

# When Capital Calls, Are You Ready?

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## Abstract

Institutional private equity programs face significant risks from illiquidity and unpredictability of capital flows. This paper illustrates how a strategic pacing study provides the visibility needed to maintain consistent asset allocations through shifting market leadership. It outlines a comprehensive workflow—from manager surveys to data validation—designed to smooth cash flows, reduce vintage year concentration, and support stable long-term portfolio growth.

## What is liquidity risk and allocation risk in private investing and why does it matter?

In this paper, we are using Private Equity as an example of Private Market investing. Note that the issues we discuss are also ones to consider with other private investments, such as Infrastructure, Private Credit, Farmland, and other asset classes utilizing closed-end structures.

In private equity (PE) investing, liquidity becomes one of the most critical risks when an investor needs to convert assets to cash for any one of a variety of reasons (rebalancing the portfolio, paying pensioners, making annual foundation or endowment distributions, etc.). However, PE investors can rarely convert their investment into cash quickly at its fair market value. Secondary markets do exist for PE, but the seller often times will be required to sell at a 5-20% discount—or more to attract a buyer. Unlike public stocks, which trade near instantaneously on exchanges, PE interests are typically held in illiquid vehicles (generally a 10+ year holding period) that are aligned with the less liquid nature of private companies.

As mentioned above, two of the major components of PE liquidity risk are the inability for a seller to exit the investment on demand, as they can do with publicly-traded investments, and the significant discounts that could occur when trying to sell the position in a secondary market. However another serious risk is that of the investor's inability to make one or more 'capital calls.' Capital Calls are binding requests from the General Partner for the Limited Partner (LP) to provide contractually committed funds. Failing to meet a call can lead to the forfeiture of the entire investment. This would be an incompetent action by a fund's investment committee, which would most likely result in adverse actions, including litigation, from stakeholders.

Finally, the timing of any cash flow, in general, even if the investor is able to make the capital call, can be challenging as the capital call must be funded regardless of market conditions. In a market correction as we witnessed in 1997, 2000, 2008, 2018, 2022, and others, an investor was forced to sell liquid investment holdings (at the absolute wrong time). In and of itself, selling an asset class on a decline after it performed well may not be a significant "drag" on the portfolio's total return, if the resultant asset allocation is close the investment policy target. However, if the investor's sale of liquid investments results in the overall asset allocation to be considerably underweight in liquid assets and overweight in illiquid assets, what happens when the market turns and there is a significant positive rally in public equities or fixed income? Therein lies the

importance of conducting a “Pacing Study.” More to come on that, but for now a small case study is illustrative.

### A client that got over their skis-- Volatility’s Effect on Pacing PE Commitments:

Below is an illustration of a DeMarche Client’s Defined Benefit Plan. The client added Private Equity to their asset allocation about 9 years ago, with a target allocation of 13.5% of their total plan. By 2017, capital calls had started, and at that time PE was about 5.5% of the plan, thus 8% under the target (see Figure 1). In the next 18 months, funding of the asset class accelerated, and by Q4 2019 they were at target. From that point forward, PE returns were not significantly different from public equity returns until 2022, when the first three quarters of the year produced a cumulative return of -23.9% for the S&P 500 versus a positive 5.5% return for the Preqin Private Equity index during the same period. Figure 1 shows that the significant outperformance of Private Equity led to the client’s overweight allocation of 10+ percentage points over the subsequent seven quarters. “A great problem to have,” the client thought, as their total fund returns were beating their relative performance metrics. What they didn’t know is that the three years that ended in 2025 would generate an annualized return of 23% for the S&P 500, with PE returning low single-digit returns (note the underweight bars starting in Q124; the significant overweight to PE when the S&P 500 is significantly outperforming PE). This example highlights the potential problems that can occur (even with a careful pacing plan) when market leadership changes quickly. So, how can a great pacing plan help?

**Illiquidity in PE Investment Could Limit the Benefit of Diversification When Market Leadership Changes**

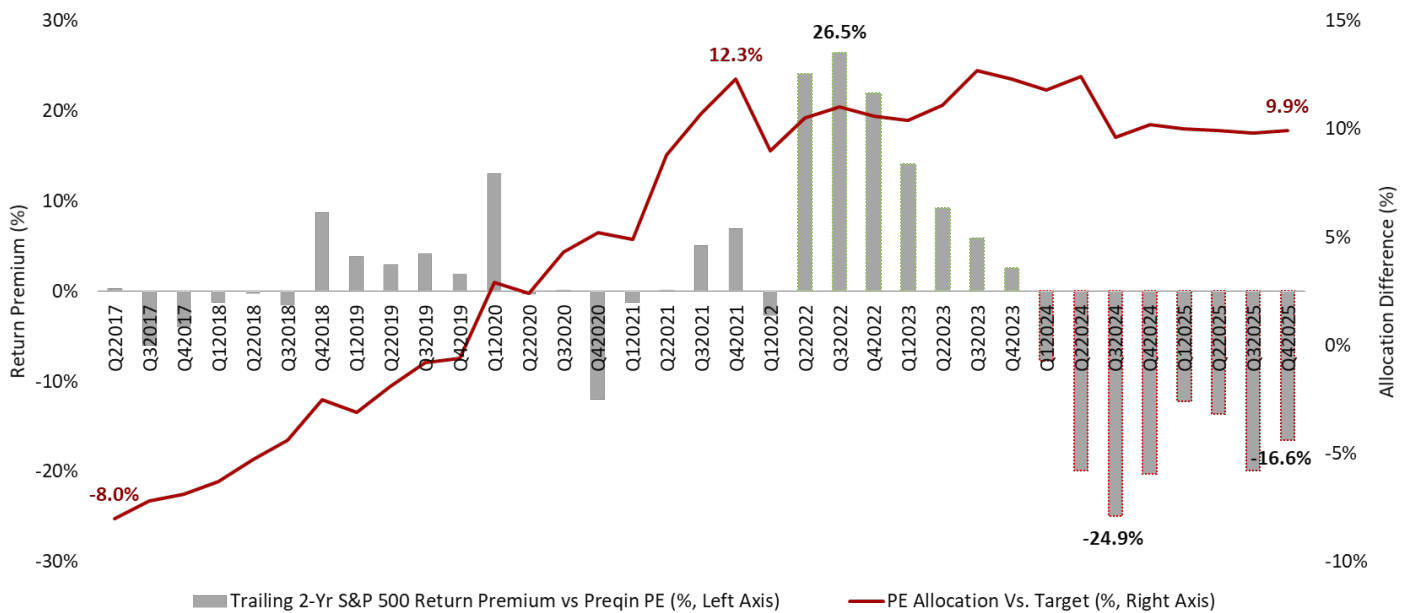


Figure 1 Source: DeMarche

### Fundamentals of a Private Equity Pacing Study

Over 37% of DeMarche’s institutional, non-DC plan, advisory clients have allocations to private equity dating back over 28 years. During the period, they’ve experienced the whole life cycle of earlier alternative funds and the emergence of newer vertical sectors such as secondaries, infrastructure, and GP stakes. The evolving of institutional portfolios requires investors to constantly make tactical plans of capital commitments when older vintage funds mature. Value realization is a process where Net Asset Value (NAV) of maturing funds transmits (through investment exits) into distributed capital that goes into investors’ cash accounts via dividends or, more typically, realization events. The transmission requires investors to allocate the returned capital back into their private

equity to maintain a healthy typically allocation for their portfolios. Making conscious decisions on when and how to deploy new capital is key to portfolio diversification: by spreading commitments across multiple economic cycles (different interest rate and investment multiple environments for entry and exit points), vintage year diversification is the most effective way to mitigate market timing risk and allow the investors to stay allocated. Pacing studies help with this decision-making and liquidity management.

Capital commitments are legally binding; once an investor makes a formal commitment to new funds, they must honor the capital calls from the fund even in a time when they are already over allocated to private equity. Conversely, when investors find their PE NAVs are shrinking to below the target allocation level because the funds wrap up too fast (quite common in later fund stages), they might have challenges finding appropriate funds to commit right away. Even if they find new funds and make commitments right away, it may still take four to five years (one to three years for secondary funds) for fund managers to deploy the capital and transition the capital into a private equity allocation.

The Takahashi-Alexander model (TA Model, also referred as the Yale Model, 2002) is the industry-standard mathematical framework that describes the value rotation between cash flows (capital calls and distributions) and NAVs of investment. It is used in a pacing study to help investors make dynamic tactical decisions to maintain a healthy private equity portfolio. The formula treats a PE fund as a "leaky bucket" where capital is poured in (contributions) and eventually leaks out (distributions) as assets are sold. Investors' PE NAV, like the water in the bucket, are the form of value created after capital is deployed but before the assets are sold. The formula goes like this:

$$\text{PaidIn}_t = \text{Unfunded}_{t-1} \times \text{RC}_t$$

$$\text{Unfunded}_t = \text{Unfunded}_{t-1} - \text{PaidIn}_t$$

$$\text{NAV}_t = \text{NAV}_{t-1} \times (1 + G) + \text{PaidIn}_{t-1} - \text{Distribution}_t$$

$$\text{Distribution}_t = \text{NAV}_{t-1} \times (1 + G) + \text{PaidIn}_t \times \text{RD}_t$$

**RC<sub>t</sub>**: The Rate of Contribution

**RD<sub>t</sub>**: The Rate of Distribution

**G**: The annual growth rate of investments

**PaidIn**: Paid in capital

**Unfunded**: Unfunded capital commitment

The NAV of your PE fund by end of the year equals G% annual value growth from last year's NAV, plus capital called, minus capital distributed over the year. When you have a large capital call this year, the year-end NAV will be higher, whereas when you have a large distributions coming back, your year-end NAV will shrink faster because the values have changed from NAV into cash. This is not a perfect model because the value of your fund assets do not necessarily grow on a linear basis as value changes are related to the timing of the entry and exit points, and the pricing discount embedded in the investment for secondary investments. But, it helps us see the path of NAV changes throughout the fund life, which is key when assessing whether the investors' Private Equity investment is in line with the allocation target.

## **The Process of Pacing: A Case Study**

The work flow of a pacing study at DeMarche goes like this: first, we survey each PE fund manger the client utilizes with a particular focus on their projections of yearly (or quarterly) capital calls and distributions for the next few years. Most managers are able to provide such cash flow projections through their internal model and the status knowledge of their investment pipelines or exit opportunities. We normally refer to the latest quarterly/annual fund report to verify if managers' projections align with

characteristics and life stages of the fund strategies. With these cash flow projections, combined with the G (geometric long term growth rate of Private Equity or Secondary PE projected by DeMarche for its annual Capital Market Assumption), we will be able to make projections of all fund NAVs for the next few years. The outputs of a pacing study are projections of overall PE NAVs and

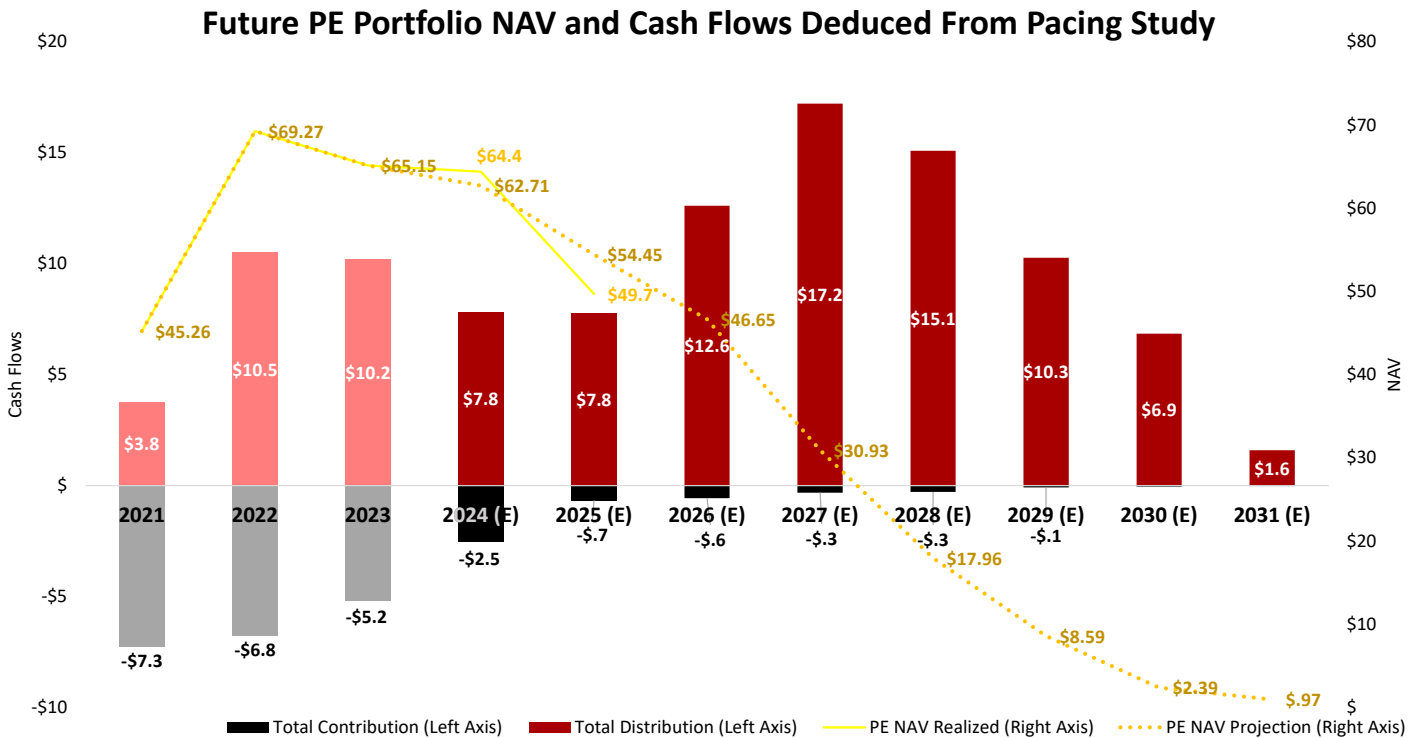


Figure 2 Source: DeMarche

cash flows each year during the pacing period. The longer term visibility allows investors enough time to evaluate new funds, managers, or even other alternative asset classes before PE investment NAV falls below the target allocation level.

This is a Private Equity pacing study that DeMarche completed in 2024 for a client with portfolio AUM of over \$250m. The cash flow projections helped the client make plans around the capital calls (grey and black bars) and cash distributions (pink and red bars) in the following seven years. The golden dotted line represents the expected sum of private equity NAVs the client would have from its current PE investments in following years. The descending dotted line is correlated with meaningful PE value realizations indicated by the surging red bars of capital distributions. Funds are winding down and returning money, thus if new funds are not added to the client’s PE portfolio on a timely manner, the client’s allocation to this asset class will drain fast and so will the diversification benefits brought by this asset class. We advised the client to commit new PE funds in late 2024, and the commitments were made in mid-2025. The client’s realized PE NAV (yellow solid line) ended up being \$5m less than projected in year-end 2025, represented a faster draining of PE NAV and a correct decision of committing to in new PE funds before it was too late.

The newly added funds are expected to gradually call capital throughout the next several years as they make investments until committed capital is fully deployed. The PE NAV in the client’s portfolio will increase to a point where the PE allocation will reach the target level, as indicated by the golden line in the right chart below. The new commitments reversed the trend of PE shrinking (show in the left chart below) and helped the client stay fully allocated.

## Pacing Study – Private Equity Net Asset Value Projections

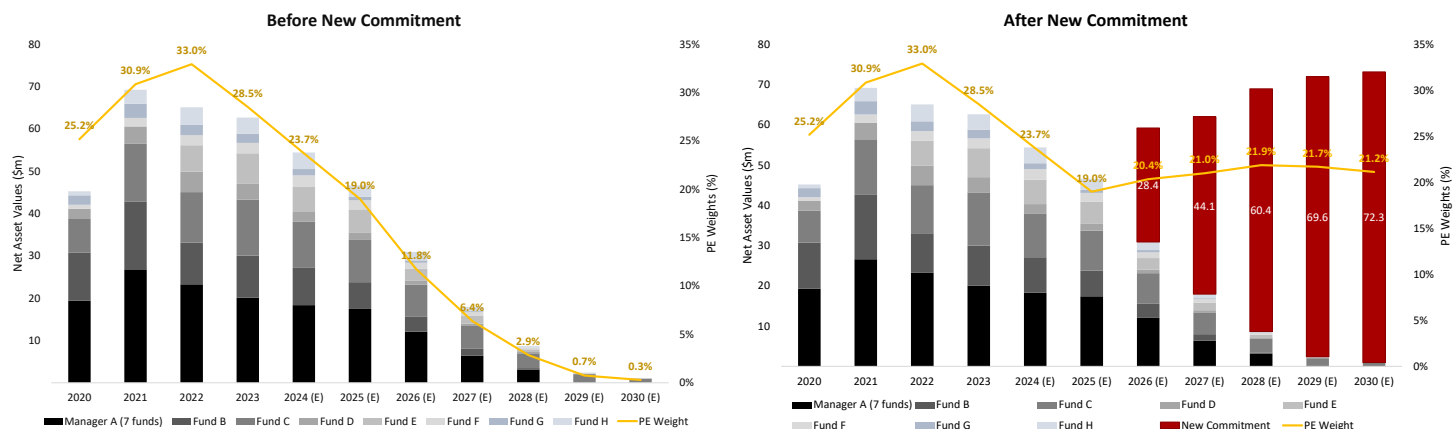


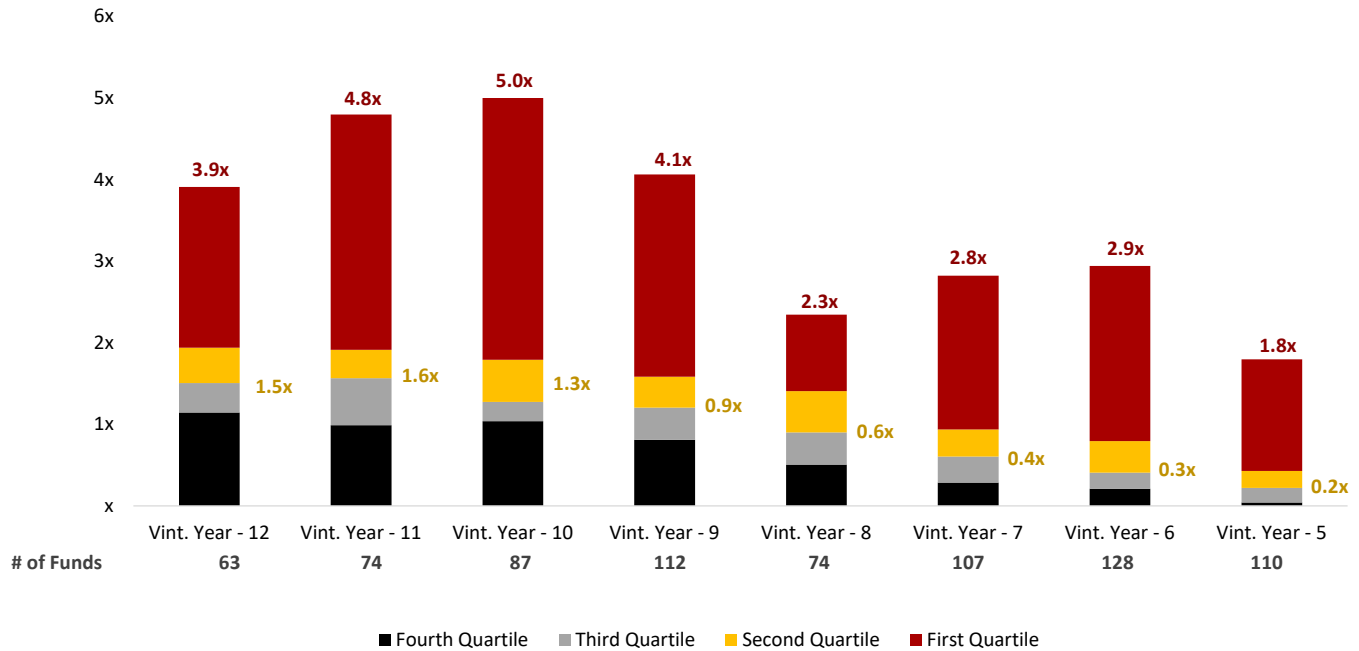
Figure 3 Source: DeMarche

### The Validation Step

One thing worth noticing is that the pacing study done by consulting firms like DeMarche is a working process built on the base of projections provided by fund managers. An integral part of our pacing study is to verify, or validate, managers' inputs before developing an aggregated pacing study of the client's investments in multiple PE funds. The reason for this step is simple and clear: fund managers tend to be optimistic about the returns of their funds and provide inflated distribution projections. The formula of the TA Model tells us that inflated distribution values will lead to underestimated fund NAVs because faster distributions means capital is taken out of fund values earlier than reality would suggest. We use "Implied DPI" (Distributed to Paid-in Capital) to measure if a fund manager is providing inflated distribution projections. Implied DPI of a certain fund life year equals the sum of projected distributions divided by the sum of projected capital calls as of that year. This indicator starts to become meaningful when the fund passes the initial fund stage (i.e. after fund year five for PE funds) and begins to make distributions. If the implied DPI is higher than the DPIs of the fund's peers of the same vintage year, or the prior funds of the same fund series when they were in the same fund life year, we believe the dividend projections are overstated, and the fund NAVs indicated by the manager's inputs might be underestimated. It is very common to see implied DPIs go beyond 2x in managers' pacing projections of their overall fund lives, however Preqin data show that only 20% of Buyout PE funds with AUM larger than \$300 million could achieve such DPI level when they are 10 to 15 years old in their fund lives. Secondary fund managers always believe their funds will return all capital called to investors before the fund reaches the 6th year, however data show only 15% of larger than \$300m secondary funds are able to achieve a DPI above 1x up until the tenth year of the fund life.

When the implied DPI of a manager's pacing projections falls into the red first quartile bar in below chart, we would check the manager's projections against the realized cash flow patterns of prior funds of the manager's same fund series and assess if the projection reflects the manager's capacity demonstrated through its historical performances.

## Realized DPIs of Buyout PE Funds with AUM Larger than \$300 Million



Source: Preqin

Figure 4 Source: Preqin

The goal of this “double checking” process is to rule out a manager’s optimism bias and improve the accuracy of our projection of the client’s PE NAVs. This is particularly important for clients with the need to commit new capital. The illiquid nature of Private Equity requires investors to make well-considered decisions when committing to new PE funds so they don’t get unwanted PE exposure through over-commitments. This level of “double checking” is usually more levitated for insurance clients who face higher capital charges for over exposures to Private Equity that might sit at the further end of the asset class risk spectrum.

There are times the pacing study finds the investors’ portfolio well positioned and no new commitments are needed. We advise clients to refresh the pacing model annually to keep up with the development of their PE investments. It’s quite common that PE funds realize value faster or slower than the projections managers made in their pacing inputs with slower than planned being, of course, more common. The periodical refreshing of a pacing model also helps us know more about fund managers’ abilities to make reliable projections of their cash flow patterns and rhythm of their value realization, which helps us improve our “double checking” effectiveness. We give more credit to managers who can realistically project their fund cash flows.

### Building a Holistic Approach

Investment Pacing is a key requirement when building a holistic approach to PE program management. There should be a consistent, disciplined approach with the consideration of plan size, liquidity requirements and any miscellaneous restrictions. Agreed upon guidelines regarding PE program management can be flexible, but might not need to be finalized in writing, however the discussion and building of consensus among your investment committee members is necessary. DeMarche believes that your program should stress transparency over precision: liquidity monitoring should focus on identifying risks rather than point estimates. Rolling forecasts, trend analysis, and scenario ranges are more valuable than precise projections.

In summary, the implementation of a pacing plan is critical to making commitment and distribution reinvestment decisions. An effective plan smooths capital calls, reduces vintage year concentration, and supports stable allocation maintenance. By bui 6

a liquidity buffer when making decision on distribution reinvestment, this also helps to manage cash drag and preserve benefit payment liquidity.

## Put Research To Work

with the DeMarche Team



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### *Sources Utilized:*

- *DeMarche data*
- *Preqin*



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