# CAPTURING THE ILLIQUIDITY PREMIUM

*Exploring Return Synergy With Private Equity*

Investors in a position to increase their allocations to less liquid investments can take advantage of the continuing opportunity provided by private equity[1]. Northern Trust significantly increased target allocations to private equity for the Diversified, Growth and Maximum Growth objectives this year (see our paper, *Evolving Environment Causes Subtle Shifts; Brings Illiquidity Premium in Focus*, for more information about this shift). In addition to our outlook for strong private equity returns noted in our annual Capital Market Assumptions, our analysis of various scenarios of capital committed to private equity reveals an opportunity to increase ending capital by up to 67% of initial commitment over the life of the investment.

Investments in private equity typically realize an illiquidity premium, which has contributed to strong historic performance. For the 20 years ending December 31, 2013, private equity outperformed U.S. equities by nearly 7% annualized (16.1% returns vs. 9.2% for the S&P 500).[2] Looking forward, we believe private equity will outperform U.S. public equities over the next five years, with a projected return of 9.6% annualized compared to 7.1% for U.S. public equity. Our analysis of strategies for investing committed capital to private equity demonstrates how an investor may capture incremental returns above these projections.

## KEY OBSERVATIONS FROM OUR ANALYSIS

Much debate centers on how to invest the unfunded portion of committed private equity investments. To determine the implications of the different approaches commonly used, we analyzed a portfolio with a $10 million investment in private equity. Our findings showed:

- **Liquidity preference may disappoint –** Private equity investors holding the unfunded portion of their committed capital in low-returning assets may be disappointed by time-weighted return results – even when the private equity investment generates targeted value-weighted returns.
- **Synergy boosts time- and value-weighted returns –** The combination of a successful private equity investment and a diversified portfolio holding the uncalled capital can create a synergy that increases time-weighted returns and may provide a substantial increase to value-weighted returns.
- **"Go Big or Stay Home" –** To realize real benefit from this synergistic improvement in returns, the commitment to private equity should be significant (15% to 20% of the total portfolio). The compounding on an investment that is a small percentage (5% to 10%) of an investor's total assets may not have an impact at the total portfolio level.

The analysis of cash flows associated with a private equity commitment assume 100% of committed capital is called before any distributions are realized.

*1 We recommend that investors carefully analyze their liquidity needs and consider the potential benefits of increasing allocations to private equity or other illiquid investments. Investing in private equity has unique risks including manager selection, illiquidity and dynamics around selling to meet capital calls.*

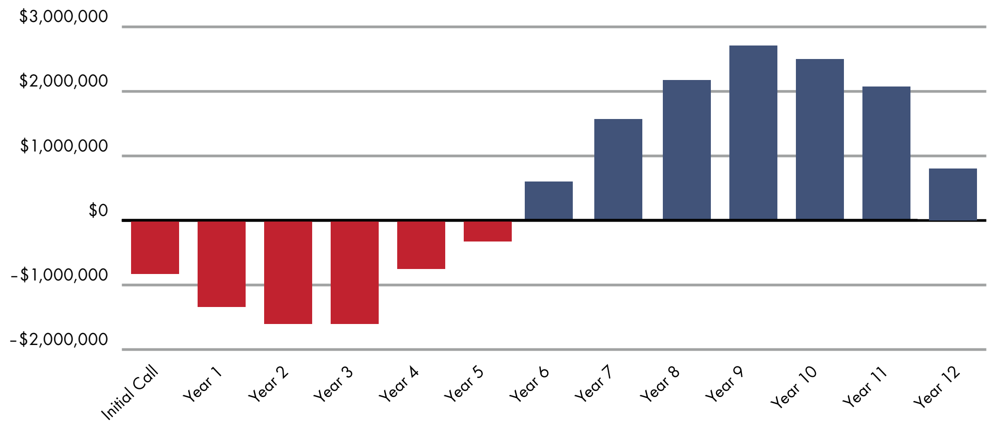
*2 Sources: Thompson Financial Venture Economics, All Private Equity Funds Index (pooled average) as of 12/31/13; Cambridge Associates, public market indexes as of 12/31/13. Note: Private Equity Index returns are net of underlying manager fees and carried interest. Past performance does not guarantee future results. Public market index returns are gross of all fees and expenses. It is not possible to invest directly in an index.*

## ANALYSIS ASSUMPTIONS

We projected cash flows for a $10 million private equity investment with an assumed internal rate of return (IRR) of 9.9%. We chose the $10 million investment for ease of multiplication to a scale of investment applicable to different investors. Exhibit 1 shows the forecasted capital activity of this hypothetical investment. Each bar represents net cash flow (returns of capital less capital calls) for each year starting with an initial call at "time zero" and annual flows across a 12-year investment period. The full $10 million is called over the course of the first five years with distributions beginning in year six.

### EXHIBIT 1: FORECASTED CAPITAL ACTIVITY

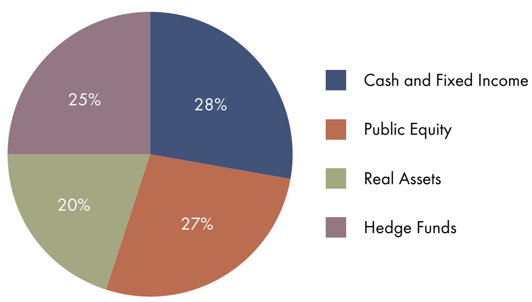
*Forecast of annual capital activity for a hypothetical $10 million private equity investment, with an assumed IRR of 9.9%.*




*Note: Each bar represents annual cash flow (returns of capital – capital calls)*
*Source: Northern Trust*

Based on this hypothetical investment, we created a sample investment allocation for the unfunded portion of capital committed to private equity. Exhibit 2 shows this allocation based on our "Diversified" model, prorated to remove PE. (To learn more about our model portfolios for large, long-term investors, see Appendix 2 on page 7.) Finally, we used expected returns, volatility and correlations from our current Capital Market Assumptions.

### EXHIBIT 2: ASSET ALLOCATION FOR DIVERSIFIED MODEL




*Source: Northern Trust*

## ANALYSIS OF IMPACT ON TIME-WEIGHTED RETURNS

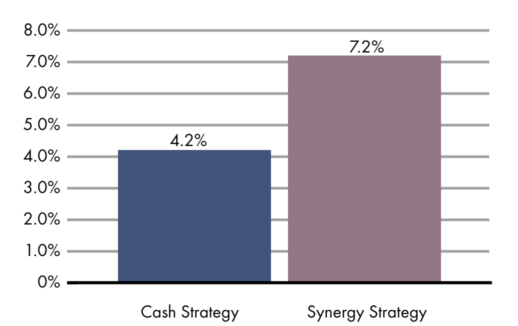
Monte Carlo analysis can be used to project investment results over time – both in time-weighted returns and ending portfolio values – for different investment strategies across a variety of market scenarios. Using the cash flows from Exhibit 1 and the diversified investment allocation from Exhibit 2, we ran a series of Monte Carlo projections across numerous market scenarios over a 12-year investment period for two investment strategies. The strategies are summarized below and the time-weighted returns realized by each strategy in the median scenario generated by the Monte Carlo analyses are presented in Exhibit 3.

- **Cash Strategy –** This portfolio has a $10 million commitment to private equity, and holds the unfunded portion of committed capital in cash. The portfolio pays out the capital calls and receives the capital returns outlined in Exhibit 1. The time-weighted return in the median scenario generated by the Monte Carlo analysis is a modest 4.2%. That's because only a portion of the investment is generating equity returns at a given time, while the rest of the unfunded capital languishes in low returning cash. This "cash drag" is especially significant in the current low interest rate environment.
- **Synergy Strategy –** This portfolio includes a $10 million commitment to private equity, but the unfunded portion of committed monies also is invested using the allocations recommended for the Diversified model portfolio shown in Exhibit 2. Capital calls are funded from this diversified portfolio, and PE distributions are invested here as they are received. This strategy realizes a time-weighted return of 7.2% in the median scenario generated by the Monte Carlo analysis. The synergy of PE and diversified investments has a meaningfully positive compounding effect on returns, as shown in Exhibit 3.

Monte Carlo analysis also can project the value of an investment portfolio over time. Taking the projected ending portfolio value from our Monte Carlo simulation's median market scenario and dividing that by starting capital expresses investment results in a multiple of initial capital. Seen in Exhibit 4, the Cash strategy increases ending capital to 1.64x starting capital. The Synergy strategy increases ending capital to 2.31x initial capital. The synergy between the private equity returns and the diversified investment of the capital reserves delivers additional returns equal to 67% of starting capital. On a $10 million initial PE commitment, this equates to an additional $6.7 million of value creation beyond what would be realized by leaving those reserves to sit in cash!

### EXHIBIT 3: MEDIAN ANNUALIZED RETURNS

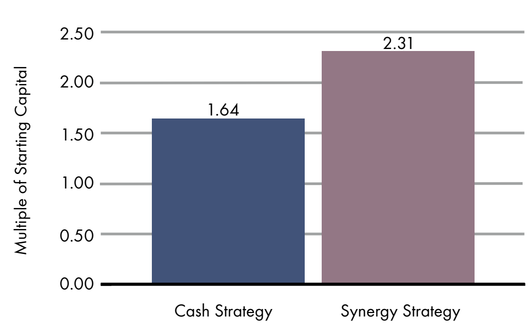
*Projected returns for a hypothetical $10 million portfolio over a 12-year investment period.*




*Source: Northern Trust*

### EXHIBIT 4: MEDIAN ENDING CAPITAL MULTIPLE

*Median projected returns as a multiple of starting capital, by strategy.*




*Source: Northern Trust*

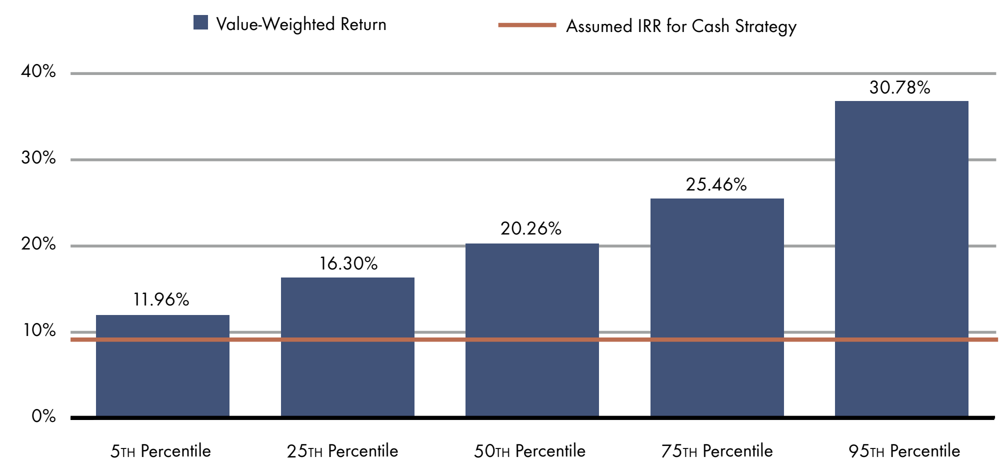
## EFFECT ON VALUE-WEIGHTED RETURNS

Monte Carlo analysis generates numerous outcomes across different market scenarios. To understand the strategies in terms of value-weighted returns, we looked at the change in portfolio value in the Synergy strategy for five different market scenarios and treated the change in value year-over-year as a cash flow (shown in Exhibit 5). Cash flows represent both the inflows and outflows of the PE investment and the investment returns from the diversified investment portfolio in each market scenario.

The Monte Carlo-generated "5TH percentile" outcome in our analysis of the Synergy strategy represents poor broader investment markets (95% of the Monte Carlo scenarios realize better results), but, by generating some incremental returns to the PE cash flows, the IRR generated is higher than the 9.9% assumed IRR generated by the Cash strategy. Left to right, as the market scenarios improve, the IRR improves. With median (50TH percentile) to strong (75TH percentile or higher) markets, IRRs are quite compelling.

**EXHIBIT 5: VALUE-WEIGHTED RETURNS FOR SYNERGY STRATEGY**

*Market scenarios from the Monte Carlo simulation of Synergy strategy.*




*Source: Northern Trust*

## MAXIMIZING THE BENEFITS OF YOUR PRIVATE EQUITY INVESTMENT

A successful private equity investment program can provide substantial benefits for a large, return-oriented investor. Whether viewed through a time-weighted or a value-weighted return lens, by following a synergistic approach – investing the monies held to cover capital calls in a diversified portfolio as modeled in Exhibit 2 – investors can realize tremendous benefit.

The effect of these benefits decreases with smaller private equity allocations relative to the total investment portfolio. We believe investors need to "go big or stay home" to realize real benefit from this synergistic improvement in returns. The commitment to private equity in our model Diversified portfolio is 13%. In the Maximum Growth model, we recommend a 20% allocation to private equity.

For this reason, you should carefully consider the size of the private equity allocation in your portfolio. Northern Trust can work with you to weigh your particular circumstance and help you determine whether an allocation to private equity might help you realize your investment objectives.

### LEARN MORE

If you would like to explore the sizing of your private equity allocation or to weigh your options for investing capital you currently hold to meet private equity capital calls, please contact your relationship manager or visit northerntrust.com. We can work with you to develop a strategy that reflects your investment objectives.

## APPENDIX 1: UNDERSTANDING THE RISKS OF PRIVATE EQUITY INVESTING

The analysis presented in this paper is based on the assumption of a substantial PE commitment as an element of an investment program for a large, long-horizon, return-oriented investor. Before committing to a private equity investment, you should carefully consider the risks.

- **Manager Selection –** Private equity investments have a high level of return dispersion. Selecting and combining top managers is essential to realizing the potential of the asset class.
- **Liquidity –** Private equity is an illiquid investment. Commitments made will be drawn over a period of years and capital will be paid out over a period of years – the total life of any given private equity investment is typically 10 to 12 years. Private equity investments typically do not call 100% of capital (see below), but you need to plan for a "worst case" scenario from a liquidity perspective, just in case all of the commitments are called and there is a lag before distributions are made. Commitments can be planned with an assumed liquidity schedule, but should also be delimited by a "tight liquidity" scenario – if calls exceed distributions by more than expected, what is the maximum level of illiquid private equity you want to "risk" having as a total exposure?
- **Selling Into a Down Market to Meet Calls –** The analysis presented in this paper suggests that capital committed to meet future private equity capital calls can best benefit the broader portfolio if it is invested to generate returns rather than held in cash. Situations may occur in which you will have to sell liquid investments in a down market to meet those calls. The offsetting consideration is that the commitment to a meaningful private equity investment is predicated on an expectation of superior returns relative to the liquid portfolio. While you may need, on occasion, to "sell low" to meet a call, you also are "buying low" in a category with higher expected returns.

## PLANNING FOR CAPITAL CALLS

As a private equity investor, you should expect periodic capital calls in tranches over the first few years of the investment period, as illustrated in Exhibit 1. It is possible for your entire commitment to be called at any point. Typically, however, the maximum amount of capital you will be "out of pocket" (calls less distributions) relative to your total commitment tends to be about 70%.

## APPENDIX 2: NORTHERN TRUST STRATEGIC PORTFOLIO RECOMMENDATIONS FOR LARGE, LONG-TERM INVESTORS

Northern Trust creates and updates annually strategic asset allocation recommendations for investors that have:

- Multi-generational to perpetual investment time horizons;
- The flexibility, size and sophistication to access a full range of global investment opportunities;
- High target investment returns; and
- An awareness of volatility's effects and the impact of drawdowns on compounding, particularly when a pool is supporting regular distributions.

Specifically, these recommendations have been created to help meet the needs and goals of foundations, endowments, charities, and large family and private investment offices.

While we tailor each investor's strategic asset allocation to meet specific needs and goals, our process begins with five strategic portfolio objectives designed to cover the risk/reward continuum. Each serves as a starting point for customization.

- **Low Volatility.** Accepts a lower absolute level of expected return in exchange for a focus on greater stability and lower risk of drawdown in the return stream.
- **Conservative.** Begins to step out on the frontier to achieve somewhat higher expected returns, with the attendant increase in expected volatility.
- **Diversified.** Seeks to balance achieving returns with managing risk.
- **Growth.** Tilts toward achieving higher expected returns by accepting greater expected volatility. We use the Growth objective as the starting point for charitable pools targeting a perpetual time horizon while supporting meaningful ongoing distributions (typically 4% to 5% annually).
- **Maximum Growth.** Seeks to maximize compounding and, in the process, assumes a high capacity for interim volatility.

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**Important Information Regarding Hypothetical Returns –** Where hypothetical portfolio data is presented, the portfolio analysis assumes the hypothetical portfolio maintained a consistent asset allocation (rebalanced monthly) for the entire time period shown. Hypothetical portfolio data is based on publicly available index information. Hypothetical portfolio data contained herein does not represent the results of an actual investment portfolio but reflects the historical index performance of the strategy described which were selected with the benefit of hindsight. Components of the hypothetical portfolio were selected primarily utilizing actual historic market risk and return data. If the hypothetical portfolio would have been actively managed, it would have been subject to market conditions that could have materially impacted performance and possibly resulted in a significant decline in portfolio value.

Past performance is no guarantee of future results. Returns of the indexes also do not typically reflect the deduction of investment management fees, trading costs or other expenses. It is not possible to invest directly in an index. Indexes are the property of their respective owners, all rights reserved.

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