

National Valuation Consultants, Inc.

# **Performance Measurement**

# Introduction

Performance measurement is widely used in financial professions to improve investment processes by learning from best practices. It puts portfolio and fund returns in the context of the market, and provides tools for both investors and fund managers to understand the risks prevalent in different investment strategies.

## Characteristics of Return

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For real estate, performance measurement begins with income and appreciation returns from individual property investments. Returns at the individual property level are impacted by both the management and performance of the property itself as well as external market influences. At the portfolio level, returns are impacted by property type and location allocation strategies. Funds may also be impacted by leverage, ownership structures, amount of available cash and management fees.

## Key Denominator: Fair Value

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The denominator of total return for any asset is the market price. In the case of privately funded real estate, because of its relative illiquidity, market price must be approximated by the use of an opinion of fair value. It then becomes vitally important to understand the assumptions and conclusions that make up fair value and to ensure they properly reflect the appropriate market.

## Better Understand and Explain Investment Returns

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The impact of the financial crisis on global real estate markets is of profound importance to the industry. It brought about a heightened awareness to transparency and risk management. As a result, performance measurement plays a much greater role in portfolio management and explaining to investors what is happening to their capital. Performance measurement provides tools for managers to better understand and explain investment returns including how much return is attributable to individual asset performance, market influence and allocation strategies.

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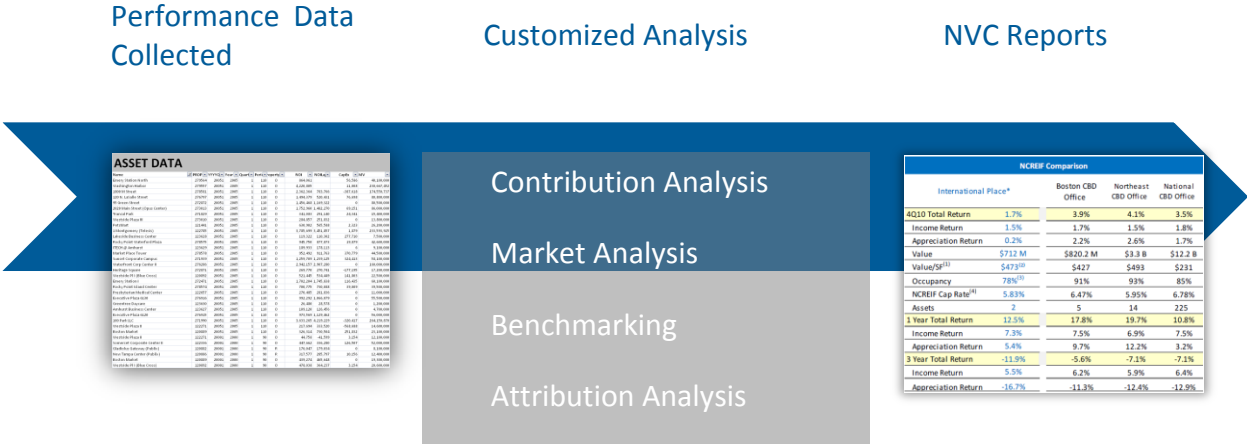
# Performance Measurement at NVC

NVC is a leader in providing performance measurement analysis using NCREIF indices as benchmarks. Through the use of NCREIF’s advanced query tools and data, NVC is able to extract data for subsets as small as three assets. This allows for highly customizable attribution and analysis for a full understanding of performance returns. NVC is also the largest privately held commercial real estate valuation company in the United States. This becomes important when the assumptions and conclusions associated with fair value, the most significant component of performance returns. Although benchmarking to a peer group is important, and which NCREIF satisfies, it is arguably more important to understand and confirm that performance returns are in sync with current market conditions. The combination of NCREIF data and market knowledge sets NVC apart from their competition in performance measurement.

## Experience

NVC provides performance measurement services for some of the largest fund managers in the U.S. These clients use NVC performance measurement not only for benchmarking and comparisons at the portfolio level but also within Valuation Departments to understand and explain valuation results. Below are questions and analytical problems answered by NVC’s performance measurement products.

## Process



# Performance Measurement at NVC



During Quarter	<ul style="list-style-type: none"> <li>- Asset fair value and other information received.</li> <li>- Additional financial information and performance received as necessary (i.e. leverage, ownership, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>- Performance returns are analyzed to determine which assets, groups of assets or fund strategies contributed the most to the fund's returns.</li> </ul>	<ul style="list-style-type: none"> <li>- Markets for top contributors and highly valued assets are analyzed to confirm current and appropriate fair value assumptions.</li> </ul>		
Post Quarter				<ul style="list-style-type: none"> <li>- Fund returns are compared to recognized indices.</li> <li>- NCREIF: Most widely used CRE indices with 6,100+ assets each with 157 collected data points.</li> <li>- <i>Note: Comparing to an autonomous benchmark after quarter close ensures independence.</i></li> </ul>	<ul style="list-style-type: none"> <li>- Differences between fund returns and benchmark returns are segregated into selection and allocation components and analyzed. A custom benchmark confirms conclusions.</li> </ul>
Deliverables	<ul style="list-style-type: none"> <li>- Asset Return Performance Summary</li> </ul>	<ul style="list-style-type: none"> <li>- Asset Contribution Summary</li> <li>- Fund Contribution Summary &amp; Detailed Reports</li> </ul>	<ul style="list-style-type: none"> <li>- Market Analysis Report</li> <li>- Market Analysis Summary</li> </ul>	<ul style="list-style-type: none"> <li>- Benchmarking Snapshot &amp; Detailed Reports</li> </ul>	<ul style="list-style-type: none"> <li>- Attribution Analysis Snapshot &amp; Detailed Reports</li> </ul>
Questions Answered	<ul style="list-style-type: none"> <li>- What is the individual asset's return?</li> <li>- What characteristics (i.e. market conditions, leasing, capex) contributed to the assets individual return?</li> </ul>	<ul style="list-style-type: none"> <li>- Which assets contributed the most to the fund's return?</li> <li>- Which combination of markets and property types contributed the most to the fund's return?</li> </ul>	<ul style="list-style-type: none"> <li>- Are fair values overly conservative or aggressive?</li> <li>- Do the fund's returns accurately capture <i>current</i> market conditions?</li> </ul>	<ul style="list-style-type: none"> <li>- How does the fund's returns compare to its peers in the current quarter and over time?</li> <li>- How do different components of the funds return (i.e. Cash on Cash, NOI) compare to its peers?</li> </ul>	<ul style="list-style-type: none"> <li>- Why are the fund's returns different from its peers?</li> <li>- Has the difference been consistent over time and if not, why?</li> <li>- How have the fund's investment strategies contributed to returns?</li> <li>- What property performance characteristics (age, NOI growth, etc) has had the most impact on returns?</li> </ul>

# Benchmarking

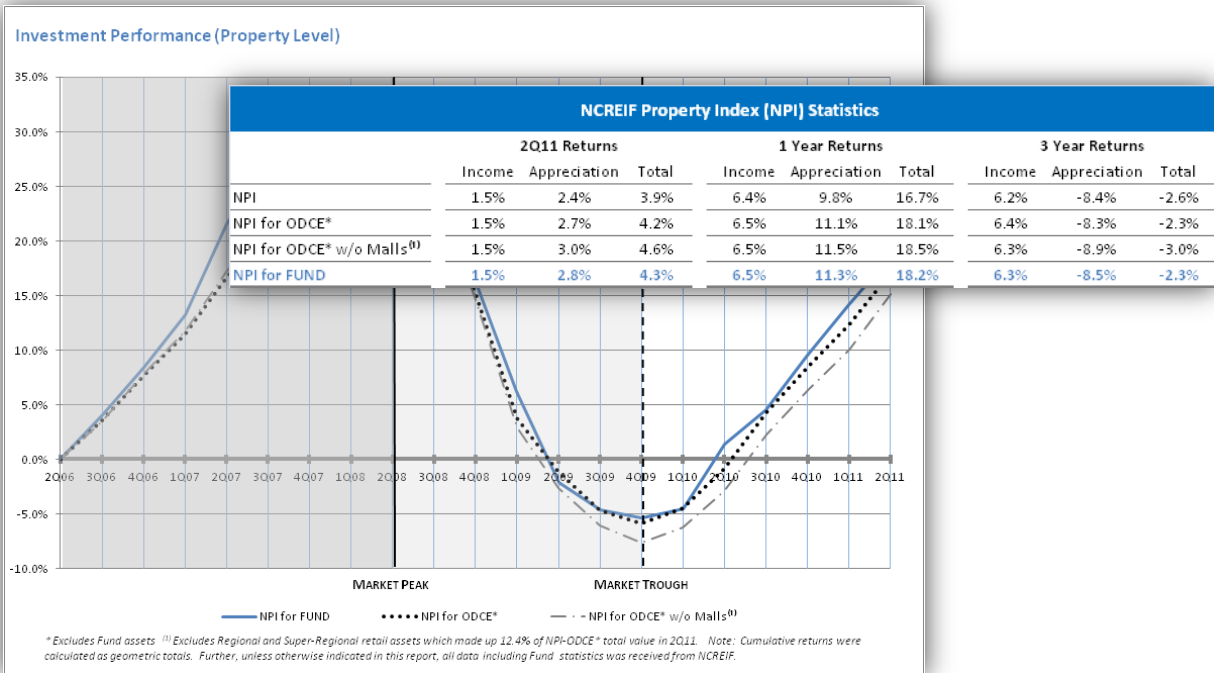
Measuring the returns of a real estate fund against a reliable benchmark can indicate transparency and governance. An effective and well understood benchmark allows investment managers to take a disciplined approach to risk management and lays the framework for additional analyses such as attribution to be undertaken.

## Choosing a Benchmark

An effective benchmark will be widely used and recognized in the appropriate industry and include a broad sample of assets or funds that share a similar risk profile and which have been documented and measured in an identical manner. To provide the greatest benefit to users, a benchmark not only compares performance but also provides enough data to analyze performance outcomes. Because the most important component of private real estate returns, fair value, is concluded on a 100% ownership, unlevered basis, data extracted from an effective private real estate benchmark should include return performance on a similar assumption, in addition to an aggregate portfolio basis. The National Council of Real Estate Investment Fiduciaries (NCREIF) publishes the most widely used performance indices in the real estate investment industry in this context.

## National Council of Real Estate Investment Fiduciaries (NCREIF)

NCREIF is a non-profit association whose mission is to “serve its membership, and the academic and investment community’s need for improved commercial real estate data, performance measurement, investment analysis, information standards, education and peer group interaction...” They produce several quarterly indices that show real estate performance returns using data submitted by more than 115 data contributors with more than 6,100 properties in the United States. For each asset, 157 data points are collected making it the largest database of commercial real estate information available. Although NCREIF’s focus is on their various published indices, such as NFI-ODCE and NPI, through their online tools and queries provide access to its members to the data opening the door to customized performance measurement and analysis.



# Contribution Analysis

Inevitably, the first step in understanding a fund’s performance relative to a benchmark is to understand the makeup of both the benchmark and fund returns. Which assets, group of assets or characteristics have the most impact on a fund’s return be it in a single quarter, year, several years or since inception? In this fashion, an investor can understand at a glance primary contributors to return.

## Analyze the Impact of Active Portfolio Management

The impact of active portfolio management such as buying, selling, developments and the injection of capital into retained assets is also a part of contribution analysis. How will an asset under construction impact fund returns through its phases of development? What is the impact of spending capital to refurbish an asset on both income and appreciation returns? How does the purchase of an asset affect the fund’s risk profile and returns? These are all questions answered in a thorough contribution analysis.

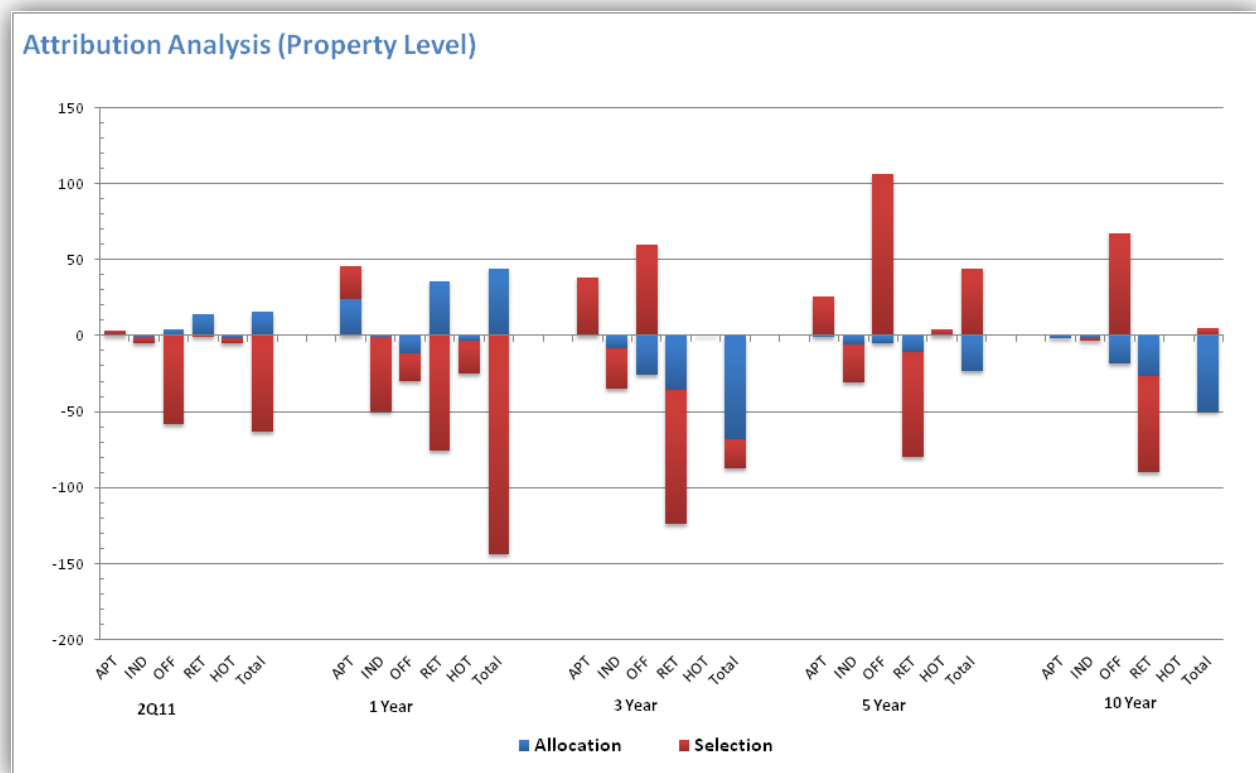
Individual Assets					
Asset Name	2Q11 Return	Impact on Fund Return (Bps)			
Washington DC Office Building	12.2%	+20.0			
NYC Office Building	0.9%	-18.4			
San Francisco Apartment Complex	8.9%	+17.2			
San Francisco Office Building	9.3%	+13.6			
Boston Office Building	1.4%	-9.7			
Los Angeles Industrial Park	23.4%	+8.8			
Dallas Retail Center			Region/Property Type		
NYC Apartment Complex			NCREIF Name	2Q11 Return	Impact on Fund Return (Bps)
Houston Apartment Complex			Northeast Office	1.6%	-55.6
NYC Office Building			Pacific Apartment	7.1%	+35.9
Market	2Q11 Return	Impact on Fund Return (Bps)	Pacific Office	5.5%	+17.6
NCREIF Name			Midwest Office	6.7%	+15.5
Los Angeles, CA	8.9%	+31.1	Midwest Industrial	8.2%	+9.8
Boston, MA	1.1%	-31.1	Southwest Retail	1.7%	-8.8
San Francisco, CA	2.3%	-18.4	Pacific Industrial	4.8%	+8.2
Dallas, TX	5.5%	+14.1	Southeast Apartment	1.9%	-8.0
New York, NY	12.7%	+13.6	Southeast Office	2.2%	-6.1
San Jose, CA	-1.1%	-12.0	Southwest Apartment	5.3%	+5.2
Oakland, CA	5.5%	+11.1			
Washington, DC	1.3%	-10.0			
Baltimore, MD	4.6%	+10.2			
Orlando, FL	0.6%	-8.1			

# Attribution Analysis

Performance attribution inevitably follows the development of benchmarks. To the extent that benchmarks and contribution analysis answers 'How does the fund compare', attribution analysis answers 'Why are the fund's return different'. For managers promoting investment in their real estate funds or departments charged with explaining fund returns, independently verified benchmarking and attribution analysis is becoming an essential tool.

## Selection and Allocation

The most popular approach to attribution involves decomposing excess return into proportions associated with 1) individual asset performance, termed selection; and 2) strategic positioning of the fund among investment categories, termed allocation. Using Brinson Model calculations, the excess return is segregated and can begin to be analyzed. As an example, attribution can answer the question 'Did the fund outperform the benchmark primarily because of a relatively heavy allocation to multi-family or because a large new lease was signed at one of the fund's largest office buildings?' Through contribution analysis, 'How much did each impact the excess return' can also be answered.



# Market Analysis

In lieu of market pricing, the commercial real estate community must rely on estimates of fair value as the denominator for performance returns. This adds a level of subjectivity that is often misunderstood by users of performance measurement. Although peer comparisons are important, it is arguable more important to have comfort that fair values accurately reflect current market conditions. This includes not only recently closed transactions but also negotiations currently taking place, understanding recent retrades and deal cancelations as well as market participant sentiments.

## Additional Layer of Analysis and Independence

Many of the large investment managers and funds have either an internal valuation department or have contracted with an external valuation management firm to manage and review fair values for reasonableness. However, an additional check of the largest and most impactful assets gives investors, auditors and regulators confidence that a fund’s processes are consistent and market based.

CHARLOTTE NORTH WAREHOUSE
First Quarter 2012

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### Economic Indicators

**Employment Growth** ↔  
Employment grew slightly 0.29% in 4Q11.

**Manufacturing** ↑  
National activity grew for the 29th consecutive month with 9 of 18 manufacturing industries reporting growth.

### Market Trends

**Transaction Activity** ↑  
Increase in volume of 45% in 4Q11.

**Price/SF** ↑  
Flat to slightly increasing

**Absorption** ↓  
Positive net absorption of 811,612 SF in 4Q11 largely down from 2,046,556 SF in 3Q11.

**Vacancy** ↓  
Positive net absorption in 4Q11 resulted in a decrease in vacancy to 12.6%, down from 12.8% in 3Q11.

**New Construction** ↑  
164,900 SF was completed in 4Q11, up from 66,170 SF delivered in 3Q11.

### Appraisal Assumptions

**Capitalization Rate** ↔  
Mostly level from last quarter. 8.00%

**IRR/Discount Rate** ↔  
Mostly level from last quarter. 9.00%

**Terminal Rate** ↔  
Mostly level from last quarter. 8.75%

### Market Surveys

	Cap Rates		Discount Rate/IRR		Market Rent		Values (\$/SF)	
	Trend	Change	Trend	Change	Trend	Change	Trend	Change
Broker	↔	-	↔	-	↑	0-2%	↑	0-5%
Regional								
Broker	↔	-	↔	-	↑	Slightly	↑	Slightly
Local								
Investment Manager								
National Core Fund	↓	25 - 50 bps	↓	25 - 50 bps	↔	-	↑	1% to 3%

### NCREIF Statistics (Charlotte Industrial)

	4Q11	3Q11	2Q11	1Q11
Total Return	7.7%	1.8%	3.7%	2.0%
Income	1.8%	1.8%	1.8%	2.0%
Appreciation	5.9%	0.0%	1.9%	0.0%
Revenue/SF	\$1.00	\$1.05	\$1.06	\$1.11
Expenses/SF	\$0.33	\$0.31	\$0.31	\$0.30
NOI/SF	\$0.74	\$0.74	\$0.81	\$0.67
NOI Growth	-9.9%	-0.4%	-8.0%	10.3%
Cap Rate	7.2%	7.1%	7.9%	7.0%
Value/SF	\$42.05	\$41.93	\$41.00	\$38.50
Occupancy	86.2%	86.5%	81.3%	81.7%
# of Assets	18	12	10	10

### Market Cycle



# Conclusion

Legislative and regulatory changes such as the Dodd-Frank Wall Street Reform and Consumer Protection Act have placed renewed emphasis on transparency and independence. The changing landscape of the financial industry is fueled by the desire to earn the public's trust and will continue to focus on transparency and independence as a means to achieving this goal. Performance measurement and related analyses from independent firms will have a prominent role in the standard operating model for most, if not all, investment processes. Chief Appraisers and valuation departments are more frequently being asked to explain fair value and its relationship to a fund's returns. The use of performance measurement tools has quickly become the gold standard in marketing and increasing transparency to investors.

Although various benchmarks have been used in the commercial real estate community for some time, contribution and attribution analysis is quickly becoming a standard request from investors. An additional layer of independence and market analysis sets several of the investment firms above the rest giving them confidence in correct and market supported returns and providing tools to improve or confirm their investment strategies.

## Contacts

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