provide tests of reasonableness to a cap rate conclusion (not presented here). One of my favorites is the EGIM multiplier that tests the effective gross income (all income after vacancy and collection loss) compared to expense ratios. Using the formula of $1 - \text{expense ratio} \backslash \text{the EGIM} = \text{cap rate}$. This multiplier is market derived, and the analysis tests overall assumptions of the net operating income forecast such as income, vacancy, and expenses, to the concluded cap rate. Altogether, these analytical tools can be effective resources in concluding a reasonable and credible cap rate for a self-storage property. 

Classes of Self-Storage Facilities

Class A: These properties represent the highest quality buildings in their market and area. They are generally newer properties built within the last 15 years with state-of-the-art amenities, high-income earning tenants, and low vacancy rates. Class A buildings are well-located in the market and are typically professionally managed.

Class B: These properties are generally older, typically with lower income tenants, and may or may not be professionally managed. These properties are still in a good location, in good condition, and have proven to be quite desirable because they offer more growth potential. Investors see a Class B property as a “value-add” investment opportunity because through some renovations, these properties can be upgraded to Class A.

Class C: These properties are much older, often located in low visibility areas, and are sometimes unfenced, lack security, are single-level, and most likely in need of updating and repairs. They offer few modern amenities, require better management, and may be in poor locations. As a result, rental rates for it are lower in comparison to rates for a Class A or Class B property.

Table 13.6 – Mortgage Equity Analysis

Loan Ratio x Annual Constant	=	70.00%	x	5.90%	=	4.13%
Equity Ratio x Equity Yield Rate	= +	30.00%	x	14.25%	=	4.28%
Weighted Average						8.41%
Less Credit for Equity Build-up						
Loan Ratio x % Paid off in Projected Period x Sinking Fund Factor	= -	70.00%	x	20.56%	x	5.11%
Basic Rate						7.67%
Less Appreciation / Plus Depreciation						
Appreciation / Depreciation x Sinking Fund Factor	= +/-	41.06%	x	5.11%	=	2.10%
Overall Capitalization Rate						5.57%

Source: Compiled by NKF

Table 13.7 – Overall Capitalization Rate Summarized

Source	Indicated OAR
Comparable Sales	4.58% – 6.24%
NKF Self-Storage Investor Survey: 3Q 2019	4.50% – 8.50%
Band of Investment	5.63%
Mortgage Equity Analysis - Akerson Format	5.57%

Source: Compiled by NKF