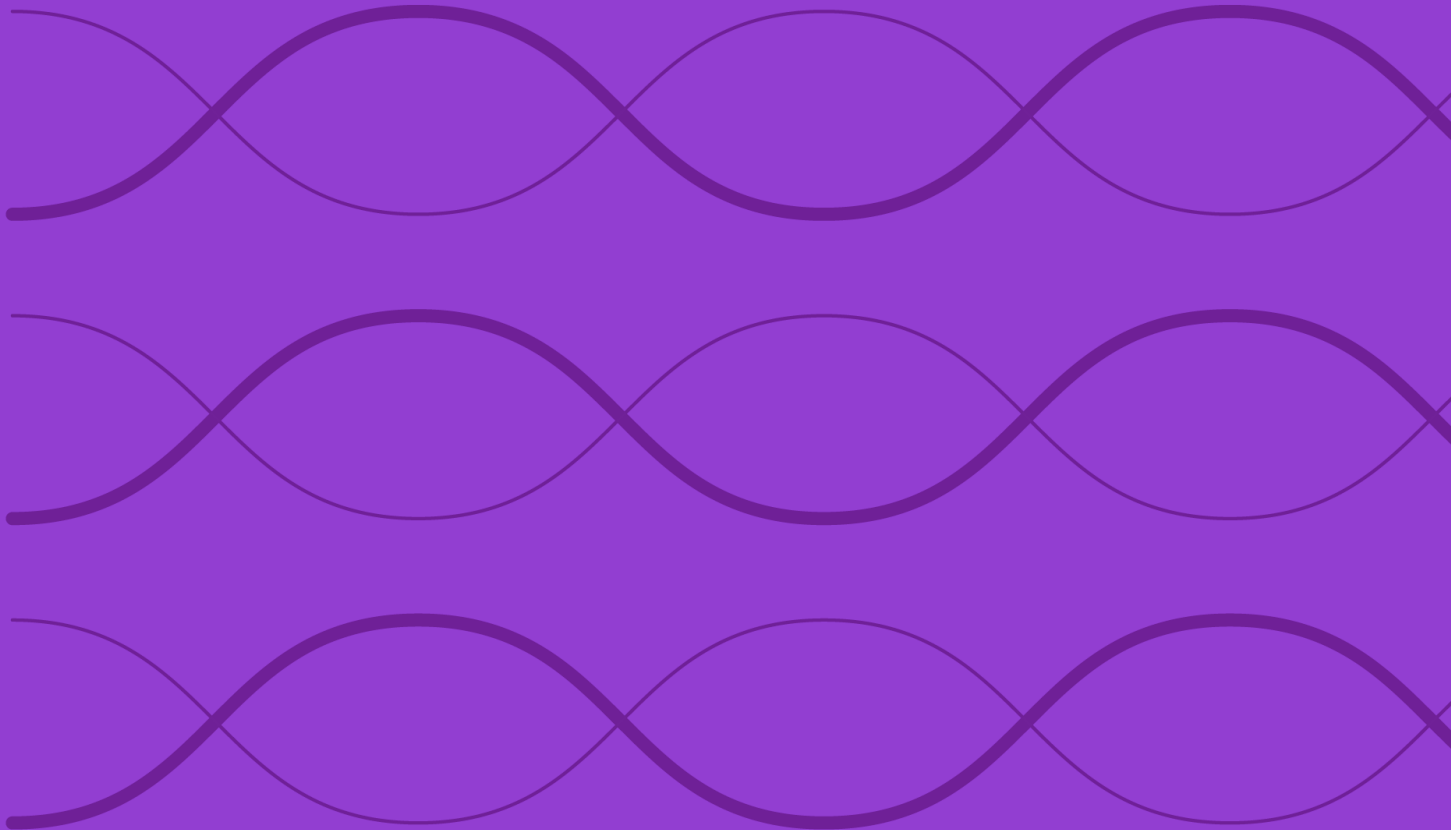


Construction Rules for the Morningstar PitchBook Developed Markets Listed Private Equity Index



Overview3

Index Construction4

Methodology Summary.....4

Starting Universe.....4

Eligibility4

Portfolio Construction.....5

Index Maintenance and Calculation.....7

Reconstitution and Rebalancing7

Corporate Actions.....7

Index Calculation and Price Data.....7

Methodology Review and Index Decommissioning Policy8

Data Correction and Precision9

Intraday Index Data Corrections.....9

Index-Related Data and Divisor Corrections9

Exceptions.....9

Appendixes10

Appendix 1: Modifications to the Rulebook.....10

Appendix 2: Glossary10

Appendix 3: Selection Process11

Appendix 4: Liquidity-Informed Weighting.....11

Appendix 5: Individual Indexes11

About Morningstar Indexes12

Overview

The Morningstar Pitchbook Developed Markets Listed Private Equity Index is designed to track the performance of public companies with significant exposure to private equity.

The index does not incorporate environmental, social, or governance criteria.

Index Inception and Performance Start Date

The index inception date and performance start date, when the first back-tested index values were calculated, are listed in Appendix 5.

Index Construction

Methodology Summary

Starting Universe

- Companies listed on relevant exchanges with more than three active private equity deals during the past 10 years.

Eligibility

- Select securities that satisfy one of the following criteria:
 - The primary industry is private equity.
 - Is classified as Venture capital, PE/buyout, PE growth, or Mezzanine.
 - Substantial PE investment
- Securities must have a total market capitalization of greater than \$100 million and a three-month average daily traded value of greater than \$250,000.

Portfolio Construction

- Weighted by float-adjusted market capitalization adjusted for purity score, subject to investment stage, concentration, liquidity constraints, and security type constraints.

Morningstar
Pitchbook
Developed Markets
Listed Private
Equity Index

Starting Universe

At each reconstitution, constituents of the Morningstar PitchBook Listed Private Equity Select Indexes are derived from the eligible universe described below:

- Exchange: The security must trade on one of the major exchanges eligible for inclusion in the Morningstar Global Markets Indexes. For details on countries and exchanges, refer to appendixes 2 and 4 in the [Construction Rules for the Morningstar Global Markets Indexes](#).
- Security type:
 - Common stocks, REITs, and tracking stocks are eligible.
 - Business development companies, or BDCs, are not eligible for inclusion.
- Private equity deals: The company must have more than three active private equity or venture capital deals during the past 10 years.

Eligibility

- Securities from the starting universe that satisfy one of the following criteria are eligible for inclusion:
 - The primary industry of the security is private equity.
 - It is classified as one of the following:
 - PE/buyout
 - PE growth/expansion
 - Mezzanine
 - Venture capital

- It has done substantial private equity or venture capital investments compared to its assets.
- Size and liquidity screens
 - Securities must have a market capitalization of greater than \$100 million and three-month average daily traded value, or ADTV, of greater than \$250,000 (or \$225,000 for current constituents).
- If a company has more than one share classes:
 - Select the one that is a current index constituent.
 - Otherwise, select the most liquid share class determined by Morningstar Indexes.

For more details on selection process, please refer to Appendix 3.

Portfolio Construction

All eligible securities are targeted for inclusion in the index.

Number of Stocks

The number of stocks in the index is variable, subject to the selection and eligibility criteria at the time of reconstitution.

Index Weighting

The weight of each security in the index is based on float market capitalization, adjusted for the purity score and following constraints:

- Investment stage: The sum of weights attributed to late-stage, mid-stage, and early-stage investments should not be greater than 80%, 20%, and 10%, respectively.
- Max security weight: The weight of a particular security should not be greater than 10%. Additionally, for developed markets, the sum of weights of all securities with weights greater than 5% is restricted to 40%.

$$Purity\ Score_i = \frac{PE\ or\ VC\ investments\ done\ by\ the\ firm}{Overall\ investments\ done\ by\ the\ firm}$$

$$Weight_i = \frac{Purity\ Score_i * Float\ Market\ Cap_i}{\sum_i^n (Purity\ Score_i * Float\ Market\ Cap_i)}$$

- Security type: At each quarterly rebalance, a 9.5% cap will be applied to the aggregate weighting of securities designated as closed-end funds, and individual closed-end fund weightings are capped at 4.5%.

Liquidity-Informed Weighting

- The securities weights are adjusted based on their liquidity such that:

$$|w_i - cw_i| < \frac{Days\ to\ trade * ADTV_i * \%ADTV\ being\ traded\ in\ 1\ day}{AUM}$$

Where:

cw_i = current weight of the i^{th} security in the index

ADTV _i	= average daily trading value of the i th security
Days to trade	= 2
% ADTV being traded in one day	= 40%
AUM	= USD 200 million

For additions, the current weight in the portfolio cw_i is 0.

- The residual weights are redistributed to remaining liquid securities. Final weights may not exceed five times the initial target weight. For more details on liquidity-informed weighting, please refer to Appendix 4.
- In the case of an infeasible solution, the liquidity adjustments may be relaxed.

For more details on the index calculation methodology, refer to the [Morningstar Indexes Calculation Methodology rulebook](#).

Index Maintenance and Calculation

Reconstitution and Rebalancing

The index is reconstituted, where the membership is reset, annually on the third Friday of December. Adjustments are implemented after Friday's market close and reflected the following Monday. The market data used for reconstitution is as of the last trading day of October.

The index is rebalanced quarterly on the third Friday of March, June, September, and December. Adjustments are implemented after Friday's market close and reflected the following Monday. The market data used for rebalancing is as of the last trading day of February, May, August, and November. Other market data used for the reconstitution and rebalancing is as of the last trading day of February, May, August, and November. The weighting constraints are applied at the annual index reconstitution and at the quarterly rebalancing.

Refer to Appendix 2 for details on reconstitution and rebalancing.

Index files are published according to the global calendar schedule. For more information, please refer to the [Morningstar Indexes Holiday Calendar](#).

Corporate Actions

The treatment of corporate actions will be as per the float-adjusted market capitalization-weighted indexes corporate action methodology. For more details, please refer to the [Morningstar Indexes Corporate Actions Methodology rulebook](#).

Index Calculation and Price Data

Details about index calculations and price data can be found in their respective rulebooks: [Morningstar Indexes Calculation Methodology](#) and [Equity Closing Prices Used for Index Calculation](#).

Methodology Review and Index Decommissioning Policy

The index methodology is continually reviewed to ensure it achieves all stated objectives. These reviews consider corporate action treatment, selection, and maintenance procedures. Subscribers to the index will be notified before any methodology changes are made. For more details, refer to the [Morningstar Index Methodology Change Policy](#).

Morningstar Indexes notifies all subscribers and stakeholders of the index that circumstances might arise that require a material change to, or a possible cessation of, the index. These circumstances are generally not within Morningstar's control and may include significant changes to the underlying market structure, inadequate access to necessary data, geo-political events, and regulatory changes. In addition, factors such as low usage or methodology convergence may result in the cessation of an index.

Because the cessation of the index or benchmark index could disrupt subscriber products that reference this index, all subscribers are encouraged to have robust fallback procedures if an index is terminated. For more details, refer to the [Morningstar Index Decommissioning Policy](#).

Data Correction and Precision

Intraday Index Data Corrections

Commercially reasonable efforts are made to ensure the accuracy of data used in real-time index calculations. If incorrect price or corporate action data affects index calculations, corrections are applied prospectively.

Index-Related Data and Divisor Corrections

Incorrect pricing and corporate action data for individual issues in the database will be corrected upon detection. In addition, an incorrect divisor of an index, if discovered within two days of its occurrence will be fixed retroactively on the day it is discovered to prevent an error from being carried forward. Commercially reasonable efforts are made to correct an older error subject to its significance and feasibility.

For more details, refer to the [Recalculation Guidelines](#).

Exceptions

While Morningstar will seek to apply the methodology as described within this document, the market environment, supervisory, legal, financial, or tax reasons may require an alternative approach to be adopted. A decision to take an alternative approach will be made by the Morningstar Index Methodology Committee, and in all instances, the application of a nonstandard process will be reported to the Morningstar Index Oversight Committee.

Appendixes

Appendix 1: Modifications to the Rulebook

Section	Description of Change	Update Date
Entire Rulebook	Moved to new template	November 2023
Portfolio Construction	The final weight assigned to an individual security should be no more than five times the initial target weight	March 2020
Portfolio Construction	Addition of 9.5% capping applied to the aggregate weight of securities designated as closed-end funds.	November 2023
Portfolio Construction	Addition of 4.5% capping applied to individual closed-end funds.	June 2024

Appendix 2: Glossary

Terms	Description
Reconstitution	During each reconstitution, the steps mentioned in the index construction process are performed, resulting in membership reset.
Rebalance	During each rebalancing, the weights are reset.
Free Float	<p>Morningstar defines free float as the number of shares (or percentage of shares) that are, theoretically, available for the public to purchase. In general, the shareholdings can be classified in two broad categories of holders: institutional holders and declarable stakeholders. The latter hold shares for various tactical or speculative reasons (other than those that might typify why an institutional investor would own the shares). As a result, the shares held by declarable stakeholders are, theoretically, unavailable to the public and therefore excluded from free float.</p> <p>The formula for calculating free float is:</p> $\text{Free float} = (\text{total shares outstanding}) - (\text{total declarable stakeholder shares})$
Typically classified as declarable stakeholders:	<ul style="list-style-type: none"> • Officer/director • Joint venture • Private company • Private equity fund/alternative investment • Public company stake • Employee stock ownership fund • Holding company • Government • Sovereign wealth fund • Subsidiary • Trust/trustee • Venture capital fund

Appendix 3: Selection Process

The following definitions are used as a guideline to classify companies as PE/buyout, growth, mezzanine, and venture capital in the selection process:

- PE/buyout: An investor that specializes in purchasing mainly a controlling interest of an established company (in a leveraged buyout).
- Growth/expansion: A sector of PE focusing on investing in minority stakes in already-established businesses to fund growth.
- Mezzanine: An investor that provides both equity and debt. Investments typically come in the form of subordinated debt and minority equity.
- Venture capital: Financing source for new businesses or turnaround ventures that usually combine risk with the potential for high return.

Investors, limited partners, and service providers are considered to have substantial PE investments if their PE investments are greater than 50% of their assets. A buffer of 10% is given to existing constituents—that is, for existing constituents, PE investments should be greater than 40% of the assets. Commercial and investment banks are excluded from the selection process. Private equity investments include investments done by the firm in private companies through buyout/LBO, PE growth, mezzanine, and venture capital deals. While calculating private equity investments, investments in buildings and property are ignored. Overall investment is based on the financial investments done by the firm in the investee companies.

Appendix 4: Liquidity-Informed Weighting

The security weights are adjusted based on their liquidity only for quarterly rebalancing and at the annual index reconstitution, not at the inception of the index. If a security does not pass the selection criteria, the same would be deleted from the index, irrespective of its liquidity. Also, the maximum security weight constraint takes precedence over liquidity-informed weighting if there is a conflict between the two. Finally, liquidity-informed weighting will be relaxed if a feasible solution is not obtained.

Appendix 5: Individual Indexes

Index	Performance Inception Date	Inception Date	AUM Assumption
Morningstar® Pitchbook Developed Markets Listed Private Equity Index	December 21, 2012	December 20, 2019	USD 200 Million

About Morningstar Indexes

Morningstar Indexes was built to keep up with the evolving needs of investors—and to be a leading-edge advocate for them. Our rich heritage as a transparent, investor-focused leader in data and research uniquely equips us to support individuals, institutions, wealth managers, and advisors in navigating investment opportunities across major asset classes, styles, and strategies. From traditional benchmarks and unique IP-driven indexes to index design, calculation, and distribution services, our solutions span an investment landscape as diverse as investors themselves.

Morningstar Index Methodology Committee

The Morningstar Index Methodology Committee oversees all new index development, index methodology changes, and cessation of indexes for any indexes where Morningstar owns the intellectual property. This committee is also charged with ensuring that indexes align with Morningstar Research principles and values. The group comprises members of the index team with index research, product development, product management, client service, index implementation, and operation expertise who provide the first layer of governance over index design and methodology.

Morningstar Index Operations Committee

The Morningstar Index Operations Committee governs the processes, systems, and exception handling of the day-to-day management of all live indexes, including index rebalancing and reconstitution, restatements, market classification, and contingency management. The committee oversees the annual review of index methodology (as required by U.K. and EU benchmark regulations, or BMR), ensuring that methodologies remain fit for purpose and continue to achieve their stated investment objectives. The group comprises members of the index team with data, operations, corporate actions, product development, index launch, client service, and index management experience who provide the first layer of governance over index operations.

Morningstar Index Oversight Committee

The Morningstar Index Oversight Committee is responsible for the index oversight function as per the requirements of the U.K. and European BMR, providing independent oversight of all aspects of the governance of benchmark administration as required by the relevant BMR. Its remit extends to all calculation and administration-related business activities of Morningstar Indexes, including administration of Morningstar-owned benchmarks as well as client-owned benchmarks and index calculation. The oversight function is part of the organizational structure of Morningstar but is separate and independent from the index business, index management, and the other index committees.

www.indexes.morningstar.com

Contact Us

indexes@morningstar.com

The information in this document is the property of Morningstar, Inc. Reproduction or transcription by any means, in whole or part, without the prior written consent of Morningstar, Inc., is prohibited. While data contained in this report are gathered from reliable sources, accuracy and completeness cannot be guaranteed. All data, information, and opinions are subject to change without notice. This document may contain back-tested or simulated performances, and the subsequent results achieved by the investment strategy may be materially different.