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BlackRock.

A man wearing an orange long-sleeved shirt, a black helmet, and sunglasses is climbing a large, light-colored rock face. He is positioned diagonally across the frame, with his right arm extended upwards and his left hand gripping the rock. The background is a clear, deep blue sky. The overall image conveys a sense of challenge and achievement.

Hacking the J-curve

■ A practical series

What to know about the J-curve.

A practical series on the key concepts shaping private markets.

Designed to simplify complex topics, the series provides actionable insights to support better investment decisions and more informed conversations.

01

Private market returns take time

Early performance often dips before long-term gains appear — the so-called ‘J-curve’ effect.

02

Smart portfolio design can smooth the journey

Mixing strategies that can generate income quickly with those that grow over time helps avoid a slow start.

03

Balance is key

The goal isn’t to eliminate the J-curve entirely, but to design portfolios that deliver both early stability and long-term growth.

04

Early performance matters

In evergreen and open-ended portfolios, investors’ first impressions count. Smoother return paths help build confidence and reduce redemption pressure.

05

Liquidity and pacing drive resilience

Thoughtful commitment pacing, recycling policies, and use of continuation vehicles can provide predictable cash flows and capital efficiency.

06

Execution quality matters

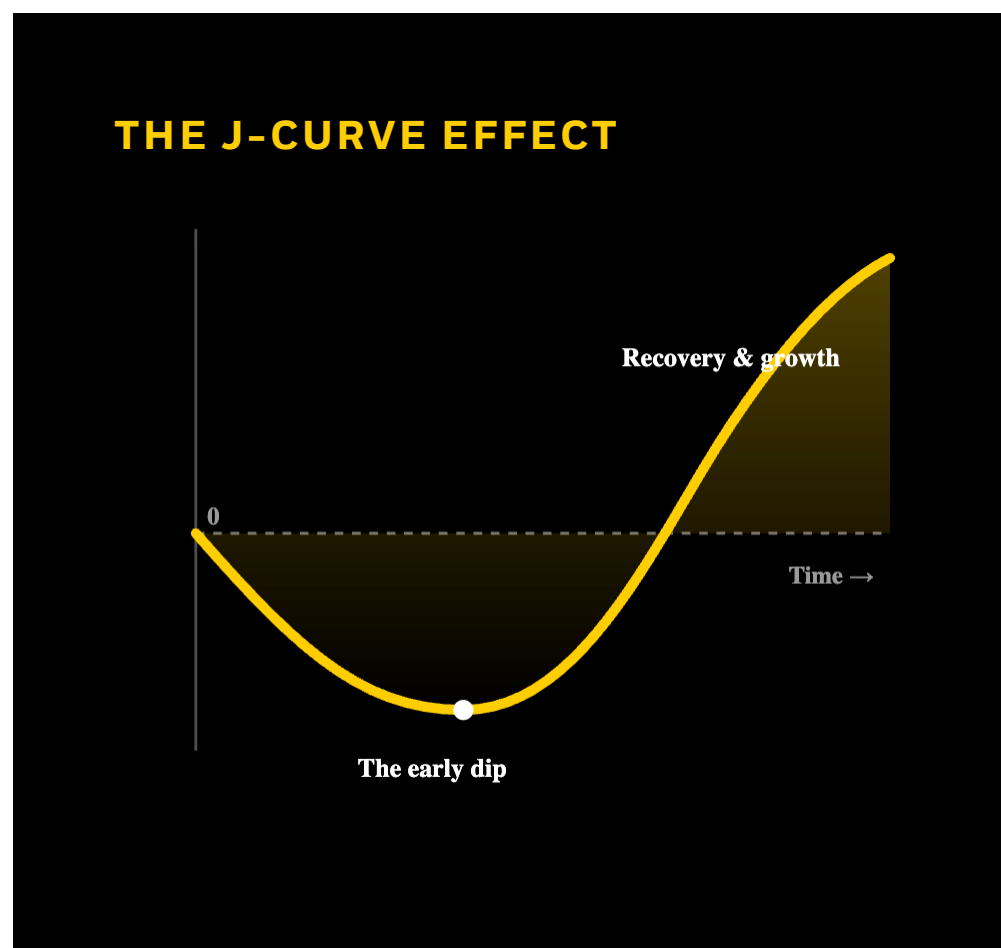
‘Hacking’ the J-curve is as much about disciplined underwriting, sponsor selection, and diversification as it is about asset mix.

What drives the J-curve?

Private markets can be powerful long-term compounders, but most investors encounter a dip in their portfolio's value before the growth curve kicks in. That early decline, the 'J-curve', stems from capital deployment lags, fees, and delayed value creation.

For traditional closed-end funds, that's a familiar part of the journey. But in evergreen or open-ended structures, where investors can enter or exit more often, that early drag feels more visible. Capital flows are continuous, valuations update more frequently, and investors naturally care about early performance, liquidity, and smoother return profiles.

The good news is, while the J-curve can't be eliminated, it can be managed. With the right portfolio design of blended income-producing assets, seasoned secondary positions, and thoughtful pacing, investors can shorten the time to positive returns and improve the consistency of performance without sacrificing long-term compounding.



Let's explore practical ways to 'hack' the J-curve and turn it into an opportunity to enhance client experience, liquidity management, and portfolio resilience.

Understanding the J-curve

The J-curve phenomenon emerges because costs are generally front-loaded when investing in a company or an asset, with value realisation occurring through subsequent years. Structural features drive this dynamic:

01 Capital calls and deployment pace

In traditional drawdown structures, investors commit capital upfront, yet funds draw it down gradually. This staggered pace means a portion of committed capital remains uninvested and idle, dragging on early performance.

02 Fee timing

Management fees and organizational expenses are levied immediately, sometimes charged on committed rather than invested capital. With portfolio assets not yet generating income or appreciation, these early fees can amplify the initial performance drag.

03 Operational ramp-up

Portfolio companies and projects require time to execute on their value-creation strategies – whether operational improvements, growth initiatives, or development milestones – which can delay appreciations and distributions.

04 Infrequent, appraisal-based valuations

Private market valuations rely on appraisal methodologies that can delay recognition of underlying value creation compared with continuously priced public markets.

For closed-end funds, this is expected. But for evergreen or open-ended vehicles, where performance is marked regularly, a deep J-curve can feel uncomfortable, affecting investor confidence and redemption behaviour.

What matters to investors

Today's private market investors understand that value creation takes time. But accepting a long investment horizon does not mean being indifferent to the journey. Four priorities sit at the heart of what matters to investors:

01 A robust return path

A return profile that limits avoidable early drag and supports steady progress

02 Accelerating capital efficiency

Invested capital generating returns and cash flows sooner

03 Resilience through cycles

A portfolio able to withstand changing market conditions and remain on course

04 Long-term return potential

Capturing the distinctive value creation that private markets can offer over time

Taken together, these priorities explain why the shape of the J-curve matters to investors. Meeting them depends on how the portfolio is constructed, as different asset classes, strategies and implementation approaches contribute differently to returns, cash flows and long-term value creation.

While all private market strategies exhibit some form of J-curve, its depth and duration vary across asset classes, component strategies and implementation types. Understanding these variations is therefore critical to determining how they should be combined within a portfolio.

Asset class view

Private equity	Typically exhibits the most pronounced J-curve as investments are often held at cost until value is realised after multi-year transformations and/or exit events.
Private credit	Characterised by a much flatter J-curve, attributable to immediate interest income, paid or accrued. The early cash yield offsets fees and produces positive performance early on, albeit with expected returns typically lower than private equity.
Real assets	Exhibits mixed profiles depending on the business plan and sub-asset class. Core income-producing assets are similar to private credit and can alleviate the curve, while opportunistic strategies – or those that rely on multi-year development or construction – more closely resemble private equity in their value creation.

Implementation view

Primaries	Traditional primary fund commitments represent the classic J-curve profile, with capital deployed into new investments through the fund’s early years and little return generation to offset fees and expenses. Annualised returns are typically negative in the first few years, then improve as assets mature and exits drive value realisation.
Secondaries	Strategies can often bypass the steepest portion of the curve by acquiring interests in partially matured assets or funds. Investors gain exposure to assets at discounted rates closer to realisations, potentially leading to earlier distributions and valuation clarity.
Directs / Co-investments	Direct exposure to investments can reduce fee drag and enable more targeted exposure. Although some deals can generate quicker appreciation, there is a higher level of dispersion in outcomes and results can vary widely.

Recognising these variations is essential, as the mix of strategies determines not only the shape of the J-curve but also the timing and sustainability of performance in an evergreen structure.

HACKING THE J-CURVE

While J-curve mitigation can meaningfully enhance early portfolio performance, it must be balanced against the long-term appreciation potential of the underlying strategies. **The objective is not to eliminate the J-curve, but to shape its profile** — combining earlier cashflows with sustained value creation over time. Through thoughtful portfolio construction, managers can blend strategies with complementary cashflow and performance characteristics to smooth early returns while planting the seeds for long-term compounding and wealth creation.

When executed effectively, this approach can deliver tangible benefits for portfolio managers by improving portfolio stability, liquidity management, and the long-term scalability of evergreen structures.

Key advantages

Enhanced portfolio stability

Managing the J-curve creates a smoother return trajectory and steady NAV progression, improving confidence in performance reporting and reducing redemption pressures.

Improved capital efficiency

Early cashflows allow the portfolio manager to recycle distributions, manage liquidity more proactively, and maintain balanced exposure across vintages and strategies.

Structural resilience & compounding

Building a reliable ladder of organic cashflows over time strengthens portfolio liquidity and reduces reliance on new inflows, enabling long-term compounding without disruption.

Although the benefits of J-curve mitigation are clear, achieving them in practice requires careful portfolio design. For portfolio managers, the goal is not simply to accelerate early returns, but to balance short-term liquidity with sustained long-term appreciation. This balance is particularly critical in evergreen vehicles, where new capital is continuously entering the portfolio and performance is assessed on a time-weighted basis.

To achieve this balance, managers can employ a range of complementary levers that collectively determine the shape of the J-curve. Each plays a distinct role in managing early performance, liquidity, and long-term appreciation within an evergreen framework:

01 Secondary investments (GP-led and LP-led)

- **LP-led secondaries** provide exposure to portfolios that are already typically deployed and closer to realisation — offering shorter duration and earlier cashflows, accelerating distributions and bypassing the steepest part of the J-curve.
- **GP-led secondaries** such as continuation vehicles let managers extend ownership of high-conviction assets while offering investors a more predictable cashflow profile, bridging early performance management and long-term value capture.

02 Income oriented strategies (private credit, real assets)

Generate yield from day one, offsetting fee drag, flattening the J-curve at the portfolio level, and providing organic liquidity to fund new commitments or meet redemption needs.

03 Direct investments & co-investments

Typically accessed at reduced or no fees, these can ease fee drag and accelerate deployment into underlying assets, improving early exposure and reducing cash drag.

04 Vintage diversification

Staggering commitments across vintages via warehoused deals, secondaries, and continuous recycling can create a rolling mix of assets at different stages of maturity, smoothing the curve.

Mapping the trade-off.

Used together, these levers enable portfolio managers to construct blended portfolios that pair early cash generation with long-term value creation. This integration is especially important in evergreen structures, where smoothing the J-curve not only enhances consistency across investor cohorts and reduces entry-point sensitivity, but also supports the long-term scalability and resilience of the portfolio.

The interaction between these implementation levers can be visualised by mapping strategies along two key dimensions: the depth of the J-curve and the potential for long-term capital appreciation.

As shown in *Figure 1*, yield-oriented and secondary strategies typically occupy the upper-left quadrant—characterised by shallower J-curves and earlier cashflows—while growth-focused strategies such as buyouts and value-add infrastructure lie toward the lower-right, reflecting deeper J-curves but greater long-term upside. Understanding how these elements complement each other enables portfolio managers to combine exposures that collectively balance early liquidity with enduring value creation

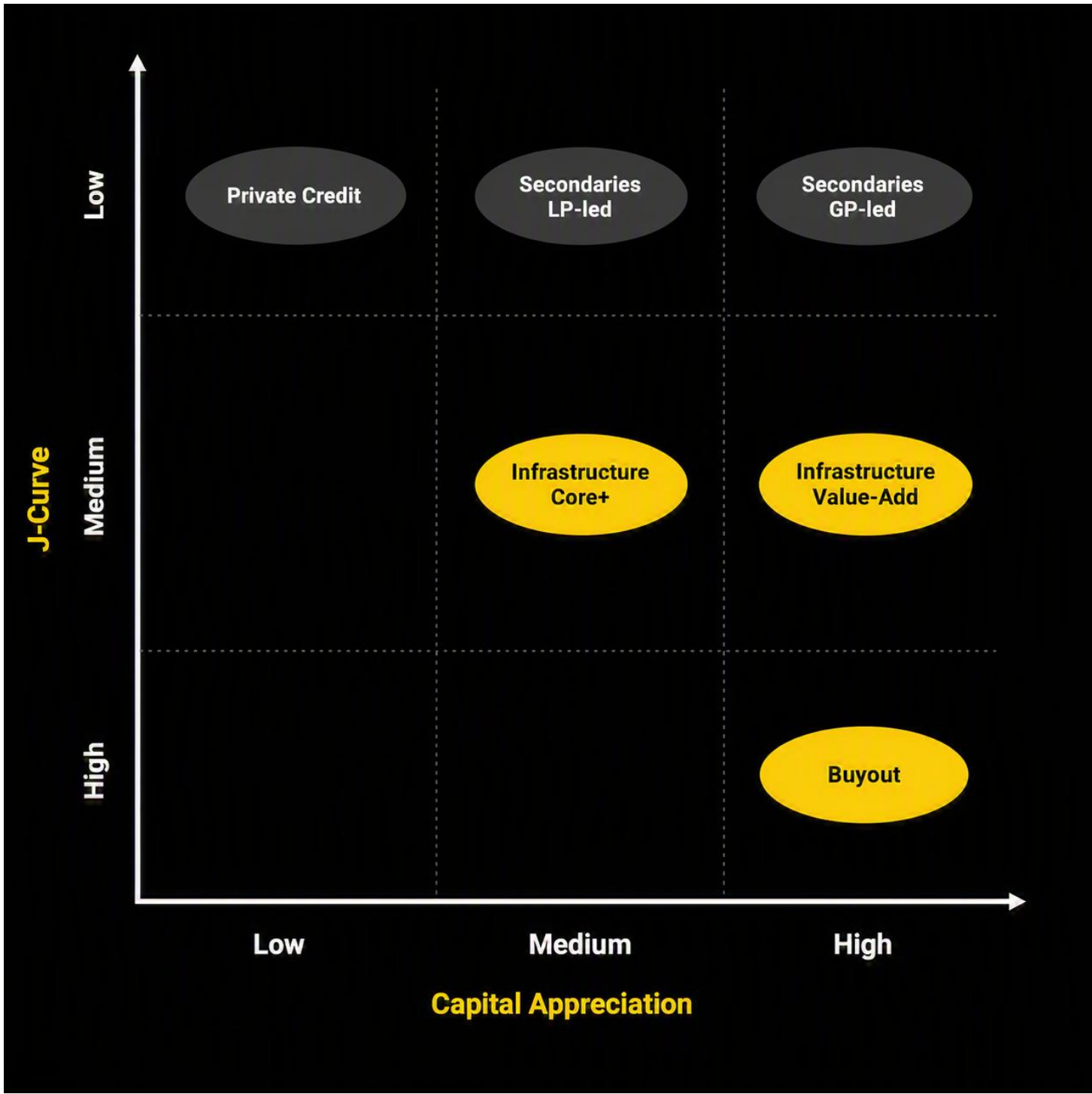
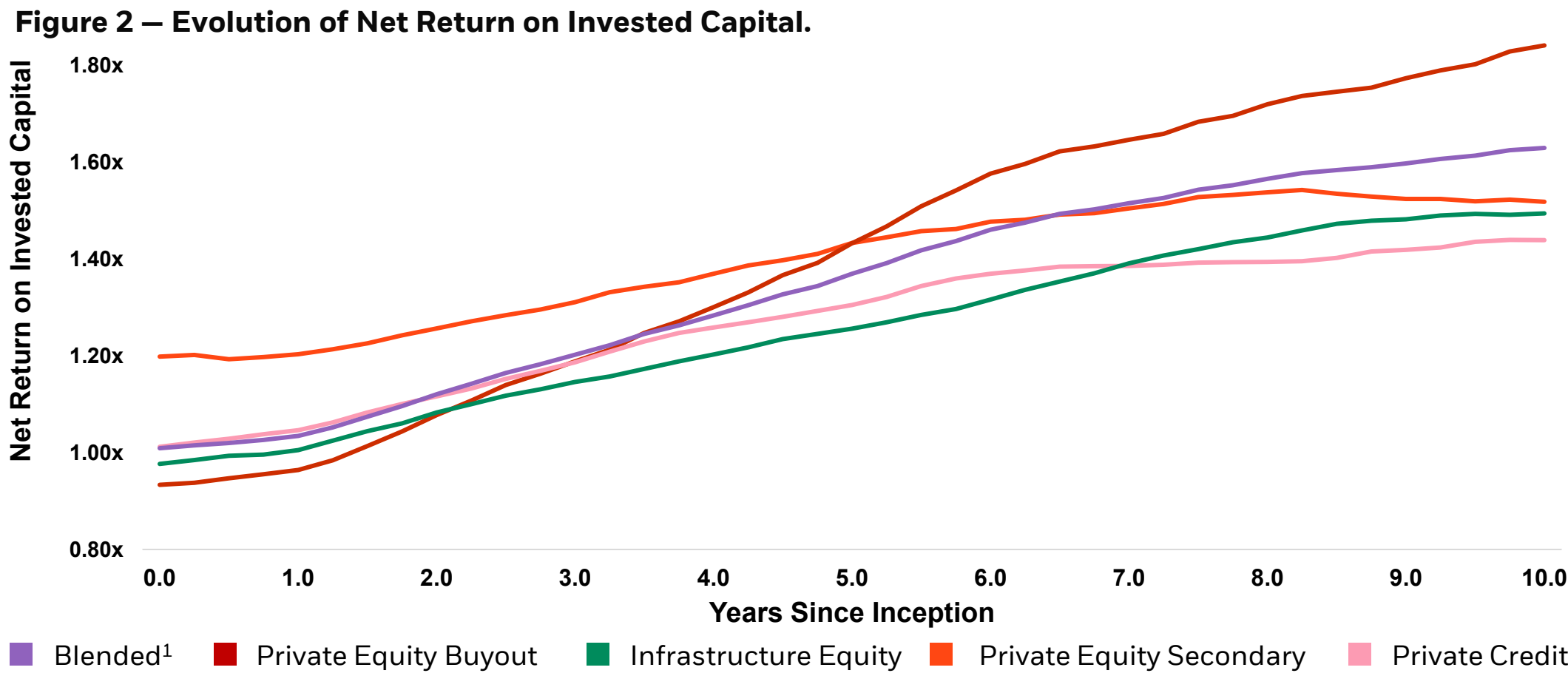


Figure 1 – Private market strategies by J-curve depth and capital appreciation potential.
Source: BlackRock, for illustrative purposes only.

How design shapes the trajectory.

Building on this framework, tracking net return on invested capital over time shows how implementation styles create distinct return trajectories. As Figure 2 illustrates, approaches ranging from income-generating credit to growth-oriented buyouts shape both the J-curve and the pace at which value is realised in a portfolio.

Buyouts	exhibit the deepest J-curve, as capital is deployed gradually and value realisation occurs later in the cycle—but they also deliver the highest long-term capital appreciation
Secondaries	significantly flatten the curve, with early distributions and valuation uplifts often pulling returns positive within the first few years.
Yield-oriented assets	such as PC or core plus real assets provide steady yields from inception, contributing to early returns and generating predictable organic liquidity.
Blended	that combine these approaches deliver the most balanced trajectory—shallowing the initial dip while maintaining strong long-term compounding.



Past performance is not a reliable indicator of current or future results. For illustrative purposes only. Source: Preqin, as of December 2025. Analysis incorporates the MOICs of all vintages of Private Equity Co-investment, Private Equity Secondaries, Infrastructure and Private Debt since 1985 through to 2025. For illustrative purposes only. 1. BlackRock as of March 2026. Blended represents a blend of the abovementioned indices to mirror the private markets strategic asset allocation to a multi alternatives strategy. Risks are calculated in collaboration with Aladdin and BlackRock's Risk & Quantitative Analysis team. Return assumptions from the public markets assets are derived from BlackRock's Capital Market Assumptions (CMA's) and private market assets are derived from BlackRock estimates and targets for each underlying strategy. BlackRock makes no representations or warranties as to the accuracy or completeness of any past, estimated or simulated performance results contained herein, and further nothing contained herein shall be relied upon as a promise by, or representation by BlackRock whether as to past or future performance results. This information is not intended as a recommendation to invest in any particular asset class or strategy or as a promise – or even estimate of future performance.

Putting into practice: Key considerations and pitfalls

Designing portfolios that successfully mitigate the J-curve is as much about disciplined execution as it is about strategy selection, requiring rigorous deal selection, careful pacing, and integrated portfolio construction that balances near-term performance with long-term value creation.

To achieve this, portfolio managers must navigate several key considerations:

Pricing discipline in secondaries

While discounts to NAV can be attractive, they should never be the sole driver of selection. The true determinant of long-term outcomes is the quality and maturity of the underlying portfolio, as well as the ability to access these opportunities through robust sourcing networks across markets and strategies.

Importance of early diversification

Evergreen portfolios require diversification from the outset. Concentrated and directional exposures early on can end up amplifying the J-curve and create undue volatility. Ensuring breadth across asset classes, implementation types, and vintages is essential to smoothing performance.

Balancing early return and long-term growth

Effective J-curve management depends on striking the right balance between strategies that generate near-term returns and those that deliver sustained growth. While early-return strategies such as private credit or LP-led secondaries can help flatten the J-curve, overexposure to them may dilute long-term performance potential. Conversely, a portfolio weighted too heavily toward growth-oriented strategies may deepen the J-curve and delay compounding, making disciplined balance essential.

By addressing these challenges from the outset, portfolio managers can ensure that J-curve mitigation strengthens rather than compromises the long-term integrity and return potential of the portfolio. Success ultimately depends on the ability to pair disciplined execution with consistent access to high-quality deal flow, turning theoretical portfolio design into realised outcomes over time.

Ultimately, the J-curve is not a fixed outcome but a **variable that can be shaped** through portfolio design.

By combining secondaries, income-oriented strategies, direct investments, and diversified vintages, managers can flatten the early dip, accelerate the path to positive returns, and still preserve the long-term compounding that underpins the case for private markets.

Mitigating—or ‘hacking’—the J-curve is about more than improving early numbers. It is about creating a more consistent and transparent return profile that helps investors remain committed to private markets through full cycles.

Managing the J-curve is particularly important for evergreen structures, as it provides a fairer experience across investor cohorts, reduces entry-point risk, and supports the long-term durability of the portfolio.

Success ultimately depends on **thoughtful execution, balancing pacing, diversification, and cashflow management** with the ability to **identify and access high-quality opportunities across strategies and market cycles**. When these elements align, portfolio managers can not only smooth the path to returns but also build portfolios with enduring compounding power and long-term sustainability.

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CMA Disclosure – Methodology

Interest Rates: Our model provides a way to chart the yield curve at multiple time horizons in the future. We base this on our estimates of: (1) the short rate and (2) model implied term premia. We base our estimates of short rates on market data in the near term and on macro-informed data in the long term. We assume investors’ views about long run inflation and real growth, coupled with changing preferences as to savings and risk aversion, will ultimately determine their expectations for short rates (the “long run short rate”). We use an affine term structure model –a type of model that assumes bond yields as a linear function of a small set of parameters (Piazzesi, 2010) –to compute model-implied term premia. In our implementation, we represent the yield curve using the first five principal components of yield, as laid out by Adrian et al. (2013). We then blend the model implied term premia from the affine term structure model with market implied term premia, with the relative weights dependent on the relevant time horizon.

Equities: Expectations of cash flows and discount rates can help explain the variability in equity returns as shown by Campbell (1990). We have used this insight to develop a discounted cash flow (DCF) model, with a few key innovative features. Most academic research focuses on the question of whether stock returns are predictable at all. We are concerned with making the best estimates that we can. We make two additional contributions. First, the baseline DCF model estimates earnings by leveraging analyst earnings estimates in the near term as discussed by Li et al (2013) to derive the implied cost of capital. The common assumption in implied cost of capital (ICC) studies is that earnings growth implied by analyst earnings estimates in the near term should trend towards GDP growth in the long term. This can introduce an unintended assumption of continued expansion of profit margins. We have introduced a modification to account for late economic cycle dynamics. We allow for corporate profit margins to revert to trend (the median over a rolling 10-year history) as margins typically peak late-cycle. The standard ICC approach typically tests for equity returns using linear regression tests. For our DCF model, we take the desired time horizon as an input (number of years) and we estimate the appropriate discount rate for the specific time horizon using our aggregate implied cost of capital. This way, we account for both key sources of variability in equity returns, namely changes in cash flows and changes in the discount rate.

Credit: Our model for credit asset (excess) returns is anchored on two key elements: 1) our estimate of credit spread at a given horizon and 2) our estimated loss due to defaults and downgrades over the horizon. The first component is projected in a consistent manner with our view of real GDP growth and the link between credit spreads and equity volatility. Our approach helps explain the behaviour of credit spreads using a limited number of predictive variables. Yet, as validated by tests against more complex methods, it retains the ability to help explain a high proportion of the variance in credit spreads. The second component is estimated based on our outlook for spreads, the duration of the asset and an assumed transition matrix which captures migrations and defaults across multiple credit cycles. We currently base our transition matrix on Moody’s long-run transition data. We aim to further develop our model by directly modelling transitions based on macroeconomic conditions in order to better capture cycle dynamics and the respective variation in losses due to credit events. In addition to making our estimates of credit spreads consistent with our macroeconomic views, our new credit (excess) return model allows greater flexibility of calibrating our expected returns to different credit rating compositions which may prevail over the entire time horizon.

Uncertainty and optimisation: Expected returns and asset price volatility are difficult to predict. We believe any technique that builds portfolios should incorporate this inherent uncertainty (Ceria et al. 2006). We consider both long-and short-term drivers of return. In the long run, we expect a relatively small number of macroeconomic drivers –economic growth, rates, inflation, credit and currencies –to determine an asset’s returns. In the short-run, other factors can overpower the structural drivers causing wider fluctuations from an asset’s fair value. Valuations can be helpful in estimating short-term returns. We combine contributions from the long-and short-term return drivers to produce a final set of return expectations with a range of uncertainty around each. The next step is to use this set of return expectations in an optimisation engine that seeks out the best return without breaching an investors’ risk limit. Mean variance optimisation would produce a portfolio that maximises expected return under one base scenario with a given level of risk. In contrast, we look to build a “least-worst” portfolio –one that maximises returns for an investors’ target risk levels across the worst outcomes, say for the bottom 50% of the distribution, from a set of stochastically generated scenarios (cf. Tütüncü et al. 2004 and Garlappi et al. 2006). This helps ensure the portfolio is not overly reliant on just the median return. This process seeks to produce a portfolio that is robust to small changes in the central return estimates (Scherer, 2006).

Stochastic engine: We use Monte Carlo simulation to create random distributions informed by historical return distributions and centred on our expected returns. The engine simulates thousands of return pathways for each asset, representing the range of possible outcomes over a five-to 20-year time horizon. We leverage BlackRock’s risk models to help ensure that assets generate similar returns, to the extent that they have common drivers. The range of scenarios incorporate our work on incorporating uncertainty in return expectations. We use an extension of the Black-Litterman model (1990) –a well-known model for portfolio allocation that combines equilibrium returns and medium-term views in a single-period setting. Our model uses a Kalman filter (1960) –an algorithm that extracts insights about return paths by bringing together a number of uncertain inputs –to extend Black-Litterman into a multi-period setting. This allows us to capture the variation of expected returns over time under various scenarios –from economy-related to market sentiment driven. A large part of these variations is not predictable. Constructing portfolios that are robust to, or can exploit, these variations is a major challenge for investors. The ability to calibrate the engine with asset class views with uncertainty at arbitrary time horizons, and to evolve this uncertainty stochastically, drives the dispersion of return outcomes. Highlighting the uncertainty that investors face when building portfolios helps ensure ostensibly precise return expectations do not lead investors to concentrated portfolios. Simulated return paths support a broader range of applications, such as asset-liability modelling. We believe stochastically generated return scenarios enable investors to move with ease beyond mean-variance and optimise portfolios against their individual needs. Investors can place more emphasis on the tails of the distribution or focus on the path of returns rather than just the total return. They can incorporate flows in or out of the portfolio over the course of the investor’s time horizon or place more emphasis on scenarios that are challenging for the investor’s business beyond their portfolio. Investors with complex asset-liability matching requirements, such as insurers, typically rely on stochastic simulations of returns to assess and construct portfolios.

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