Understanding the Return Profiles of Real Estate Investment Vehicles

How four types of real estate

investment vehicles fare under

various market conditions.

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FORMER NEW YORK City mayor Ed Koch used to ask, "How am I doing?" For real estate private equity funds, this question is not easily answered. Despite the proliferation of these funds over the last ten years, a useful return benchmark does not exist. Does this mean the sector is not sufficiently motivated to create a useful benchmark? Or do the diverse investment strategies, most of which are very dissimilar to traditional real estate investments, preclude a useful benchmark? For example, some funds invest abroad, while others focus domestically or even in a particular region. Some funds provide development and redevelopment capital, while others execute highly leveraged acquisitions of core assets. Still others focus on distressed debt and non-performing loans, or acquiring portfolios of corporate or government assets. And to further complicate matters, most funds pursue several of these strategies simultaneously. Real estate private equity funds not only have unique investment strategies, but managers of these value-added opportunity funds target at least 16 percent to 20 percent gross returns. In contrast, "core plus" funds invest in stabilized core assets with relatively high leverage, generally targeting 13 percent to 16 percent gross returns.

What about standard real estate benchmarks, such as the NCREIF and NAREIT indices, which some argue provide useful benchmarks? Let us begin with the NCREIF index. Even putting aside the well-documented statistical problem of the roughly 18-month appraisal lag versus market pricing, for the most part this index tracks the returns for core, stabilized, domestic, unleveraged, institutional-grade properties. As a result, NCREIF returns should be relatively low and stable, as the investment objective for the properties in this index is to achieve an 8 percent to 11 percent gross return.

Turning to the NAREIT index, there is no appraisal lag, since it captures the real-time pricing of REITs. Yet returns generated by REITs are also not an appropriate benchmark for real estate private equity funds, since REITs generally own high-quality, core, stabilized, domestic real estate, as opposed to the more opportunistic assets favored by private equity funds. In addition, REIT assets are leveraged 35 percent to 55 percent, versus 60 percent to 75 percent for private equity funds. Another notable distinction is that REIT pricing reflects the value of much more than a portfolio of properties. For example, short-term variations in REIT share prices reflect changes in the value of liquidity. REIT pricing also reflects the returns associated with management, as well as properties. In contrast, management is owned separately from the properties at private equity funds. The primary investment objective for firms in the NAREIT index is to provide relatively predictable dividend streams that benefit from modest leverage, with targeted gross returns in the 9 percent to 13 percent range.

These fundamental differences of the respective NCREIF and NAREIT properties and investment objectives render these metrics futile for benchmarking the returns of opportunistic real estate private equity funds. In fact, at almost no point during their investment horizons will such funds remotely track either the NCREIF or NAREIT indices. In contrast, the returns of so-called "core plus" private equity funds can be relatively accurately tracked by NAREIT.

To demonstrate the differences in return patterns for alternative investment vehicles, we simulate the expected performance of four different portfolios representing: 1) NCREIF; 2) core plus private equity; 3) NAREIT; and 4) opportunistic private equity funds. Assumptions and returns for each are summarized in Table 1.

The first vehicle represents a typical core NCREIF portfolio. It is unleveraged and contains $100 million of stabilized core assets, with a going-in cap rate of 8 percent, and a 2 percent per annum NOI growth rate. A 50 basis point management fee is deducted from this return stream.

The second vehicle is a portfolio of $100 million of stabilized core assets, with a going-in cap rate of 8 percent and a 2

percent annual NOI growth rate. However, this core plus strategy uses 65 percent leverage, and a 1.5 percent management fee is deducted.

The third vehicle is $100 million invested in a pool of REITs that are 50 percent leveraged and own a stabilized core portfolio that has an 8 percent cap rate and a 2 percent NOI growth rate. A 50 basis point management fee is deducted. This REIT portfolio pays out 70 percent of its cash flow in dividends, reinvesting retained funds at the same cap rate, NOI growth rate, and leverage.

Finally, the fourth vehicle models an opportunistic private equity fund, which buys unstabilized assets that take three years to stabilize. At the end of the third year, these assets are stabilized and exactly match the profiles of the core assets in the

other three scenarios in years four through seven. NOI in this case in year one is negative $2 million, in year two it grows to $2 million, and in year three rises to $6 million. These assets are purchased at a sufficient discount to their stabilized value to provide a 20 percent IRR over the life of the fund, where the fund uses 70 percent leverage, and a 1.5 percent management fee is deducted.

For all four vehicles, the holdings are liquidated at an 8 cap at the end of the seventh year. For the NCREIF, core plus, and opportunistic scenarios, this liquidation yields roughly $115 million upon sale. Because of the reinvestment of retained earnings, the REIT portfolio liquidates for approximately $136 million. In the case of the opportunistic private equity fund, when the assets achieve stabilization at the end of year three, they are refinanced at 70 percent of their newly stabilized value, and excess refinancing proceeds are distributed to investors. In the case of the NCREIF, core plus, and opportunistic funds, 100 percent of available cash flow after debt service is paid out to investors.

COMPARISONS

Each of these investment vehicles generates its own cash stream, cash-on-cash return stream, and total return stream. The annual cash-on-cash return is calculated as

cash flow generated by the portfolio in a given year as a percent of invested equity. Unrealized appreciation is not taken into consideration in the cash-on-cash return calculation, as the value appreciation is realized only upon refinancing or disposition. Therefore, cash-on-cash returns are back-end weighted.

In contrast, mark-to-market returns reflect both the income return and the implied annual appreciation returns. By definition, the mark-to-market and the cash flow returns are identical upon liquidation, but the timing differences in the recognition of appreciation results in varying equity returns prior to disposition. As a result, for all four investment vehicles, annual mark-to-market returns track higher than annual cash flow returns until liquidation.

The IRR for each vehicle represents the annualized rate of return for the cash flows over the duration of the investment horizon—from the initial equity investment through liquidation. The opportunity fund scenario requires the least up-front equity, but successfully stabilizing the portfolio poses a significant risk not found in the alternative investment vehicles.

Comparisons of the equity returns, both on a mark-to-market and a cash flow basis, reveal interesting patterns. Figures 1 and 2 illustrate the value of a $100 equity investment over the course of a seven-year investment horizon for

Table 1 Base Case Simulated Investment Assumptions and Returns

	NCREIF	Core Plus	NAREIT	Opportunity Fund
Purchase Price	$100,000,000	$100,000,000	$100,000,000	$77,680,965
LTV	0.0%	65.0%	50.0%	70.0%
Equity Used	$100,000,000	$35,000,000	$50,000,000	$23,304,289
Interest Rate	n/a	6.0%	6.0%	6.3%
Going-in Cap Rate (Stabilized)	8.0%	8.0%	8.0%	n/a
Residual Cap Rate	8.0%	8.0%	8.0%	8.0%
Residual Value	$114,868,567	$114,868,567	$136,200,746	$114,868,567
Dividend Payout Rate	100%	100%	70%	100%
Management Fee	0.5%	1.5%	0.5%	1.5%
IRR	9.5%	15.2%	12.8%	20.0%
Equity Multiple (over 7 years)	1.7x	2.2x	2.1x	3.x
Years to Double Equity	8.2	6.3	6.7	4.7

the four alternative investment vehicles. For the "base" case assumptions described in Table 1, the opportunity fund investment grows nearly threefold to $298, while the NCREIF strategy grows to $171 over the same period. As expected, the equity returns based on cash flows lag those based on mark-to-market calculations up until year seven. The valuation pop in year three of the mark-to-market return of the then-stabilized opportunity fund and the

Figure 1 Base Case Mark-to-Market Index

Simulated Mark-to-Market Real Estate Returns Index

Figure 2 Base Case Cash Flow Index

Simulated Cash Flow Real Estate Returns Index

catch-up effect in year seven for all scenarios are apparent.

The opportunity fund profile is particularly interesting. Because of the negative NOI in the first year, its cash flows net of interest payments are negative for the first two years. Only as the stabilization is well under way in year three does the cumulative return move into positive territory. That is, its investment strategy generates a negative cumulative return in the early years, as the properties ramp towards stabilization.

The expected cumulative opportunity fund return is roughly an S-curve, with a big value pop upon stabilization of the portfolio; hence, at the end of year three, the opportunity fund investor is able to extract substantial value appreciation through refinancing. At 70 percent leverage, the initial mortgage on the newly stabilized property is paid off and excess refinancing proceeds are returned to the equity investor. As a result, the three-year cumulative return exceeds the other investment alternatives on a pro forma mark-to-market, as well as on a cash flow, basis.

Note that at almost no point during the investment horizon does the return profile for the opportunity fund resemble that of NCREIF, core plus, or NAREIT. In the first three years, the fund should under-perform the NCREIF and NAREIT benchmarks on a cumulative cash flow basis, but upon successful stabi-

lization, it surpasses the performance of the other three scenarios.

The equity returns of the NCREIF, core plus, and NAREIT scenarios grow on a fairly linear basis, with an appreciation pop in year seven upon liquidation. The mark-to-market returns display a smoother return schedule than the cash-on-cash return stream. The slopes of the corresponding return streams are impacted by different leverage, payout ratios, and management fees, with increased leverage resulting in a steeper slope.

Studying the equity returns graphically yields another interesting observation. Comparing the simulated cash flow returns for the NCREIF and NAREIT scenarios, the two streams track almost identically until liquidation, at which point they diverge due to the return of retained and reinvested earnings.

FOUR MARKET ENVIRONMENTS

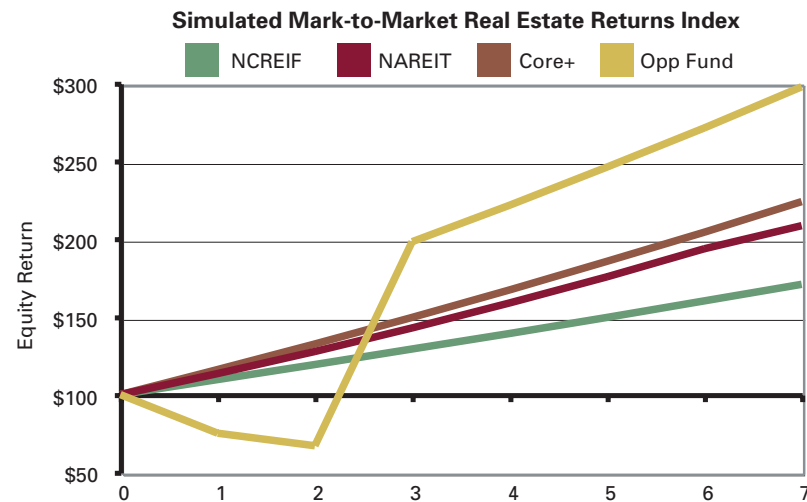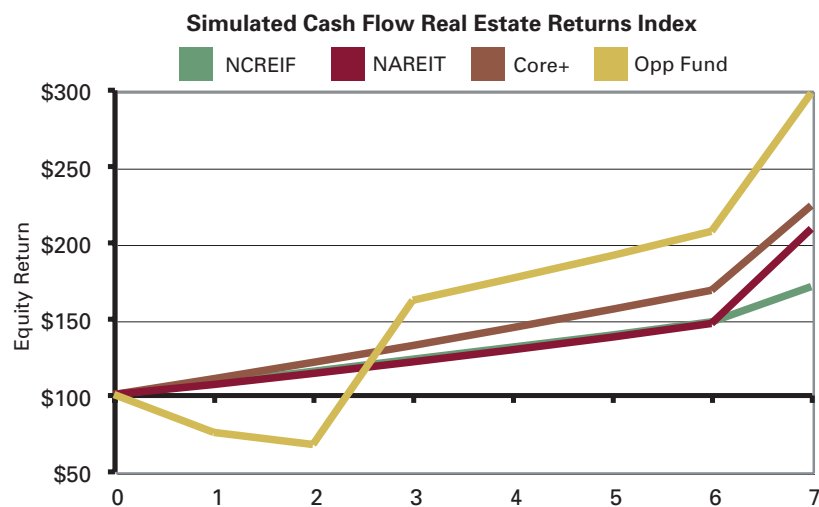Using the "base" case assumptions, the opportunity fund vehicle achieves a 20 percent IRR, while the NCREIF alternative generates a 9.5 percent IRR over the seven-year investment period. What are the risk factors inherent to each investment strategy? While on a pro forma basis the opportunity fund vehicle achieves the highest IRR of the four alternatives, it has a different risk profile. Specifically, the

opportunity fund portfolio either successfully achieves stabilization, or it does not. The interesting dynamic in this scenario is that even if stabilization does not occur on plan, the opportunity fund can still achieve a better return than the other three alternatives, assuming its cost basis is low enough. However, if the opportunity fund simply fails to achieve stabilization, then investors can lose badly.

Risk factors that affect the returns for these investment vehicles are: market pricing (i.e., exit cap rates); NOI growth rates; and delayed stabilization. In order to explore the impact of these risks, we simulate the return impacts of higher exit cap rates, lower NOI growth rates, and delayed stabilization for the opportunity fund.

Focusing first on changes in NOI growth rates and residual cap rates, we simulate three additional market scenarios, specifically, the impact of various NOI growth rates and residual cap rates on the

cash flows and IRRs for the investment vehicles. Recall that the "base" case is a "normal" market with a 2 percent annual NOI growth rate and an 8 percent residual cap rate. The "strong" market case assumes a 3 percent annual NOI growth rate and a 7 percent residual cap rate, while the "weak" market case has a 1 percent annual NOI growth rate and a 9 percent residual cap rate. Finally, the "disaster" market case has a -2 percent annual NOI growth rate and a 9 percent residual cap rate. In this "disaster" case, the eighth year NOI is only about 86 percent of base year NOI. For all four scenarios, the opportunity fund is assumed to achieve stabilization at the end of year three, though only to the market level NOI. Upon stabilization, NOI growth for the opportunity fund vehicle is assumed to grow at the same rate as the other scenarios. Summary results of these market condition simulations are presented in Table 2.

Due to the lack of leverage, the tightest IRR range is found for the NCREIF vehicle, with less than an 800 basis point spread between the "strong" versus "disaster" market cases. As a result, while the upside is not spectacular for NCREIF, the risk of losing capital is minimized. In contrast, the opportunity fund exhibits an IRR swing of roughly 2,500 basis points between the "strong" and "disaster" market cases. The IRR swings are 1,560 basis points and 2,125 basis points for the REIT and core plus vehicles, respectively.

What most investors fail to appreciate is the superior IRR achieved by the opportunity fund alternative, even in weak markets. In fact, it never performs the worst. In the "base," "strong," and "weak" market scenarios, the opportunity fund IRR exceeds that for core plus, which beats NAREIT, which in turn outperforms NCREIF. Only in the "disaster" market does the NCREIF vehicle record superior performance compared to the opportunity fund. Note, however, that even in the "disaster" case, the opportunity fund fares only 70 basis points worse than NCREIF. Also, the opportunity fund's "weak" market performance is still greater than NAREIT's "strong" market performance. Thus, if stabilization is executed successfully, the opportunity fund investment strategy is the most attractive, as the low acquisition price and value-added provides substantial downside protection. While opportunity

fund investors do not realize their return targets in weak markets because their cost basis is so low, they still generally perform better than the alternative investment vehicles.

It is also interesting to note that in the "disaster" market case, the core plus alternative falls victim to its higher debt service and higher management fees, resulting in the lowest IRR of the four alternatives. In contrast, while the opportunity fund uses more leverage than the core plus alternative, its performance is buffered by its low acquisition price. This underscores the point that successful stabilization is critical to the opportunity fund approach. If an unstabilized portfolio is successfully repositioned, the downside is protected by the low basis inherent to the strategy. In short, the real disaster case for the opportunity fund occurs if stabilization is not achieved.

LEVELING THE PLAYING FIELD

Another way to examine the four investment strategies is to consider how low (high) must one scenario's residual cap rate (NOI growth rate) be in order for the alternative investment vehicles to generate the same IRR. For example, as displayed in Table 3, in order for a core plus portfolio to achieve the same 20 percent IRR as the opportunity fund "base" case, residual cap

Table 2 IRR Sensitivity to Changes in NOI Growth Rate and Residual Cap Rate

IRR SENSITIVITY			
	NCREIF	Core Plus	NAREIT	Opportunity Fund
Strong	12.1%	20.6%	17.5%	28.7%
Base	9.5%	15.2%	12.8%	20.0%
Weak	7.2%	9.4%	8.3%	12.7%
Disaster	4.2%	-0.6%	1.9%	3.5%
Range in bps	796	2125	1560	2519

Indicates best return in each case.
Indicates worst return in each case.

rates would have to move down from 8 percent ($115 million residual) to 6.6 percent ($139 million residual). Similarly, in order for the NAREIT return to be comparable with NCREIF's 9.5 percent "base" case IRR, cap rates would have to rise 120 basis points to 9.2 percent.

Similarly, the opportunity fund investor would realize NCREIF "base" case returns even if cap rates move up to 10.7 percent. Stated differently, residual value could drop 25 percent from $115 million to $85 million, and the opportunity fund investor would still be at least as well off as the NCREIF investor anticipates for normal markets. However, in order for a NCREIF investor to experience returns comparable to NAREIT, core plus, or opportunity fund normal market expec-

tations, cap rates would have to fall (values rise) to 6.1 percent ($150 million), 5.1 percent ($180 million), and 3.6 percent ($255 million), respectively. Given historical market pricing, cap rates in the 7 percent to 11 percent range are not extraordinary, but cap rates that fall below 6 percent are relatively unlikely (even in today's low interest rate environment). Simply stated, the odds of the NCREIF vehicle achieving the target returns of the other vehicles are less than the odds of the other vehicles' returns declining to NCREIF levels. This limitation to NCREIF's upside is reflected in its tight IRR range.

Turning to NOI growth rates, Table 3 shows that in order for the NCREIF vehicle to generate an IRR comparable to the opportunity fund base case target, the

NCREIF asset would have to enjoy an annual NOI growth rate of 12.4 percent. Conversely, the opportunity fund could experience negative year-over-year NOI growth, and still generate an IRR in line with the NCREIF base case expectation. Even if the annual NOI growth rate drops to as low as -1.5 percent, opportunity fund return performance would equal the NCREIF base case expectation. This is because the low cost basis and value-added of the opportunity fund creates enough appreciation to offset the NOI erosion. This analysis illustrates that there is substantial room for error in terms of market fundamentals (cap rates and growth rates) for the opportunity fund vehicle. In the case of the REIT investor, even if the annual NOI growth rate drops from 2 percent (residual value of $136 million) to 0.2 percent (residual value of $120 million), the REIT investor fares as well as the NCREIF investor expectation for the base case.

Using this methodology, we also examine the initial purchase price

required by the private equity fund to generate IRRs comparable to the other investment alternatives. Table 4 indicates how much equity the opportunity fund must invest in order to match the returns of the other investment strategies.

SENSITIVITY ANALYSIS

Sensitivity tables for a wider range of NOI growth rate and residual cap rate assumptions are presented in Tables 5 through 8 for the NCREIF, core plus, NAREIT, and opportunity fund investment alternatives, respectively. For the simulated NCREIF vehicle, a 25 basis point change in the residual cap rate results in a roughly 3 to 4 basis point shift in the IRR. In contrast, a 50 basis point movement in the annual NOI growth rate yields a 1 basis point movement in the IRR. Examining the impact of residual cap rate and NOI growth rate changes on the core plus vehicle results in significantly larger swings in

Table 3 Leveling the Playing Field

		REQUIRED RESIDUAL CAP RATE			
Scenario	Base Case IRR	NCREIF	Core Plus	NAREIT	Opp Fund
NCREIF	9.5%	8.0%	9.8%	9.2%	10.7%
Core Plus	15.2%	5.1%	8.0%	7.2%	9.0%
NAREIT	12.8%	6.1%	8.7%	8.0%	9.7%
Opp Fund	20.0%	3.6%	6.6%	5.7%	8.0%

		REQUIRED ANNUAL NOI GROWTH RATE			
Scenario	Base Case IRR	NCREIF	Core Plus	NAREIT	Opp Fund*
NCREIF	9.5%	2.0%	-0.3%	0.2%	-1.5%
Core Plus	15.2%	7.6%	2.0%	3.4%	0.3%
NAREIT	12.8%	5.2%	1.0%	2.0%	-0.5%
Opp Fund	20.0%	12.4%	4.3%	6.3%	2.0%

* Opp Fund assumes stabilization in year 3, so growth rate applies to years 4-7.

Indicates base case assumptions and returns.

Table 4 Opportunity Fund: Higher Prices, Lower Returns

		REQUIRED RESIDUAL CAP RATE			
Scenario	Base Case IRR	Requ Purch Price	Leverage	Up-Front Equity	% Equity Increase
NCREIF	9.5%	$94,971,797	70%	$28,491,539	22%
Core Plus	15.2%	$84,980,140	70%	$25,494,042	9%
NAREIT	12.8%	$88,872,221	70%	$26,661,666	14%
Opp Fund	20.0%	$77,682,580	70%	$23,304,774	0%

Indicates base case assumptions and returns.

the IRR due to the greater leverage. In fact, a 25 basis point change in the residual cap rate results in an approximately 80 basis points on a cash flow basis. Similarly, a 50 basis point swing in NOI growth rates yields 20 additional basis points on a cash flow basis. Turning to the NAREIT vehicle, a 50 basis point movement in the residual cap rate assumption elicits a change of 60 to 80 basis points on a cash

Table 5 NCREIF IRR Sensitivity

NCRIF IFF SENSITIVITY							
	Residual Cap Rates						
Annual NOI Growth Rate	7.00%	7.50%	8.00%	8.50%	9.00%	9.50%	10.00%
-3.0%	6.0%	5.2%	4.5%	3.8%	3.2%	2.6%	2.1%
-2.5%	6.5%	5.7%	5.0%	4.3%	3.7%	3.1%	2.6%
-2.0%	7.0%	6.2%	5.5%	4.8%	4.2%	3.6%	3.1%
-1.5%	7.5%	6.7%	6.0%	5.3%	4.7%	4.1%	3.6%
-1.0%	8.0%	7.2%	6.5%	5.8%	5.2%	4.6%	4.1%
-0.5%	8.5%	7.7%	7.0%	6.3%	5.7%	5.1%	4.6%
0.0%	9.1%	8.2%	7.5%	6.8%	6.2%	5.6%	5.0%
0.5%	9.6%	8.8%	8.0%	7.3%	6.7%	6.1%	5.5%
1.0%	10.1%	9.3%	8.5%	7.8%	7.2%	6.6%	6.0%
1.5%	10.6%	9.8%	9.0%	8.3%	7.7%	7.1%	6.5%
2.0%	11.1%	10.3%	9.5%	8.8%	8.2%	7.6%	7.0%
2.5%	11.6%	10.8%	10.0%	9.3%	8.7%	8.1%	7.5%
3.0%	12.1%	11.3%	10.5%	9.8%	9.2%	8.6%	8.0%

Strong | Base | Weak | Disaster

Table 6 Core Plus IRR Sensitivity

CORE PLUS IRR SENSITIVITY							
	Residual Cap Rates						
Annual NOI Growth Rate	7.00%	7.50%	8.00%	8.50%	9.00%	9.50%	10.00%
-3.0%	5.8%	3.2%	0.6%	-2.3%	-5.4%	-9.0%	-13.5%
-2.5%	7.3%	4.9%	2.5%	-0.1%	-2.8%	-5.9%	-9.4%
-2.0%	8.8%	6.5%	4.2%	1.9%	-0.6%	-3.3%	-6.2%
-1.5%	10.2%	8.0%	5.9%	3.7%	1.4%	-1.0%	-3.6%
-1.0%	11.5%	9.4%	7.4%	5.3%	3.2%	1.0%	-1.2%
-0.5%	12.8%	10.8%	8.8%	6.9%	4.9%	2.9%	0.8%
0.0%	14.0%	12.1%	10.2%	8.4%	6.5%	4.6%	2.7%
0.5%	15.2%	13.3%	11.5%	9.7%	8.0%	6.2%	4.4%
1.0%	16.4%	14.5%	12.8%	11.1%	9.4%	7.7%	6.0%
1.5%	17.5%	15.7%	14.0%	12.4%	10.7%	9.1%	7.5%
2.0%	18.6%	16.8%	15.2%	13.6%	12.0%	10.5%	8.9%
2.5%	19.6%	17.9%	16.3%	14.8%	13.2%	11.8%	10.3%
3.0%	20.6%	19.0%	17.4%	15.9%	14.4%	13.0%	11.6%

Strong | Base | Weak | Disaster

Table 7 NAREIT IRR Sensitivity

NAREIT IRR SENSITIVITY							
	Residual Cap Rates						
Annual NOI Growth Rate	7.00%	7.50%	8.00%	8.50%	9.00%	9.50%	10.00%
-3.0%	6.4%	4.6%	2.9%	1.1%	-0.6%	-2.4%	-4.1%
-2.5%	7.5%	5.7%	4.0%	2.3%	0.7%	-1.0%	-2.7%
-2.0%	8.5%	6.8%	5.1%	3.5%	1.9%	0.3%	-1.3%
-1.5%	9.5%	7.8%	6.2%	4.6%	3.0%	1.5%	0.0%
-1.0%	10.4%	8.8%	7.2%	5.6%	4.1%	2.7%	1.2%
-0.5%	11.4%	9.7%	8.2%	6.7%	5.2%	3.8%	2.4%
0.0%	12.3%	10.7%	9.2%	7.7%	6.3%	4.9%	3.5%
0.5%	13.2%	11.6%	10.1%	8.7%	7.3%	5.9%	4.6%
1.0%	14.1%	12.5%	11.0%	9.6%	8.3%	6.9%	5.6%
1.5%	14.9%	13.4%	12.0%	10.6%	9.2%	7.9%	6.7%
2.0%	15.8%	14.3%	12.8%	11.5%	10.2%	8.9%	7.6%
2.5%	16.6%	15.1%	13.7%	12.4%	11.1%	9.8%	8.6%
3.0%	17.5%	16.0%	14.6%	13.2%	12.0%	10.7%	9.5%

Strong | Base | Weak | Disaster

Table 8 Opportunity Fund IRR Sensitivity

OPPORTUNITY FUND IRR SENSITIVITY							
	Residual Cap Rates						
Annual NOI Growth Rate*	7.00%	7.50%	8.00%	8.50%	9.00%	9.50%	10.00%
-3.0%	9.9%	6.9%	4.3%	2.1%	0.1%	-1.7%	-3.3%
-2.5%	11.7%	8.7%	6.1%	3.8%	1.8%	0.0%	-1.6%
-2.0%	13.4%	10.4%	7.8%	5.5%	3.5%	1.7%	0.1%
-1.5%	15.1%	12.1%	9.5%	7.2%	5.1%	3.3%	1.7%
-1.0%	16.8%	13.8%	11.1%	8.8%	6.7%	4.9%	3.2%
-0.5%	18.4%	15.4%	12.7%	10.4%	8.3%	6.4%	4.7%
0.0%	20.0%	16.9%	14.2%	11.9%	9.8%	7.9%	6.2%
0.5%	21.5%	18.4%	15.7%	13.4%	11.3%	9.4%	7.7%
1.0%	23.0%	19.9%	17.2%	14.8%	12.7%	10.8%	9.1%
1.5%	24.4%	21.4%	18.7%	16.3%	14.1%	12.2%	10.4%
2.0%	25.8%	22.7%	20.0%	17.6%	15.4%	13.5%	11.7%
2.5%	27.3%	24.2%	21.5%	19.0%	16.9%	14.9%	13.1%
3.0%	28.7%	25.6%	22.8%	20.4%	18.2%	16.2%	14.5%

Strong | Base | Weak | Disaster

* Annual growth rate applies after stabilization (years 4-7).

basis. As for the NCREIF vehicle, 50 basis point changes in the growth rate induce movements of 50 basis points or less in the IRR. In comparison to the other three investment alternatives, changes in cap rates for the opportunity fund elicit much larger swings in the overall IRR, due to the higher leverage.

Figures 3 through 8 depict equity returns (on both a mark-to-market and cash flow basis) for the four alternative investment vehicles, assuming the "strong," "weak," and "disaster" market assumptions. (Recall that Figures 1 and 2 illustrate the "base" case.)

The strong market case assumes $100 is invested in a real estate opportunity fund, annual NOI growth is 3 percent per year, and the residual cap rate is 7 percent. As a result, the investment quadruples in value, implying a 28.7 percent IRR. At the end of seven years, the NCREIF and core plus portfolios are worth about $200, doubling in value, while the NAREIT fund is worth $272 after seven years. The NCREIF, core plus, and NAREIT vehicles generate IRRs of 12.1 percent, 20.6 percent, and 17.5 percent, respectively. The pecking order for the "strong" case assumptions track the same for the "base" case. That is, the opportunity fund performs the best, while the NCREIF fund performs the worst, even in a high growth market environment.

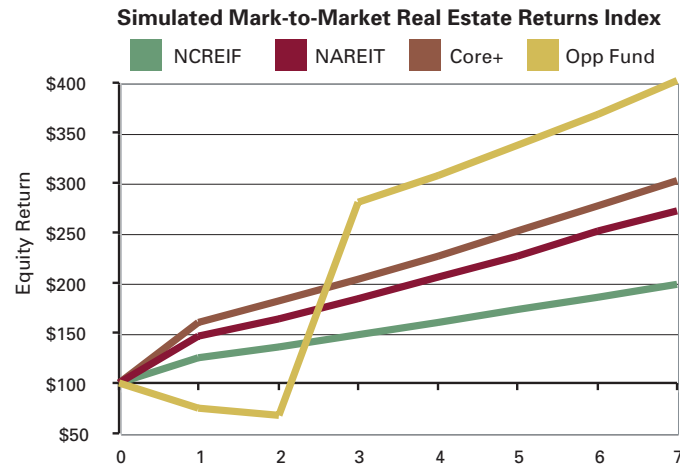**Figure 3** Strong Case Mark-to-Market Index

Simulated Mark-to-Market Real Estate Returns Index

Figure 4 Strong Case Cash Flow Index

Simulated Cash Flow Real Estate Returns Index
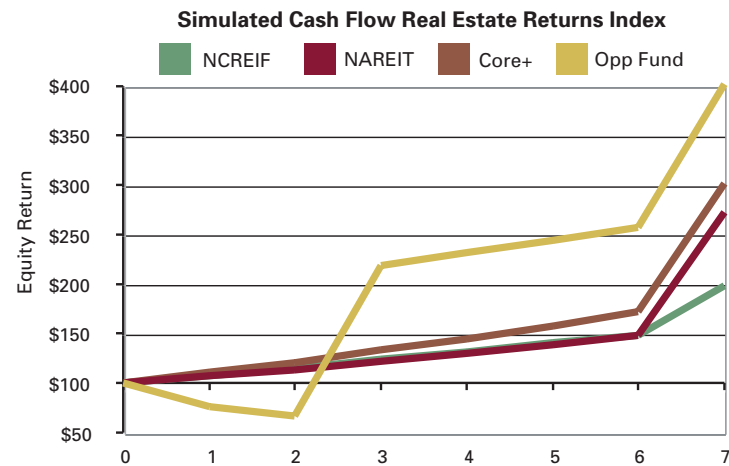
Figure 5 Weak Case Mark-to-Market Index

Simulated Mark-to-Market Real Estate Returns Index

Figure 6 Weak Case Cash Flow Index

Simulated Cash Flow Real Estate Returns Index
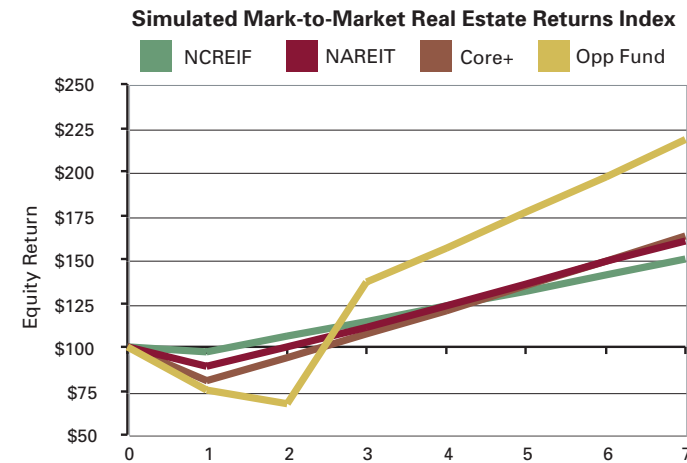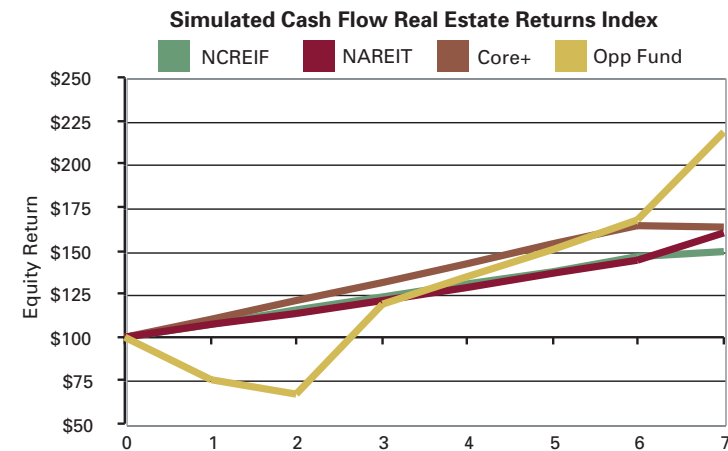
Comparing the patterns of the "base" and "strong" cases, there is a slightly quicker step-up in the mark-to-market return calculation. This is a result of the boost in value from the lower residual cap rate, and is captured by higher appreciation returns.

In the "weak" market case, NOI is assumed to grow by only 1 percent per year and the residual cap rate is 9 percent. The same general basic pecking order is recorded across the four investment alternatives, but in a truncated manner. Total value of the initial $100 invested in NAREIT, core plus, NCREIF, and opportunity fund portfolios under the "weak" market assumptions are $150, $163, $160, and $219 at the end of seven years. The IRRs are 7.2 percent, 9.4 percent, 8.3 percent, and 12.7 percent, respectively. An

interesting dynamic of the "weak" market case is that once stabilization occurs, the opportunity fund performance tracks side-by-side with the core plus fund through year six on a cash flow basis. Only upon exit does the opportunity fund "pull away." In fact, in year seven, the core plus portfolio is penalized for its greater leverage and lack of value-added.

DISASTER CASE

When "disaster" strikes, the pecking orders change. Assuming a -2 percent annual NOI growth and a 9 percent residual cap rate in year seven, the NCREIF portfolio moves to the head of the (poorly performing) class with a 4.2 percent IRR, followed closely by the opportunity fund at 3.5
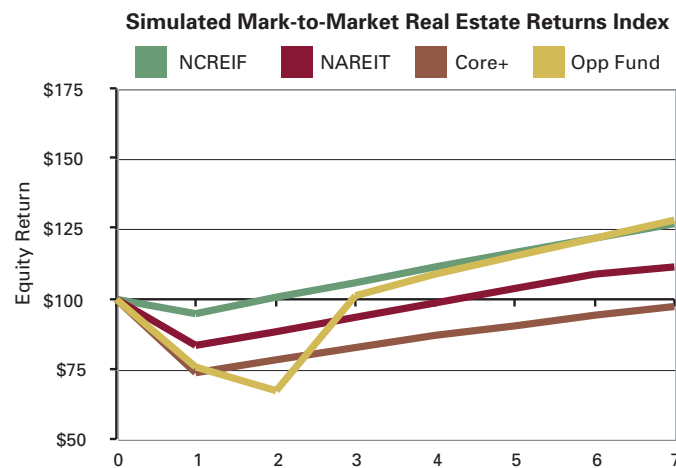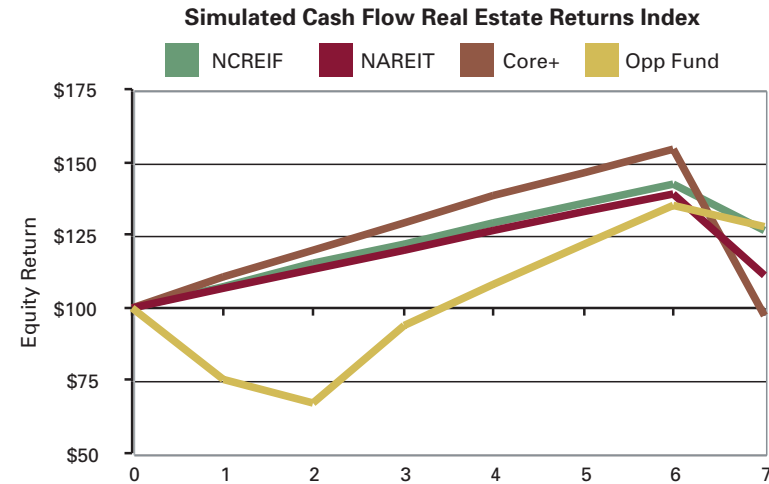
percent, and the NAREIT portfolio with 1.9 percent, while the core plus portfolio actually registers a -0.6 percent return, due to the 65 percent leverage and a purchase price significantly higher than the opportunity fund's. In the "disaster" market case, retiring debt with a smaller-than-expected residual value is the problem of the leveraged alternatives. On a cash flow basis, it is easy to observe that the four scenarios track slowly, but steadily, upward (once stabilized), but cash flow gains are largely lost in all cases upon exit.

STABILIZATION SENSITIVITY

Because cash flows and timing of stabilization of the opportunity fund alternative are so critical, we explore two variables that greatly impact investment performance:

initial purchase price and the years-to-stabilization. These results are presented in Tables 9 and 10.

The 70 percent leverage causes changes in purchase price to have a significant impact on IRR. A $5 million change in purchase price in either direction results in

Figure 7 Disaster Case Mark-to-Market Index

Figure 8 Disaster Case Cash Flow Index

Table 9 Impact of Purchase Price on Base Case Opportunity Fund Returns

OPPORTUNITY FUND IRR SENSITIVITY	
Purchase Price	IRR
$77,680,965	20.0%
$55,000,000	40.6%
$60,000,000	35.1%
$65,000,000	30.2%
$70,000,000	25.9%
$75,000,000	21.9%
$80,000,000	18.4%
$85,000,000	15.2%
$90,000,000	12.2%
$95,000,000	9.5%
Indicates base case.	

a 300 to 400 basis point swing in the IRR. Yet even a $95 million purchase price (a $5 million discount to the other three alternatives) generates a return comparable to NCREIF in spite of early year negative NOI.

The risk-reward profile for the opportunity fund vehicle becomes apparent when stabilization assumptions are modified. By shifting the timing of stabilization from the second through sixth year, the resulting opportunity fund "base" case IRRs rise to 24 percent or fall to 6 percent. That is, if the opportunity fund assets are stabilized in two years (rather than three years), the IRR increases by nearly 400 basis points. Conversely, if the asset is not stabilized until year four, the IRR drops by nearly 800 basis points, resulting in returns comparable to the NAREIT vehicle, and less than the core plus "base" case scenario.

If stabilization does not occur until years five or six, then the IRR for the private equity fund drops below even the NCREIF return, even for the "base" case. Thus, execution of value-added stabilization is more critical than market conditions for the return performance of an opportunity fund.
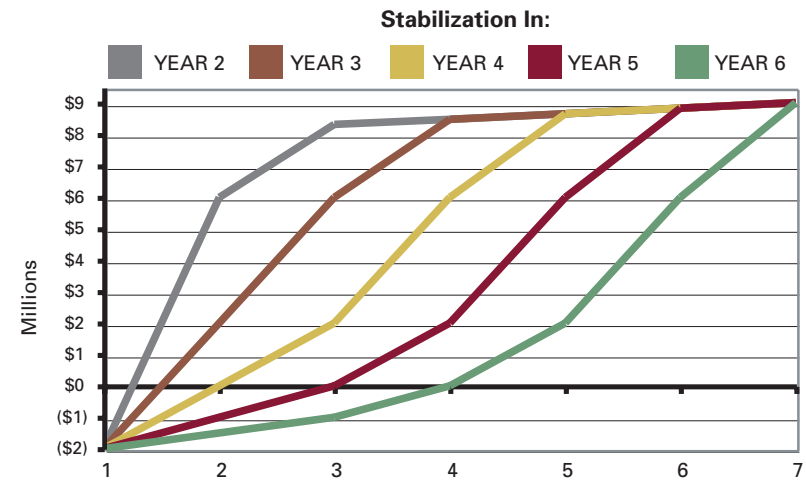
CONCLUSION

With different real estate investment strategies come different approaches to analyzing performance. This discussion has compared and contrasted four investment alternatives (NCREIF, core plus, NAREIT, opportunity fund), each within the context of four distinct sets of market conditions (base, strong, weak, disaster).

Figure 9 Opportunity Fund Cash Flow Assumptions for Stabilization

The return patterns for each investment strategy differ in different market environments, making meaningful benchmarking across investment alternatives very difficult. While good markets help all investment vehicles, the extent to which this is true varies notably. For example, the opportunity fund investor's downside return assuming successful property stabilization in a "weak" market is the same as achieved by the NCRIEF vehicle in a "strong" market. In fact, if market conditions are the main concern, then opportunity funds are generally the best alternative (ignoring liquidity considerations).

These simulations demonstrate that neither NCREIF nor NAREIT provide appropriate return benchmarks for opportunity funds. With that said, there are two critical insights that investors can utilize to

prevent their fund managers from operating in a complete return vacuum. First, opportunity fund managers should regularly benchmark their performance against themselves to determine how they are performing compared to their own projections. Secondly, upon fund maturity, investors should compare the actual return spread over NCREIF and NAREIT relative to expectation. This spread should be about 700 basis points above NAREIT and about 1,000 basis points above NCREIF. While these do not answer the "How am I doing?" question, they do provide a disciplined analytical framework.

Table 10 Opportunity Fund Cash Flow Assumptions for Stabilization

			REQUIRED RESIDUAL CAP RATE		
			YEAR OF STABILIZATION		
	Year 2	Year 3	Year 4	Year 5	Year 6
1	($2,000,000)	($2,000,000)	($2,000,000)	($2,000,000)	($2,000,000)
2	6,000,000	2,000,000	-	(1,000,000)	(1,500,000)
3	8,323,200	6,000,000	2,000,000	-	(1,000,000)
4	8,489,664	8,489,664	6,000,000	2,000,000	-
5	8,659,457	8,659,457	8,659,457	6,000,000	2,000,000
6	8,832,646	8,832,646	8,832,646	8,832,646	6,000,000
7	9,009,299	9,009,299	9,009,299	9,009,299	9,009,299
IRR	23.7%	20.0%	13.5%	18.7%	6.2%
	Indicates base case.				