

Understanding the True Drivers of Private Market Portfolio Returns

A Case Study in Transparent Private Markets Portfolio Performance Attribution

Executive Summary

Private markets have become a core component of institutional portfolios. As these programs scale, boards, CIOs, and investment committees face increasing pressure to explain portfolio outcomes, assess the effectiveness of past decisions, and build confidence in future ones.

Traditional private markets benchmarking, however, remains largely opaque.

A portfolio can include many well ranked funds and still deliver weak aggregate results due to commitment pacing, capital weighting, concentration, or other allocation decisions. Conventional benchmarks summarize outcomes but provide little visibility into how individual decisions combine to shape overall portfolio performance.

This creates a critical gap for investors: the inability to decompose performance by investment selection, portfolio construction, and allocation decisions. Absent this critical information, boards and investment committees often struggle to understand their private markets portfolio performance and identify areas for improvement.

To address this challenge, HarbourVest's Quantitative Investment Science (QIS) team developed an innovative performance attribution framework designed to evaluate portfolios in a more realistic and decision relevant context. Using a portfolio replication simulation approach and transparent proprietary benchmarks, the framework measures performance relative to a range of plausible alternative portfolios drawn from the same opportunity set.

By holding key factors constant and varying investment selection across those factor groups, the framework decomposes returns into distinct drivers of portfolio performance. The following case study applies this approach to two institutional portfolios with a comparable number of fund commitments over a recent ten-year period, showing how access to the same investment opportunity set can lead to materially different portfolio outcomes, and how our proprietary performance attribution analysis can provide actionable insights into the effectiveness of a particular investment program.

Traditional Benchmarking Methods Fall Short in Evaluating Private Market Portfolios

Private market portfolio results are shaped by wide dispersion of returns across managers, long investment horizons, and potentially uneven capital deployment across vintages. As a result, aggregate returns can mask meaningful differences in how portfolios are constructed, and why similar programs can produce very different outcomes.

Most traditional private portfolio evaluation tools offer context but fall short of delivering true insight. Fund level quartile benchmarking, shown in Chart 1, summarizes investment-level outcomes without shedding light on the impact of commitment pacing and capital allocation decisions. Similarly, hit rate analysis in Chart 2 highlights patterns, but does not explain what drives them. As a result, traditional benchmarking methods fall short in explaining the “why” behind portfolio outcomes.

LPs often find themselves asking the same fundamental questions:

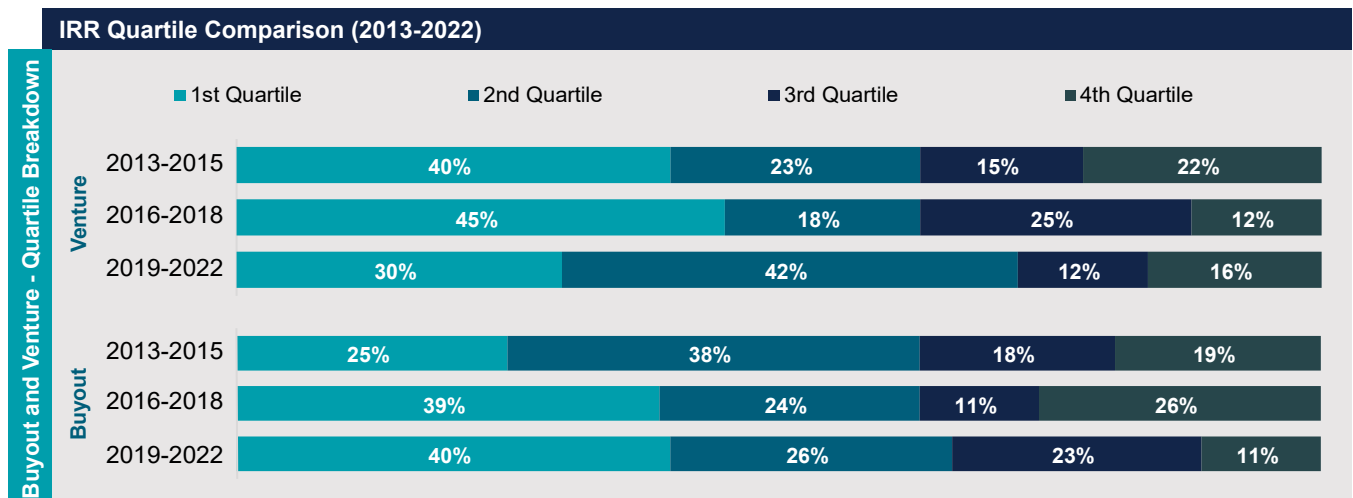
- Is performance driven by repeatable skill or favorable market conditions?
- What factors are driving portfolio returns?
- Which decisions are contributing most to long-term outcomes?

Answering these questions requires moving beyond measuring performance at an individual investment-level to understanding the underlying drivers of portfolio returns.

Chart 1: Traditional Benchmarking View

Traditional Benchmarking View for US Mid-Market Buyout Funds									
	Net IRR			Net DPI			Net TVPI		
	'05-'07	'11-'13	'14-'17	'05-'07	'11-'13	'14-'17	'05-'07	'11-'13	'14-'17
Fund A	2nd	1st	2nd	3rd	2nd	3rd	2nd	1st	2nd
Fund B	1st	2nd	1st	1st	1st	1st	2nd	2nd	1st
Fund C	1st	3rd	4th	1st	4th	2nd	1st	3rd	4th
Fund D	2nd	–	2nd	3rd	–	1st	3rd	–	1st

Chart 2: IRR Quartile Comparison



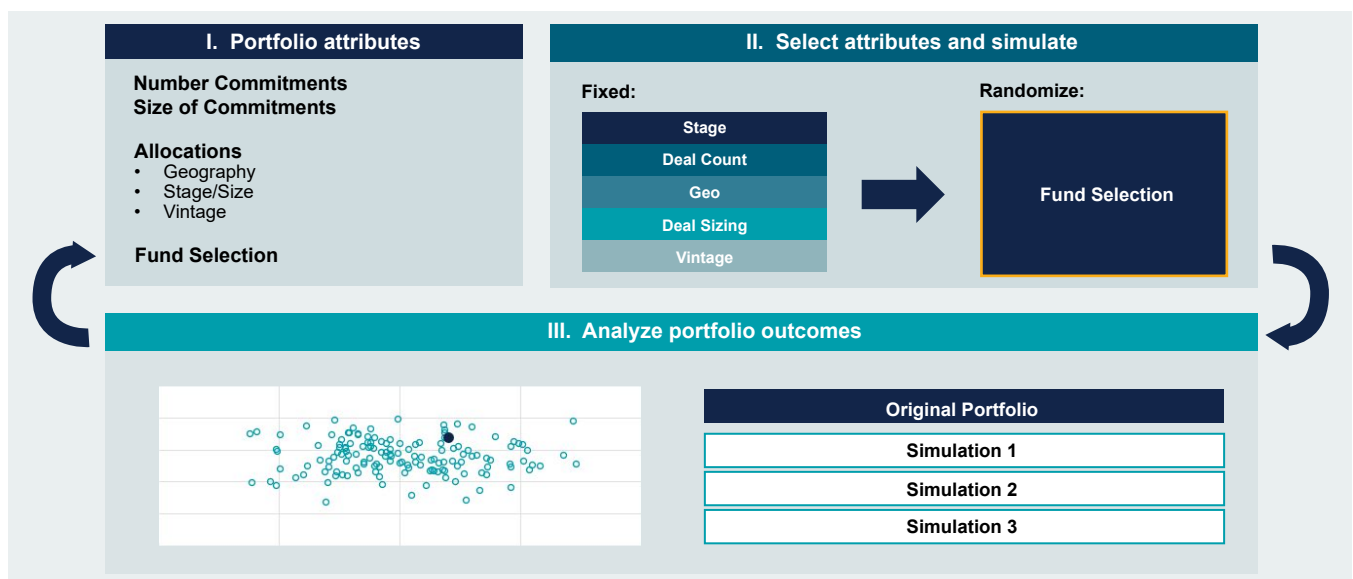
For illustrative purposes only. These charts are intended to reflect the type of analysis private portfolios may utilize and do not represent actual benchmarking figures. Not representative of any HarbourVest fund, account, or experience.

A New Framework for Understanding Portfolio Performance

Unlike traditional benchmarking, our approach uses a portfolio replication attribution framework grounded in a deep proprietary dataset spanning nearly two decades. The dataset covers more than 23,000 funds, 5,000 GPs, and 73,000 investment holdings.

Within this framework, a given portfolio is evaluated against a large set of realistic alternative portfolios drawn from the same opportunity set, constructed by sampling historical fund returns. By systematically holding some allocation and selection decisions constant, while varying others, the framework isolates the impact of fund selection, allocation, and pacing decisions, as illustrated in Graphic 1.

Graphic 1: Portfolio Attribution Model



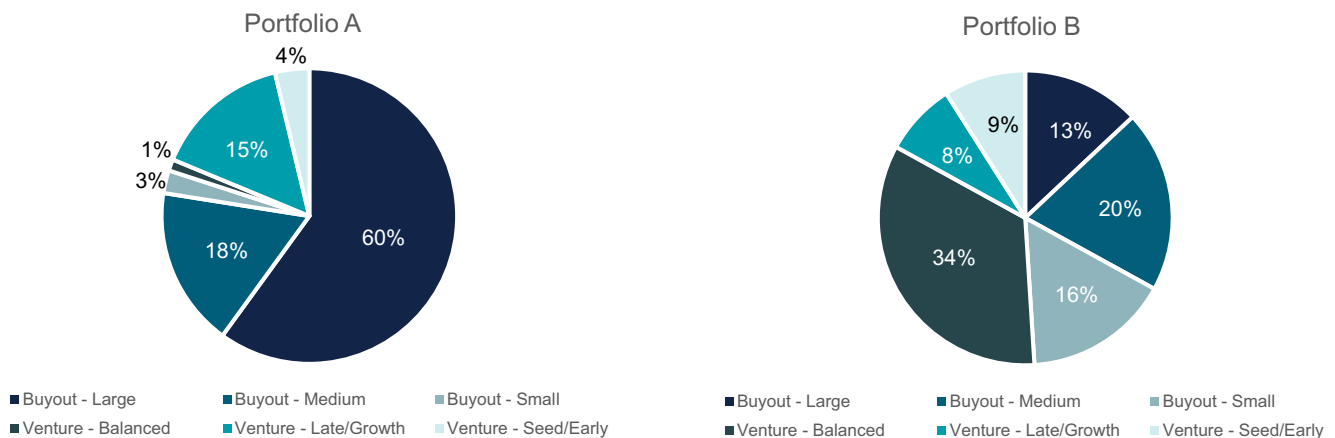
For illustrative purposes only.

This simulation-based approach provides transparency into the full distribution of potential portfolio outcomes, including return dispersion, concentration risk, and portfolio-level risk and return tradeoffs. The result is clear, actionable insight into portfolio performance, tying investment outcomes directly to the decisions investors control, and enabling more informed decision-making over time.

Case Study: Measuring Alpha within Two US Pension Fund Portfolios

To illustrate the insights offered by this new approach, we applied our portfolio attribution framework to two institutional portfolios. Both portfolios comprise commitments to private equity buyout and venture funds with vintages spanning 2013 to 2022, providing a common market backdrop for evaluating differences in portfolio outcomes. Portfolio A consists of 80 buyout and venture commitments, while Portfolio B includes 91 commitments over the same period. As shown in Chart 3, Portfolio A is more concentrated, with approximately 60% allocated to large buyouts, whereas Portfolio B exhibits a more balanced exposure across fund size and investment stage.

Chart 3: Portfolio Construction Comparison



As of June 30, 2025. Source: HarbourVest proprietary data set comprised of information aggregated from multiple data sources, including HarbourVest and third-party data providers. For illustrative purposes only. Not representative of any HarbourVest fund, account, or experience.

The results:

The attribution analysis highlights clear differences in how returns were generated across the two portfolios, relative to a benchmark portfolio return.¹ As shown in Chart 4 and 5 below, Portfolio A modestly underperformed, with outcomes reflecting a combination of fund selection and vintage year allocation effects. Portfolio B, by contrast, has outperformed generating meaningful excess returns across both buyout and venture investments.

By decomposing excess performance relative to replication portfolios, the tool reveals that results were achieved for fundamentally different reasons.

Chart 4 shows that Portfolio A's results were shaped by negative contributions from both fund selection (-0.04x) and vintage year timing (-0.06x). Chart 5 shows a different composition for Portfolio B, which returned 1.96x, approximately 0.31x above the mean replicated market portfolio, with attribution linking most of the excess value to fund selection (+0.29x), alongside a positive contribution from vintage year timing (+0.05x)

Performance is measured as TVPI (Total Value to Paid In Capital).

¹ For a portfolio replication approach, the benchmark return represents the average return of portfolios sampled with geographic, stage, and vintage year allocations aligned to market weights by capitalization.

Chart 4: Portfolio A TVPI Attribution

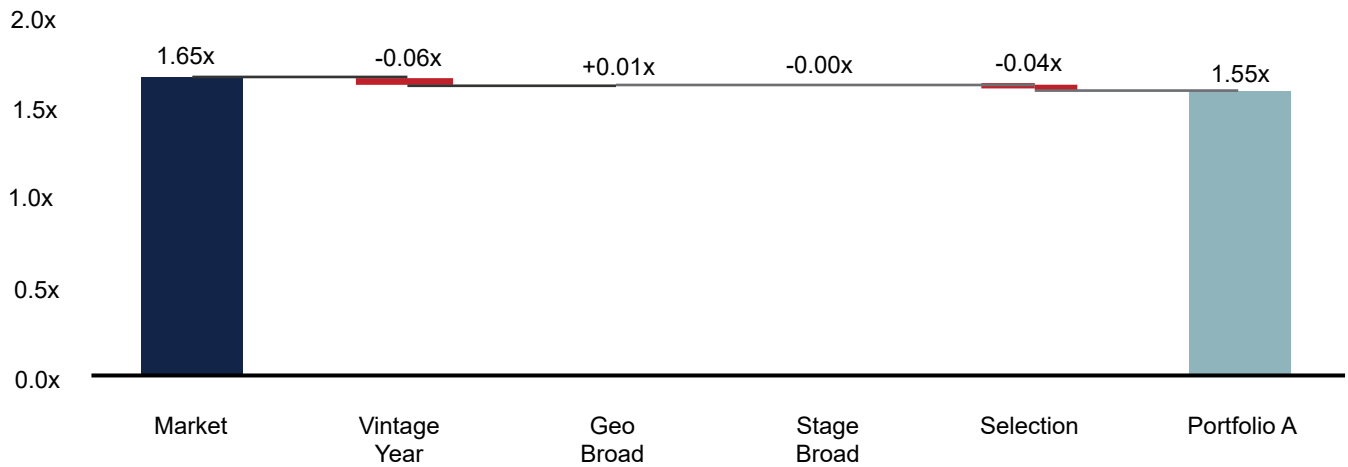
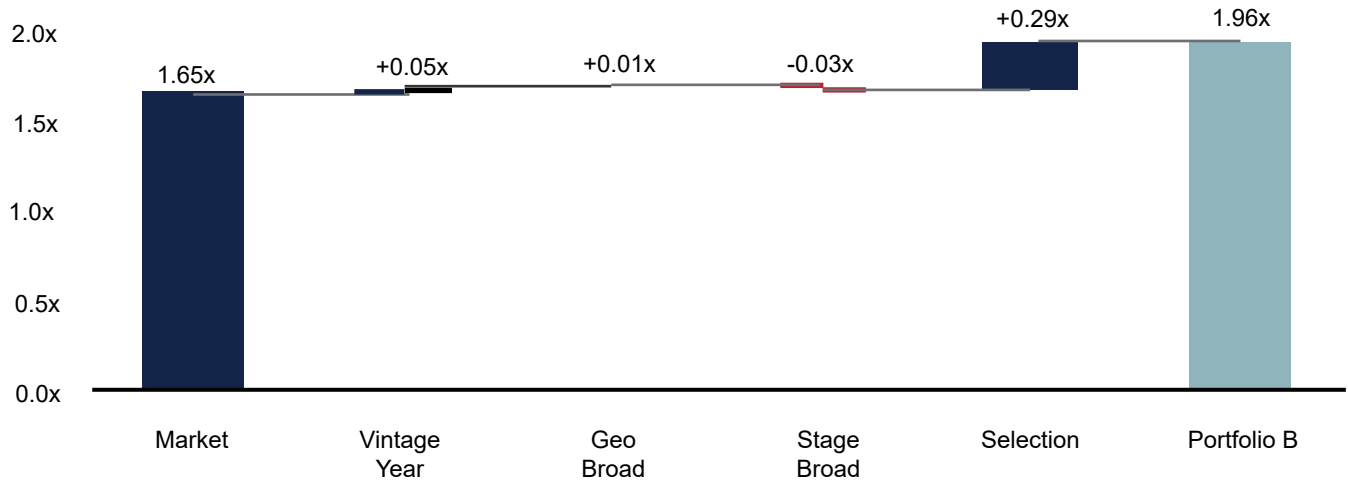


Chart 5: Portfolio B TVPI Attribution



As of June 30, 2025. Source: HarbourVest proprietary data set comprised of information aggregated from multiple data sources, including HarbourVest and third-party data providers. Net of underlying management fees and carried interest. Gross of HarbourVest management fees and carried interest. Other expenses borne by investors in the HarbourVest managed funds / accounts may reduce returns. Performance in USD. For illustrative purposes only. Past performance is not a reliable indicator of future results. Not representative of any HarbourVest fund, account, or experience.

Together, the charts show how the attribution framework decomposes excess return into distinct components — isolating the contributions of market exposure, vintage timing, and fund selection — pinpointing which underlying factors contributed most to portfolio outcomes.

Inside the Portfolio Mix: Stage and Market Segment Exposure

The first layer of analysis focuses on structural exposure, how each portfolio is allocated across venture, small buyout, middle market buyout, and large buyout relative to a universe of simulated portfolios with comparable geographic reach and maturity.

At this level, the analysis highlights differences in portfolio construction. Chart 6 shows that Portfolio A had lower exposure to venture, while Chart 7 illustrates a buyout allocation skewed toward larger funds - segments that generated lower average returns over this period. By comparison, Chart 8 highlights that Portfolio B is slightly overweighted to venture, with Chart 9 showing greater exposure to small and mid-sized funds. The attribution results demonstrate how contributions differed across segments, reinforcing the tool's ability to link observed outcomes to underlying allocation decisions.

Chart 6: Portfolio A Allocations by Broad Stage



Chart 7: Portfolio A Allocations by Fine Stage

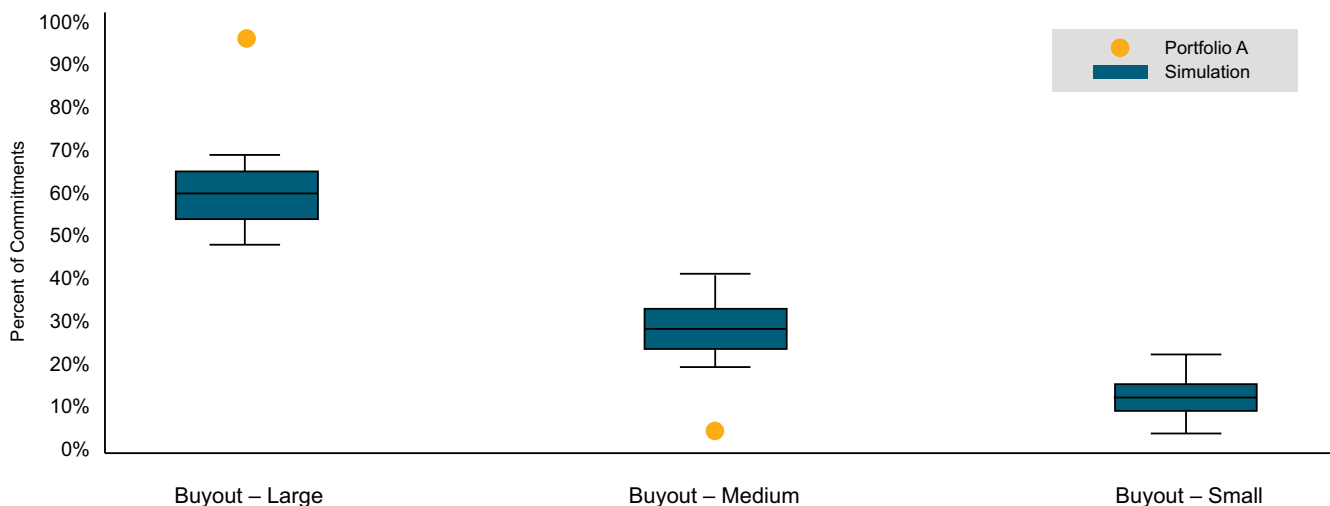


Chart 8: Portfolio B Allocations by Broad Stage

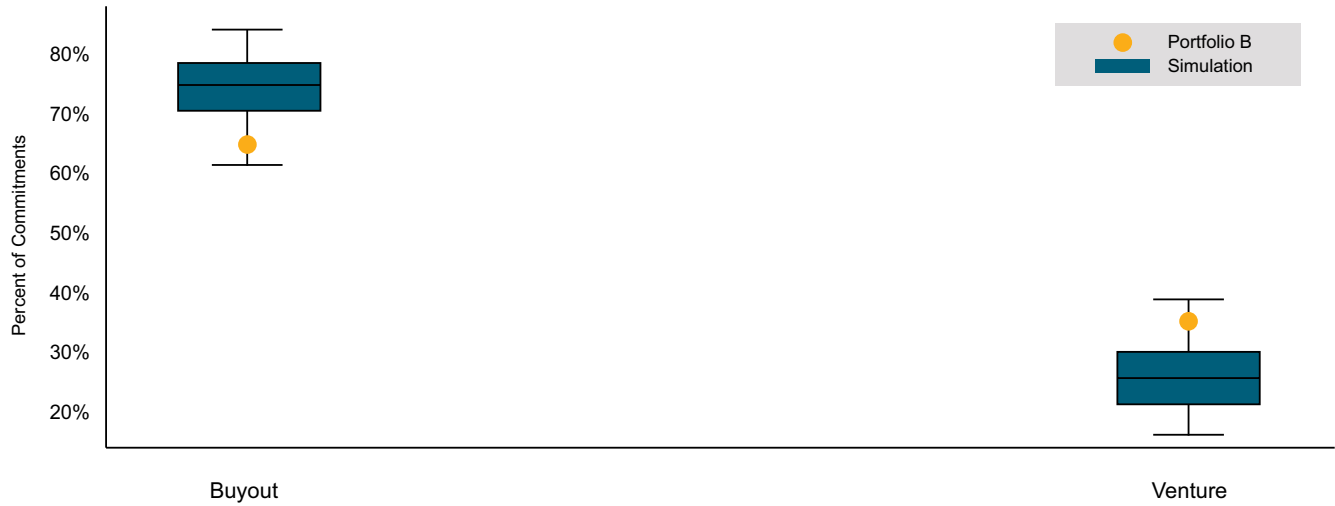
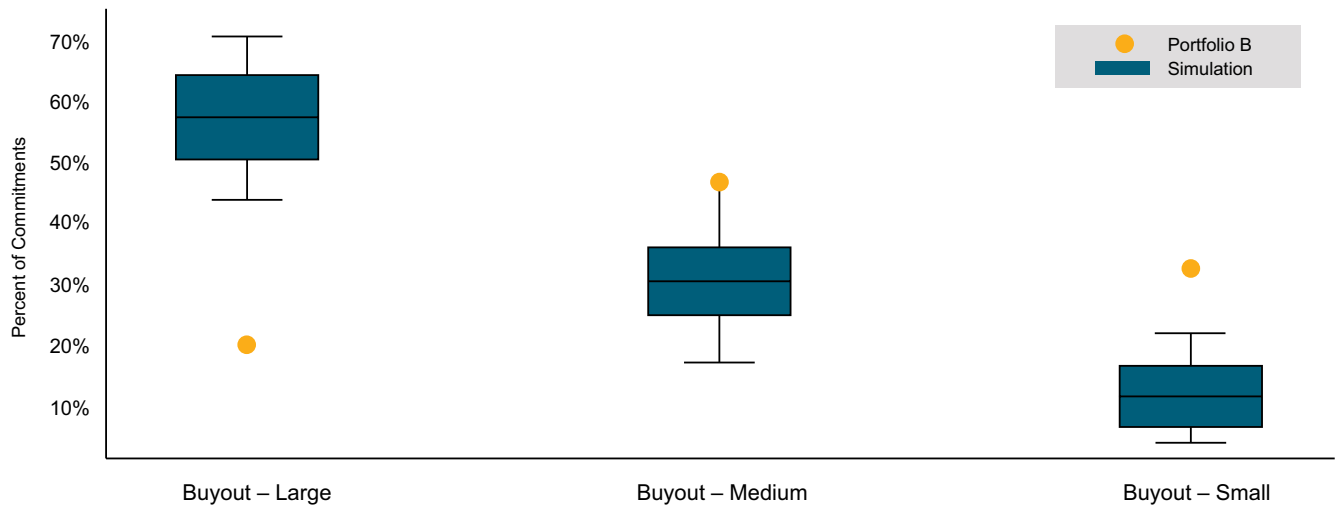


Chart 9: Portfolio B Allocations by Fine Stage



Simulated portfolios produce a range of potential allocation outcomes across vintages, geographies, and stages. For each category, the box represents the interquartile range (25th-75th percentile) of simulated allocation weights, while the whiskers represent the 5th and 95th percentiles. The circle denotes the actual portfolio allocation weight.

As of June 30, 2025. Source: HarbourVest proprietary data set comprised of information aggregated from multiple data sources, including HarbourVest and third-party data providers. Net of underlying management fees and carried interest. Gross of HarbourVest management fees and carried interest. Other expenses borne by investors in the HarbourVest managed funds / accounts may reduce returns. Performance in USD. For illustrative purposes only. Past performance is not a reliable indicator of future results. Not representative of any HarbourVest fund, account, or experience.

Commitment Pacing

Beyond asset allocation, the framework evaluates commitment pacing, a dimension that traditional benchmarking rarely incorporates directly despite its importance in portfolio outcomes.

The tool highlights contrasting vintage allocation patterns across the two portfolios. Chart 10 shows that Portfolio A's commitments varied over time, with relatively lighter allocations in earlier vintages and greater concentration in later years. By comparison, Chart 11 shows that Portfolio B maintained a more even distribution of commitments across vintages. The results illustrate how differences in commitment pacing shaped each portfolio's exposure to the evolving private markets opportunity set over the analysis period. Overall, more consistent commitment pacing was associated with stronger outcomes, reflecting broader and more balanced exposure across vintages.

Chart 10: Portfolio A Allocations by Vintage Year

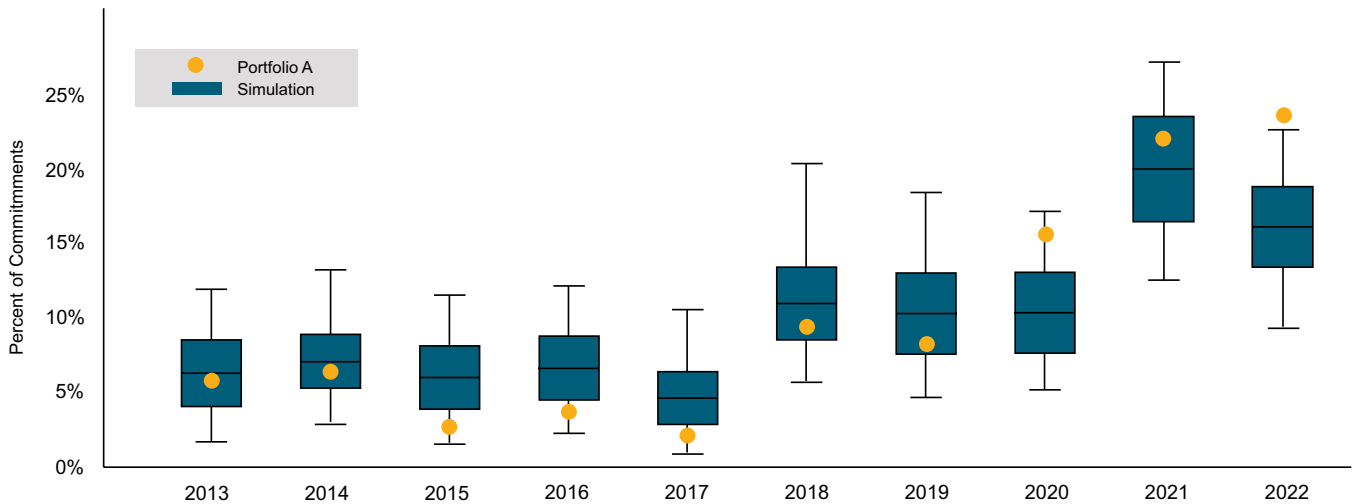
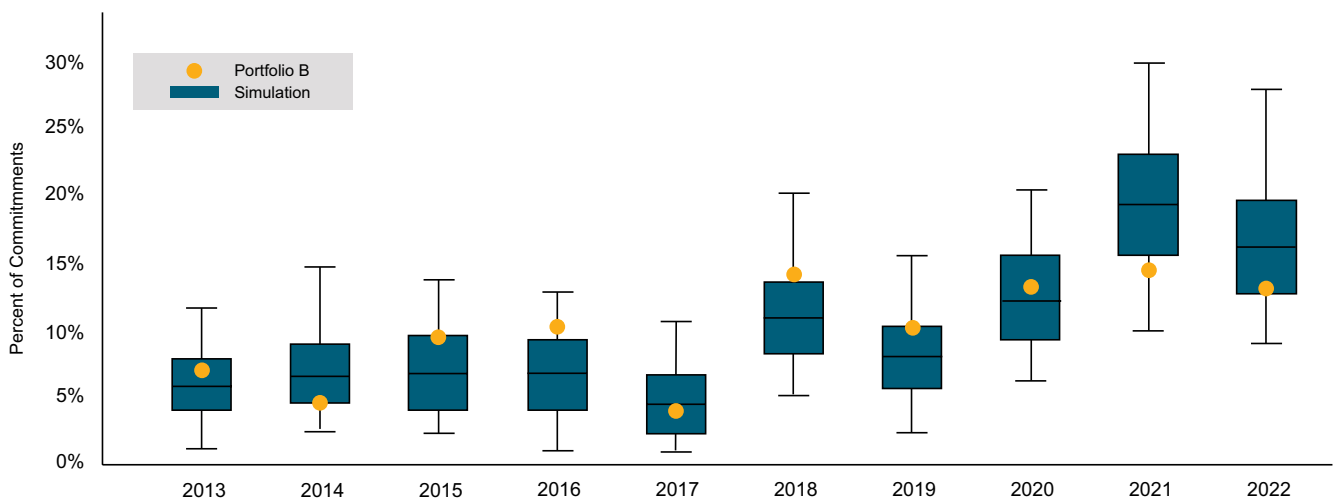


Chart 11: Portfolio B Allocations by Vintage Year



As of June 30, 2025. Source: HarbourVest proprietary data set comprised of information aggregated from multiple data sources, including HarbourVest and third-party data providers. Net of underlying management fees and carried interest. Gross of HarbourVest management fees and carried interest. Other expenses borne by investors in the HarbourVest managed funds / accounts may reduce returns. Performance in USD. For illustrative purposes only. Past performance is not a reliable indicator of future results. Not representative of any HarbourVest fund, account, or experience.

The Impact of Transparent Portfolio Attribution

As evidenced in our analysis, private market portfolio outcomes are rarely the result of a single decision. Instead, they reflect many choices made over a long investment horizon including commitment pacing, asset allocation, portfolio construction, and investment selection that compound over time. This case study demonstrates the clarity that rigorous portfolio performance attribution can bring to that process. Taken together, the analysis shows how this framework transforms portfolio evaluation by comparing results within a realistic opportunity set, making allocation and pacing decisions measurable contributors to outcomes, and isolating investment decisions from market movements. In doing so, it replaces high level, one-dimensional explanations with a holistic framework offering specific, evidence based insight into how decisions compound over time leading to measurable portfolio outcomes.

By extending attribution principles into private markets, this framework closes a long standing information gap, transforming benchmarking from a retrospective scorecard into a forward looking diagnostic. It enables investors to decompose returns into their underlying drivers and understand not just what happened, but why. For boards, CIOs, and LPs, the outcome is not simply a more refined benchmark, it is a clearer line of sight into the decisions that matter most, and how those decisions translate into long term results.

Want to better understand your portfolio performance?

Clarity in private markets requires scale, rigor, and a framework designed to explain outcomes across cycles. HarbourVest's Quantitative Investment Science (QIS) team aims to deliver this by combining a proprietary private markets dataset with a novel approach to performance attribution.

By decomposing performance into its underlying drivers, QIS advances benchmarking beyond surface level comparison to a diagnostic tool that explains why outcomes occur. In an asset class shaped by long horizons and compounding decisions, QIS looks to turn complexity into insight, making performance drivers visible and enabling investors to evaluate how their portfolios are positioned relative to realistic alternatives.

For investors navigating complex, compounding decisions across cycles, QIS can bring clarity to portfolio alpha, revealing what is driven by skill and how results compare to realistic alternatives.

If you want a clearer, attribution-based understanding of your portfolio's alpha, contact HarbourVest to explore how QIS can help explain what's driving your private markets performance.

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