Achieving Private Equity Allocation Targets: Eliminating the Guesswork

In this paper we explore typical private equity allocation scenarios and techniques that may help investors achieve their own private equity investment objectives.
Eliminating the Guesswork For Private Equity Allocations

A commitment strategy that allows an investor to consistently achieve and maintain a specific, targeted private equity exposure can be just as important as deciding on the initial allocation.

Commit too little, and the asset class may never deliver its intended impact. Commit too much, and you may face liquidity pressures in funding prior commitments or need to liquidate otherwise attractive positions.

Private equity investors have spent significant effort in recent periods setting or resetting their “optimized” target private equity allocations. However, too few investors may be developing sound approaches to ensure that their targets are actually realized and maintained over time.

“Optimized” private equity target allocations are designed to reduce portfolio risk through diversification and boost performance. But if these allocations are not achieved and maintained, investors may not fully realize the benefits of adding private equity to a portfolio.

Both new and experienced private equity investors commonly face three central questions:

• How should I size and pace my commitments to reach my target allocation?

• What future commitments will I need to make to maintain my proportional private equity exposure over time?

• How should I manage my long-term private equity commitments in the face of short-term market volatility across the rest of my portfolio?

While each investor’s situation is unique, we believe that exploring some case scenarios – and outlining a clear framework for addressing them – will help investors achieve their private equity investment objectives.
Moving From Allocation Target to Commitment Strategy

Institutional investors in search of improved returns and greater diversification are typically turning to private equity investments as they shuffle and refine their portfolio allocations. Once they make the decision to invest in private equity, investors typically develop an appropriate target allocation based on their liquidity, risk tolerance, and performance needs.

It’s easy to understand why commitment planning has been overlooked. Unlike traditional investments, where capital is put to work immediately, private equity investments function as a highly variable series of cash flows. Estimating the future exposure or net asset value (NAV) of private equity investments remains difficult. That’s because investors have no control over the timing of the contributions toward their commitment that will build NAV. Nor can they control distributions from underlying investments that will reduce NAV.

This lack of control results from private equity funds’ typically calling capital from investors as portfolio company acquisitions are made, and then distributing capital back to investors as investments are exited.

The majority of capital calls occur early in a fund’s life (typically years one through three), while most distributions occur later (typically years four through 10). Over time, these cash flows form a pattern that is often referred to as the “J curve.”

An investor seeking to reach or maintain a specified allocation to private equity needs to understand exactly where their portfolio sits on the J curve. In other words, the investor must understand the maturity of the portfolio relative to its overall lifecycle. This information is essential to an investor’s ability to make effective future commitment decisions.

Commitment decisions are important in an effort to achieve strategic targeted private equity exposure. This could mean reducing that exposure by liquidating private equity interests on the secondary market, or increasing it by ramping up commitments (potentially via a secondary purchase).

Drivers of variability:
- Market conditions
- Strategy considerations
- Fund raising cycles
- Manager-specific factors

Private Equity Cash Flow Can Be Highly Variable

Source: PineBridge Investments. Provided for illustrative, hypothetical purposes only. Does not reflect actual results of investments using actual assets. “J curve” illustrations do not take into account numerous variables/factors that can affect actual results such as unanticipated material changes in market and/or other economic conditions affecting the investments, transaction costs, the imposition of taxes, the impact of the human judgment factor, and the actual timing of any exits from the underlying investments. Accordingly, there can be no assurance that any investor or investment manager could actually create a portfolio that would replicate the outcome of the above table or, if such portfolio(s) were created, that it would achieve the results implied above or be profitable. Market cycles can exaggerate or minimize the “J” effect in any vintage year. There is no industry standard for valuing private funds or underlying portfolio companies, and valuations of similar assets may vary from fund to fund based on a subjective measure of value.
Estimating Future Exposure Is Easier Said Than Done

Many investors and consultants have acknowledged the importance of accurately estimating future private equity exposure in developing a commitment strategy. However, few are able to accurately forecast how their exposure – based on prior or future commitments – will actually evolve over time.

One reason is that private equity cash flows can prove unpredictable based on many factors including:

- **Market conditions.** Cash flows may be influenced by the market for private equity transactions in general. If markets are strong, and deals can be exited quickly, private equity investors may experience sooner-than-expected capital calls and distributions. On the other hand, sluggish markets may delay portfolio company investments and/or require managers to hold portfolio companies longer than expected, which can delay both capital calls and distributions.

- **Strategy considerations.** The strategy of a private equity fund may also affect cash flow timing. For example, venture capital managers often must put substantial time into their portfolio companies over a series of investment rounds. Consequently, these investments often have longer lives and a greater time horizon from capital calls to distribution than their buyout counterparts.

- **Fundraising cycles.** The timing of fundraising cycles for individual managers, and the market as a whole, can also affect when private equity investors can make commitments. This can alter the overall timing of future cash flows.

- **Manager-specific factors.** Each manager and fund is affected by numerous market- and transaction-specific variables that affect cash flow timing. This idiosyncratic element leads to different cash flow patterns among funds – even for the same or similar managers.

These and other variables make it hard to predict individual private equity fund cash flows. Unfortunately, investors’ commitment-planning efforts can stall as a result.

Our Approach

Because of the need to ensure that private equity exposure targets are reliably achieved over time, forecasting private equity cash flow patterns is critical to the strategic asset allocation process.

To aid in developing an effective commitment strategy, we studied a broad pool of thousands of private equity funds and determined that while individual fund cash flows are unpredictable, when examined as a pool, a discernable and quantifiable cash flow pattern emerges for diversified private equity portfolios.¹

Through rigorous back testing, we developed a proprietary tool and methodology that illustrates potential private equity cash flows and NAV. The results can be used to better understand the evolution of a private equity portfolio over time and assist in developing a commitment strategy to achieve portfolio allocation goals.

A Three-Step Illustrative Process For Private Equity Cash Flow Analysis

1. Our approach begins by developing performance assumptions for a portfolio of existing private equity sets or anticipated future commitments based on qualitative evaluations of the underlying managers and industry benchmarks.²

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¹ The statistical summary process is based on historical data derived from limited universes of private funds as of certain dates which were available prior to the time of publication from sources including third party fund information data bases then available for private purchase, and is not necessarily available to the public or updated for purposes of this commentary. Such process is presented herein solely for the purpose of illustrating a potential tool for potential use in analyzing cash flows and not to recommend any particular method, assumptions, allocations or otherwise provide investment advice.

² Benchmarks are a resource for certain purposes but there is not necessarily a correlation between investment returns of any investment and any benchmark. Benchmarking does not normally take into account fees and expenses and other variables and factors associated with the active management of any investment.
2. Monte Carlo simulations, which randomly generate tens of thousands of cash flow patterns, are then used to model multiple potential J curves in a series of confidence intervals based on a broad set of historical and potential private equity fund cash flow data assumptions.

3. The confidence intervals are then statistically summarized to arrive at a hypothetical J curve for the aggregate portfolio defined by base-, low-, and high-case cash flow, spanning roughly one standard deviation of the median or base case.

The potential future cash flow example depicts an illustrative portfolio. The portfolio’s cash flows are very close to the base case as originally reflected by the model.

**Practical Implications And Case Studies**

To illustrate how this model and approach can be applied to day-to-day challenges, we have developed four case studies. Each asks a “real-world” question that today’s private equity investors face.

**Case study A:** As a new investor, how should I size and pace my private equity commitments to reach my target allocation?

**Case study B:** What future commitments will I need to make to maintain my proportional private equity exposure over time?

**Case study C:** How should I manage my long-term private equity commitments in the face of short-term market volatility across the rest of my portfolio?

**Case study D:** How do you manage private equity exposure amid severe market volatility?
Case Study A: Developing a New Private Equity Program

Applying this cash flow and forecasting process can be invaluable for an investor seeking to begin a private equity investment program. The following case study assumes a normal investment environment and does not account for significant anomalies in market cycles.

Case study A involves a hypothetical public pension seeking to diversify into private equity with no prior exposure. While the plan’s staff may be able to roughly estimate a future commitment schedule based on capital availability, without careful planning, the pension risks being over- or underexposed to private equity. Using the same model introduced earlier, we may be able to develop a commitment strategy to more reliably achieve exposure within the desired timeframe.

Specifically, we have assumed that the pension currently has US$10 billion in assets and is seeking to develop a US$500 million private equity investment program. We have also assumed the pension desires a 5% portfolio allocation target based on the current portfolio size.

If the staff simply commits US$100 million to private equity funds over each of the next five years, they will likely fall well short of the pension’s goal of US$500 million of exposure.

Because timing of both contributions and distributions is at the private equity fund manager’s discretion, commitments do not necessarily translate into money at work (i.e., actual investment exposure). In fact, even if they commit US$500 million up front in the first year, the pension will likely never reach US$500 million of exposure.

Instead, the staff would have to commit in excess of the stated goal to reach the pension’s target, and front-load their commitments to ensure they reach 5% in actual exposure within the stated timeframe.

Our model estimates that the pension would need to pursue an “overcommitment strategy,” committing a total of US$1.2 billion to achieve the pension’s US$500 million target exposure.

The benefit of using Monte Carlo analysis in each of these case studies is the broad range of outcomes generated by each simulation. The results are high, low, and base cases that can be set at any level of statistical significance depending on the purpose of the analysis and the question which it is designed to answer. For these case studies, the high and low cases span roughly one standard deviation of the median. While it is uncertain what the future cash flow implications of any private equity commitment strategy will be, for a targeted level of certainty, Monte Carlo simulations illustrate the historical range of statistically weighted probabilities. Informed commitment decisions can then be made with greater likelihood that the actual outcome will fall within a desired range. The value of a Monte Carlo analysis depends on the material assumptions and conditions built into the analysis, and the absence of variables and factors which simulations are not able to account for. See Note to cash flow example on page 5.
Commitment amounts would also need to vary, ranging from US$310 million in year 1 to US$190 million in year 5. Given anticipated growth of the pension plan’s other investments, by year 5, the required target exposure would be roughly US$650 million to achieve the 5% target allocation.

In other words, both front-loading and overcommitting would likely be necessary to hit the pension fund’s target within five years. Investors should, however, be aware of the risks involved in following this approach.

If the pension is seeking to further accelerate its private equity exposure, making a secondary investment [buying into a mature and diversified pool of private equity assets that are further along their J curves] can provide a valuable “kick-start” to get the program off the ground even faster.

To demonstrate this point on an illustrative basis, if the staff made a secondary fund investment in addition to front-loading commitments, they could reduce the time required to reach the pension’s 5% exposure target. If seeded with US$150 million of private equity NAV in the first year via a secondary investment – while reducing the first-year primary fund commitments by US$150 million (so the same US$1.2 billion is committed over the next five years in both examples) – the pension could potentially achieve its targeted 5% exposure within four years.

This is one full year shorter than the five required if they had made only primary fund commitments.
Case Study B: Maintaining a Target Allocation Within An Existing Private Equity Portfolio

How to maintain a target private equity allocation over time is a problem even the most seasoned of private equity investors can face. Future commitment decisions may be influenced by the strategy composition, maturity, and performance expectations of the current and future expected portfolio.

The first step in developing or refining a commitment strategy for an existing private equity portfolio is to assess the factors that will drive the development of the portfolio’s future exposure.

The best approach is for investors to ask themselves the following questions:

• What is the current strategy composition of the private equity portfolio? Will it be maintained? And how will this composition affect future cash flows?

• How mature is the portfolio and what level and direction of portfolio “momentum” is anticipated over the near term?

• How strong is the current roster of managers, and are they expected to maintain their prior historical performance?

Case study B assumes an endowment has US$5 billion in assets and currently US$500 million in private equity exposure, in line with a 10% allocation target. The strategy composition is 80% buyout and 20% venture capital and is expected to hold steady.

We also assume that the endowment has a rather mature portfolio, as it has been investing in private equity for 10 years.

To help illustrate the questions this hypothetical endowment faces, we developed a synthetic portfolio and attempted to address critical factors.

Once the endowment has assessed these underlying factors, it can then address the primary question: What commitments are necessary over the next five years to maintain this 10% allocation?

While this investor’s situation is quite different than in case study A, we can use the same cash flow tool to estimate the future commitments necessary to hold the endowment’s allocation steady at 10%.

Specifically, the model forecasts that the investor in case study B will need to commit US$160 million to US$220 million annually to private equity funds over the next five years to maintain the target allocation.

Critical Questions In Maintaining A 10% Exposure To Private Equity

Objective: US$5 billion endowment is seeking to maintain 10% exposure to private equity, given an 8% growth rate across the rest of its (non-private-equity) portfolio.

Question: What annual commitments are necessary over the next five years to maintain this allocation?

<table>
<thead>
<tr>
<th>Critical Factors to Consider</th>
<th>Critical Variables</th>
<th>Case Study B Assumptions</th>
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<tr>
<td>Strategy composition</td>
<td>Buyout versus venture</td>
<td></td>
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<tr>
<td>Portfolio maturity</td>
<td>Relative J curve position</td>
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<tr>
<td>Return assumptions</td>
<td>Quality of managers/historical performance</td>
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<td></td>
<td>80% buyout/20% venture</td>
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<td></td>
<td>Mature portfolio (10-year investing history)</td>
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<tr>
<td></td>
<td>16.9% buyout IRR/25.6% venture IRR</td>
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Source: PineBridge Investments. Provided for illustrative, hypothetical purposes only. Case study assumptions, factors and variables shown above do not reflect any actual investment using actual assets and do not take into account numerous variables/factors that can affect actual results such as unanticipated material changes in market and/or other economic conditions affecting the investments, transaction costs, the imposition of taxes, the impact of the human judgment factor, and the actual timing of any exits from the underlying investments.
Interestingly, in this example, the endowment need only increase its annual private equity commitments at a 6% rate, while in contrast, its total portfolio is growing at 8%.

How can this be? Shouldn’t future commitments grow more in line with the aggregate portfolio’s growth?

The underlying reason for this asymmetric growth in commitments is that – based on our assumptions – the endowment has a mature private equity portfolio with large, outstanding commitments that will be called over the near term.

These private equity commitments will result in near-term capital contributions that provide what we refer to as “significant positive portfolio momentum.” This momentum will accelerate the endowment’s private equity exposure over the next five years as money “goes to work.”

Given a different scenario and set of assumptions, however, the results might be different or perhaps even reversed.

For example, an investor with a much more mature portfolio with limited recent commitments might be faced with significant distributions and limited capital calls over the next five years, resulting in “significant negative portfolio momentum.” These distributions and limited capital calls could quickly erode the investor’s exposure. Such a scenario would require the investor to accelerate its new commitments at a pace exceeding portfolio growth.

In summary, in order to maintain a target allocation, investors cannot simply grow their commitments at the same rate they expect their total portfolio to grow. They must instead assess the composition, maturity, and return expectations of their portfolio to accurately develop a future commitment strategy.
Case Study C: The “Denominator Effect”

As the value of traditional portfolio assets fluctuates with normal business cycles, investors may temporarily find their private equity exposure exceeding or falling short of their target allocation – often known as the “denominator effect.”

The automatic reaction to these market movements may be for investors to adjust their commitment strategy in an effort to meet allocation targets in the short run by either reducing or accelerating commitments. While this may seem like a prudent strategy, timing private equity commitments to the market can have consequences for investors in terms of achieving long-term exposure, increasing volatility and altering performance.

When beginning a private equity program, investors must accept that private equity, by nature, is a long-term asset class and must distance their investment decisions from short-term bias.

To illustrate this further, let’s explore the same endowment featured in case study B (a US$5 billion endowment with a 10% target private equity allocation), but under different circumstances.

Instead of assuming 8% portfolio growth over the next five years as we did in the prior case study, let’s assume the endowment’s asset base declines by 2% in year 6 due to poor performance in public markets. The endowment expects to lose another 2% in year 7, as well.

Brighter years are forecasted, however, as the fund expects recovery growth of 10% from years 8 through 10, eventually returning it to its long-term growth expectation of 8%.

Given this climate, the endowment’s staff faces a decision. While its asset base has declined in year 6, its private equity exposure has continued to grow as exits have slowed and managers have continued to call capital.

Should the endowment continue to make new commitments to private equity even if new commitments will push the fund’s exposure temporarily beyond its target?

To address that question, let’s examine two scenarios. In scenario 1, we assume the endowment pursues the same commitment plan provided in case study B to maintain its 10% private equity allocation – commitments ranging from US$160 million in year 6 to US$220 million in year 10.

In scenario 2, we assume that the endowment makes no commitments to private equity in years 6 and 7 in response to deteriorating market conditions across the rest of its portfolio.

As markets recover in year 8, the endowment overcompensates for its reduced commitments in years 6 and 7 by committing US$330 million per year from years 8 through 10. So, in both scenarios, the same US$990 million is committed, but with very different timing.

As expected, in scenario 1, the endowment temporarily exceeds its target allocation as the value of the rest of its portfolio declines, peaking at 10.8% in private equity exposure in year 7.

As markets recover from years 8 through 10, however, the endowment’s private equity allocation reverts back to its 10% target by year 9.

The results are quite different for scenario 2. While the endowment will maintain its allocation for year 6 by not making new commitments, it will be grossly underallocated by year 8, bottoming out at 8.1%. Despite making significant “catch up” commitments from years 8 through 10, the endowment will still be well under its target allocation at 9.2% by year 10.

The consequences of scenario 2 are twofold. By not committing consistently to private equity year after year, the endowment experiences unintended private equity exposure volatility and delays a return to its target allocation until after year 10. In contrast, scenario 1 forecasts the endowment will return to target by year 9.

Additionally, the endowment risks forgoing investments in potentially strong private equity vintage years. Historical data have shown that private equity funds making investments in years with poor public markets have provided comparably strong returns with other
Case Study C: The Denominator Effect – An Illustration

Future Private Equity Commitment Strategies

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<th>Scenario 1 Commitments by Year ($ millions)</th>
<th>Scenario 2 Commitments by Year ($ millions)</th>
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<tr>
<td>8% Portfolio Growth</td>
<td>2% Portfolio Decline</td>
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<td>$160</td>
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Source: PineBridge Investments. Case assumptions: 16.9% buyout IRR/25.6% venture IRR performance; 80% buyout/20% venture portfolio split; private equity limited partnerships have a life span of 12 years. Provided for illustrative, hypothetical purposes only. The hypothetical allocations, commitments, growth and other data and analyses shown above do not take into account numerous variables/factors that can affect actual results such as unanticipated material changes in market and/or other economic conditions affecting the investments, transaction costs, the imposition of taxes, the impact of the human judgment factor, and the actual timing of any exits from the underlying investments. Accordingly, there can be no assurance that any investor or investment manager could actually create a portfolio that would replicate the outcome of the above table or, if such portfolio(s) were created, that it would achieve the results implied above or be profitable. The information set forth above is theoretical in nature, does not reflect an actual portfolio and is not indicative of actual or future results. The charts shown above are provided for illustrative, hypothetical purposes only and do not reflect actual results of investments using any actual assets.

This is presumably part of the anticipated “diversification benefit” that this endowment sought in establishing a private equity allocation in the first place. By not making commitments in years 6 and 7, the endowment could miss attractive investing opportunities.

If investors are highly concerned about short-term overallocation to private equity, perhaps a middle-of-the-road approach is best, where commitments in overallocated years are trimmed, but not eliminated.

However, investors must be cautious not to trim too much, as shrinking commitments in one year can have cascading implications in another, and investors may have to drastically overcommit to a narrow set of vintage years and maturities at that time to reach their allocation target.

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3 Source: Cambridge Associates US Private Equity pooled mean and median net IRR to limited partners by vintage year. As of 30 June 2015. Past performance is not necessarily indicative of future results.
Case Study D: The Denominator Effect

In an effort to make case study C more applicable to the challenges limited partners might face, we created case study D, where we adjusted our assumptions to more closely approximate significant market dislocations. In addition, we also revisited the proposed future commitment schedules to better reflect many private equity investors’ appetite for the asset class during a period of material uncertainty.

In case study D, we again consider the same hypothetical endowment (US$5 billion in assets, 10% target allocation to private equity) used previously. We assume the same 8% portfolio growth from years 1 through 5 as we did in case study C. But instead of a mere 2%-per-year drop in assets in years 6 and 7, we assume an asset decline of 35% in year 6 and no growth in year 7.

How does this change affect the endowment’s portfolio? Regardless of whether the endowment pursues commitment scenario 1 or 2 (described in case study C) it is projected to be significantly above its target allocation to private equity for some time.

In scenario 1 (commitments continue unabated), the endowment’s allocation peaks at 16% in year 7, eventually declining to 13.3% in year 10 – both well above their 10% target.

In scenario 2 (commitments deferred two years), its allocation peaks at 15% in year 6, bottoming out at 10.6% in year 8, and then growing to 12.4% in year 10. Unlike in case C, because of the significant portfolio declines in year 6, neither scenario brings the endowment back to target by year 10.

Given a post-crisis climate, it could be possible that this endowment would consider stopping new private equity commitments altogether over this period. Indeed, if the endowment pursues this strategy and makes no further commitments over the next five years, as seen in scenario 3, it would be projected to return to its target of roughly 10% by year 8.

Additionally, assuming the endowment is willing to accept market pricing, it could potentially conduct a secondary sale as well to rapidly return to its private equity allocation target.

However, there are consequences of completely suspending new commitments that will become apparent as the portfolio begins to recover. Because the endowment put no new capital to work, it will in fact be significantly underallocated by year 10 at 5.1% as distributions erode NAV while no additional capital is deployed.

Given these three scenarios, the best approach for an investor seeking to remain close to his or her target allocation would be to immediately reduce
Case Study D: The Denominator Effect – An Illustration

Source: PineBridge Investments. Case assumptions: 16.9% buyout IRR/25.6% venture IRR performance; 80% buyout/20% venture portfolio split; private equity limited partnerships have a life span of 12 years. Provided for illustrative, hypothetical purposes only. The hypothetical allocations, commitments, growth and other data and analyses shown above do not take into account numerous variables/factors that can affect actual results such as unanticipated material changes in market and/or other economic conditions affecting the investments, transaction costs, the imposition of taxes, the impact of the human judgment factor, and the actual timing of any exits from the underlying investments. Accordingly, there can be no assurance that any investor or investment manager could actually create a portfolio that would replicate the outcome of the above table or, if such portfolio(s) were created, that it would achieve the results implied above or be profitable.

Commitments following significant portfolio declines, and later increase commitments as markets begin to stabilize. However, a strategy like this is difficult to time correctly and is also not without consequences. By suspending commitments, an investor potentially risks jeopardizing relationships with its general partners, forgoing additional vintage year diversification, missing a potential attractive investment environment, and increasing the volatility of future private equity cash flows.

Investors must also consider that making private equity commitments often requires a significant amount of lead time, further complicating the process of trying to remain on target by periodically stopping and starting commitments.

Ultimately, investors must weigh their tolerance for exceeding their exposure target for some period of time against the timing challenges and potential performance

Source: PineBridge Investments.
consequences of temporarily suspending commitments. Establishing private equity allocation targets in terms of “ranges”, rather than as discrete targets, may help to manage against these variables.

Conclusions
Several lessons can be drawn from this prior work and experience in managing clients’ private equity exposure over time. Foremost, having a private equity commitment strategy designed to achieve a target allocation is critical to sound portfolio management.

• In developing a new private equity program as demonstrated in case study A, capital commitments to private equity must be “upsized” to achieve a targeted exposure. In addition, frontloading commitments and/or making a secondary investment can help to reach an allocation target much faster.

• As seen in case study B, maintaining a target private equity allocation is not simply a matter of increasing commitments at the growth rate of an investor’s broader asset base.

• An ongoing assessment of the composition, maturity, and performance expectations of the underlying private equity assets is required to develop an appropriate commitment plan.

• Finally, in case studies C and D, it’s clear that adjusting a private equity commitment strategy on the basis of short-term market movements has consequences for investors. Inconsistency in commitments can lead to both greater volatility of projected exposure and potential performance losses.

Overall, the message is clear: Private equity investors need to consider a strategic commitment plan to achieve allocation targets as much as they consider setting the targets themselves.

While the challenges in establishing a commitment strategy are many, we believe it is an endeavor well worth the attention, time and effort.
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• They are not subject to the same regulatory requirements as mutual funds, including mutual fund requirements to provide certain periodic and standardized pricing and valuation information to investors;
• They are speculative and involve a high degree of risk;
• Investors could lose all or a substantial amount of their investment;
• Interests may be illiquid and there may be significant restrictions in transfer. There is no secondary market for interests, and none is expected to develop;
• They may be leveraged, and their performance may be volatile;
• They have high fees and expenses that will reduce returns; They may involve complex tax structures;
• They may involve structures or strategies that may cause delays in important tax information being sent to investors; They and their managers/advisers may be subject to various conflicts of interest;
• They may hold concentrated positions with a limited number of investments;
• They, or their underlying fund investments, may invest a substantial portion of their assets in emerging markets, which could mean higher risk;
• The investment manager has total trading authority over fund investments. The use of a single adviser applying generally similar trading programs could mean lack of diversification and, consequently, higher risk;
• The list set forth here is not a complete list of the risks and other important disclosures associated with such investments.

Investors in fund of funds vehicles should note the following: (a) A fund of funds’ fees and expenses are in addition to the fees and expenses of the underlying funds – both may be substantial regardless of any positive return and will offset a fund of funds’ profits; and (b) a fund of funds may rely on the trading expertise and experience of third party managers and advisors, the identity of which may not be disclosed to investors.

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In making an investment decision, investors must rely on their own examination of the merits and risks involved. Investors should seek advice from their financial, tax and legal advisors concerning the risks inherent in these types of investments.
such an investment may fall suddenly and substantially. In making an investment
go up or down. In the case of a higher volatility portfolio, the loss on realization or
may cause the value of investments, and consequently the value of the portfolio, to
than that in which the portfolio is denominated, changes in the rate of exchange
instruments. For example, for investments involving exposure to a currency other
which can fluctuate in value. The investment risks vary between different types of
investment management services relate to a variety of investments, each of
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