PRIVATE EQUITY PROGRAM BENCHMARKING

The Good, the Bad and the Ugly

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This paper highlights the challenges of trying to establish a time-weighted aggregate program comparison for private equity.

Private equity investors seek meaningful program benchmarks and indexes that are relevant to their portfolios. But traditional vintage year analyses only compare peer performance among individual partnerships. Benchmarking aggregate private equity programs is a much more complex process in which no true market indexes exist, leading private equity investors to deploy a variety of creative approaches. For perspective, we can examine these approaches with the humble goal of helping investors understand whether the approaches they have chosen are meeting their intended comparative needs, while demonstrating that private equity program benchmarking is more often an art than a science.

MEASURABLE ASPECTS

Private equity portfolios have three distinct, measurable aspects. These aspects can be analyzed using the following three-stage approach.

- **The policy decision to invest** can be evaluated using a public market equivalent approach.
- **Aggregate portfolio performance** can be compared to private equity portfolios in a private equity program universe (or an index).
- **Individual partnership performance versus peers** can be evaluated against vintage year universes.

This three-stage approach provides an accepted and well-rounded view. But, in traditional performance benchmarking, investors also want – or in some cases require by policy – a time-weighted return-based (TWR) index to compare aggregate program performance across various time periods and to include in investment policy indexes. This paper highlights the challenges of trying to establish a time-weighted aggregate program comparison for private equity.

ACCEPTED BENCHMARK CRITERIA

Private equity benchmarks – whether for complete programs or individual partnerships – represent private assets, which by their very nature fail widely accepted benchmark criteria. Jeff Bailey of Richards and Tierney identified the accepted criteria for good public market benchmarks. These enduring criteria were developed with public markets in mind, but have set expectations for benchmarking of all asset classes. Bailey asserted that high-quality benchmarks must be:

- **Unambiguous** – possess known constituents and weightings
- **Investable** – able to own an actual portfolio of the index securities
- **Measurable** – created in a timely manner at reasonable intervals
- **Appropriate** – suit the style and composition of the investor portfolio
- **Reflective of market** – represent the market of the asset class
- **Known in advance** – constructed prior to the investment period

SUITABILITY OF CRITERIA

Because private equity is not market traded, it is difficult to apply these criteria. Let's examine the suitability of specific accepted benchmark criteria to private equity programs.

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The industry has been left to "make do" with a number of approaches to benchmarking aggregate program performance.

Unambiguous

There is no consensus agreement on what constitutes an accurate representation of the private equity market. The performance dispersion of partnerships and programs is wider than public market asset classes.

Investable

It is not feasible for most investors to construct a private equity portfolio with sufficient diversity to represent the total market. This raises the question of whether the private equity market can broadly be described as "investable."

Measurable

Partnership asset values aren't constant because capital is not called all at once and distributions occur across time, resulting in somewhat bell-shaped NAV levels. This makes it difficult to measure in a timely manner at reasonable intervals.

Appropriate

For a variety of reasons, virtually all private equity portfolios are lumpy by vintage year and style. Even if 90% coverage of all of the partnerships past and present could be captured and distilled into a single index, that index might not be appropriate for most investors' portfolios, given such composition.

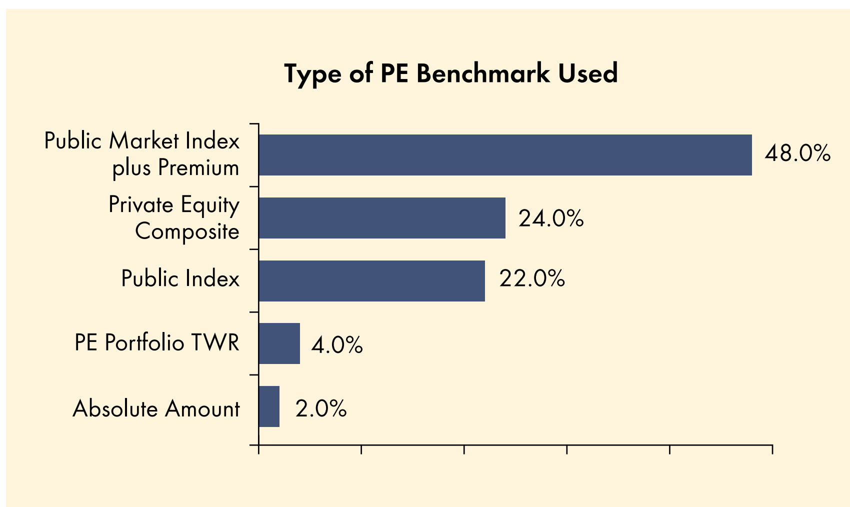
Reflective of Market

Arguably, this is most important criterion. But this is a high hurdle in the opaque world of private equity.

COMMON APPROACHES

Because of limitations such as these, the industry has been left to "make do" with a number of approaches to benchmarking aggregate program performance. The following are some of these, but there are many permutations on these basic concepts.

Public Market Indexes – including broad indexes like the S&P 500 – are commonly used benchmarks for private equity.



Source: Northern Trust. Survey sample of 125 U.S. investment plans, including defined benefit and not-for-profit plans.

Public Market Indexes plus a Premium – for example, the S&P 500 plus 4% to 6% – also are commonly used. These are simply time-weighted indexes plus premiums, as contrasted with public-market equivalent methods in which flows are grown by the index.

"Plus premium" indexes typically reflect the policy expectation for the asset class. The consultant or investment committee usually sets the premium amount qualitatively. Typically, a time-lag adjustment is made to compensate for late data arrival and for the fact that most manager prices do not fully incorporate public market movements until a quarter or so later, even with fair-value pricing.

PROS AND CONS OF COMMON APPROACHES

APPROACH	PROS	CONS
Public Market Indexes or Public Market Indexes plus a Premium (e.g., S&P 500 + 4%)	▪ Investable (except for premium) and easy to understand ▪ Can be created on a timely basis ▪ Easy to incorporate into total fund policy benchmarks	▪ Does not represent movements of PE market ▪ Premium amount is subjective ▪ Cannot be applied to newer portfolio
Lagged Public Market Indexes plus a Premium (e.g., S&P 500)	▪ Investable (except for premium) and easy to understand ▪ Can be created on a timely basis ▪ Easy to incorporate into total fund policy benchmarks ▪ Lags compensate for slowness with which managers incorporate market movements in pricing	▪ Does not represent movements of PE market ▪ Premium amount is subjective ▪ Cannot be applied to newer portfolio
Public PE or VC Indexes (from various providers)	▪ Timely ▪ May be useful in planning exercises	▪ Usually represents performance of companies taken public by partnerships ▪ Performance more likely to resemble small or micro cap ▪ May not be representative of a current portfolio
Private Equity Composites	▪ Represents a broad private equity universe ▪ Widely known providers	▪ Vintage and type constituency is unknown ▪ May not be relevant to portfolio ▪ Subject to the biases of the vendors' data collection methods ▪ Wide time gap between providers ▪ Data arrival is very late (up to six months past period) ▪ Composites are not "frozen" and change with new data arrival ▪ Pooled, weighted average, or equal weighting will result in dramatic differences in composites
Investor Allocation-Weighted Vintage Year & Type Composites (created using vintage year and type composite TWR)	▪ Arguably more relevant to strategic orientation of program being benchmarked	▪ Constituency is unknown ▪ Challenge setting appropriate weights ▪ Data arrival is very late ▪ Subject to vendor biases
Absolute Amounts (e.g., 15%)	▪ Easily determined ▪ Timely ▪ May match policy return expectation	▪ Does not move with the market ▪ Provides no relative measurement of investor portfolio success
Use of the PE Portfolio TWR in the Policy Index	▪ Neutralizes value added in attribution	▪ Does not help determine value added ▪ Allocation distorts total attribution effects by introducing an unjustified timing effect ▪ Cannot be applied to a newer portfolio

The chart on Page 5 offers a "red, yellow or green light" comparison of common benchmarking approaches versus accepted criteria.

Public Private Equity or Venture Capital Indexes are composed of post-IPO companies funded by private equity. These indexes are arguably more akin to micro- to mid-cap market indexes, as opposed to private equity partnership performance.

Private Equity Composites that include buyout and venture partnership performance are common proxies for "the market" for private equity. However, investors using composite benchmarks need to account for a number of practical considerations.

- Though composites provide interesting general indicators of performance, they don't necessarily reflect the opportunities available to the investor or even remotely resemble the investor's portfolio allocation by vintage year and type.
- Furthermore, the diversity of weighting methods (pooled, size weighted, equal weighted, etc.) of partnerships in these composites creates huge variances in composite results.
- Availability of partnership composites is often delayed, driven by late arrival of underlying manager data.

Investor Allocation-Weighted Vintage Year and Type Composites can eliminate some of the biases inherent in total composites and can offer results that are arguably more representative of the investor portfolio. However, the data required to create this benchmark is often very delayed as it is dependent upon late-arriving partnership data.

Absolute Amounts such as fixed percentages (for example, figures ranging from 12% to 16%), are sometimes used. While absolute amounts may be useful for long-term comparison (periods greater than three years), they do not provide any market representation whatsoever.

The PE Portfolio's Time-Weighted Return is sometimes used in the policy index. Some use this approach to neutralize selection effects, but it does not eliminate allocation effects.

COMMON APPROACHES VS. BENCHMARK CRITERIA

Let's compare commonly used approaches to accepted benchmark criteria. The chart on Page 5 offers a "red, yellow or green light" representation of this analysis.

The Public Market Index plus a Premium approach is unambiguous, measurable, and known in advance. It is investable, with the exception of the premium. It is appropriate only for investors who wish to make a statement that compares the portfolio to the public market (the Long-Nickels approach, which internalizes the index using actual dated cash flows, may be a better option, but that is another discussion). The big drawback as compared to the criteria is that this approach is not reflective of the market or even the subset of the market in which the money was placed, so there is little relevant information regarding private equity selections.

The Public Market PE or Venture Capital Indexes approach may be unambiguous, measurable, and known in advance, but it provides little information about selection.

The Private Equity Partnership Composites approach provides a representation of the market, but arguably only an unknown subset of the market, making the criteria of "appropriate" indeterminable. Nothing is known about their constituency, so the criteria of unambiguous, investable, and known in advance are shown as red lights. The "measurable" criterion also gets a red light, as these can be extremely late in arrival, making them hard to use when faced with reporting deadlines.

BENCHMARK CRITERIA APPLIED TO COMMON APPROACHES

	Unambiguous (known constituents & weightings)	**Investable** (can own an actual portfolio of the index securities)	**Measurable** (created in a timely manner at reasonable intervals)	**Appropriate** (suits the style and composition of the investor portfolio)	**Reflective of Market** (represents the market of the asset class)	**Known in Advance** (constructed prior to investment period)
Public Market Indexes or Public Market Indexes plus a Premium	🟢 Both holdings and premium are known	🟡 Can buy index funds but not the premium	🟢 Most market index info is struck daily	🟡 May be appropriate to policy but not actual portfolio	🔴 Does not represent private equity market	🟢 All market indexes have construction rules
Public PE or VC Indexes	🟢 Constituents are published	🟡 Constituents can be owned but may not be available as a fund	🟢 Indexes are created at least monthly	🔴 Not reflective of the investor's portfolio	🟡 Reflect past company holdings of partnerships	🟢 Have construction rules
Private Equity Composites	🔴 Constituents are not disclosed	🔴 Constituents are closed funds that cannot be bought after close	🔴 Created quarterly 60 to 90 days past period end	🟡 Represents actual PE but vintage and type allocations likely very different	🟡 Represents a subset of the PE market	🔴 Constituents unknown and some composites continuously updated
Investor Allocation-Weighted Vintage Year & Type Composites	🟡 Vintage year and type weighting known and set by the investor; underlying partnerships unknown	🔴 Constituents are closed funds that cannot be bought after close	🔴 Created quarterly 60 to 90 days past period end	🟡 Represents actual PE funds, as well as vintage and type allocations; constituents remain unknown	🟡 Represents a subset of the PE market	🔴 Constituents unknown and some composites continuously updated
Absolute Amounts	🟢 The target is an absolute number so it is unambiguous	🔴 There are no guaranteed percentage investment vehicles	🟢 The amount is known and created in advance	🔴 Represents a fixed target as opposed to performance of a style	🔴 Represents a fixed target as opposed to a market	🟢 This is simply a target number, but it is known
Use of the PE Portfolio TWR in the Policy Index	🟢 Limited partnership holdings and weightings are known	🟢 Represents what the investor owns	🟢 Can be created as frequently as needed	🟢 Represents what the investor owns	🔴 Doesn't represent that market or provide relative information	🟡 Limited partnership holdings and weightings are known after period end

The Investor Allocation-Weighted Vintage Year and Type Composite approach uses composite subcomponents related to the portfolio strategy, increasing its appropriateness. This approach is less ambiguous than simply using the total composite, but the problems of appropriate and reflective of market, though somewhat mitigated, are similar to the Private Equity Partnership Composites approach. The "measurable" criterion also gets a red light, as these composites are extremely late in arrival, making them hard to use when faced with reporting deadlines. Despite having no green lights, this may be as close as one can get in creating a "representative" market index, since the vintage year and type weightings are managed.

The Absolute Amount approach gets equal numbers of red and green lights when the criteria are applied, but the key criteria of "appropriate" and "reflective of market" are not met.

The Use of the PE Portfolio TWR approach meets many criteria, but the red light of not being representative trumps all the green, as it offers no comparative information.

EFFECTS ON TOTAL FUND ATTRIBUTION ANALYSIS

Benchmarks are also used in total fund attribution analysis to quantify contribution to total performance by asset class and to determine how much of that contribution was due to variance from strategy (asset allocation) and selection effects. This is an area where many of the assumptions made regarding benchmarking of the private equity allocation can have serious effects.

Some opt to exclude alternative assets in their entirety from a total plan attribution analysis. Since a true private equity benchmark is not possible, many acknowledge that even a plausible approach can introduce distortions into attribution.

The traditional approach to time-weighted return-based attribution attempts to isolate contributions due to allocation or the value added by the manager via selection. Since it is not possible to "own" the private equity market via an investment product, or even to know what would truly constitute the entire private equity market, it is not possible to quantify "selection" in the world of private equity. Therefore, most avoid the issue by not including private equity (and other alternative assets) in attribution analysis.

For those who keep their alternatives in the total plan analysis, the time-weighted private equity (or even total alternatives) program performance is included in the policy index to neutralize some of the effect. However, simply including an allocation can dilute the allocation attribution effect.

To determine the private equity (or alternative asset) contribution to total plan return, plan managers will often calculate the difference between total plan return including private equity (or total alternatives) and return excluding private equity (or total alternatives) and consider that difference to be the contribution to the total plan.

The key message here is that since a true private equity index does not exist, including any of the common approaches in the policy index used in attribution can bring unintended consequences to total plan attribution.

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CONCLUSIONS

Benchmarking private equity programs is much more difficult than selecting a benchmark and adding a risk or illiquidity premium. Unfortunately, when such "program benchmarks" are used in performance analysis, they are accepted at face value, leading to decisions that can inadvertently create increased costs or risks.

Private equity benchmarking approaches today span the good, the bad and the ugly.

Investors should not use the private equity program index as the sole metric of portfolio success or as the basis for management compensation. Unlike the public markets, the success of private equity investing is not known until a partnership is very far along in age and gains are realized.

For most private equity programs, investments consist of new and old partnerships, making a bottom line assessment very misleading. It is widely accepted that performance on newer partnerships is not meaningful for up to six years. The aggregation of new and old results in an amalgam that includes performance of partnerships that investors would dismiss as not meaningful when viewed individually. Because of this, the private equity program index may be interesting, but it must be accompanied by an understanding of the seasonality of the program and level of diversification (biases towards any vintage or PE type).

Some current benchmarking approaches may be somewhat plausible, when implemented with thoughtful consideration. Some are questionable, as they may not be fully representative of the portfolio's investment strategy, and some are worse, as they in no way resemble the portfolio. In other words, practices today span the good, the bad and the ugly.

Private equity investors, therefore, should engage their consultants in dialogue around the inherent advantages and drawbacks of the available benchmark methodologies relative to their investment policies and objectives. Because no true market index exists, investors should be aware of the limitations of various approaches and their possible consequences.

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