Invesco Europe Small Cap Value Index Methodology

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Table of Contents

Index Overview	Pg 3
Index Details	Pg 5
Updates	Pg 6
Index Calculation and the Role of the Calculation Agent	Pg 7
Corporate Events	Pg 8
Index Policy	Pg 9
Governance	Pg 9
Index Methodology Update and Cessation Policy	Pg 9
Return Types and Tickers	Pg 10
Index Information and Data Dissemination	Pg 11
Definitions of Key Terms	Pg 12

Index Overview

Description

The Invesco Europe Small Cap Value Index ("the Index") is a broad-based index that employs a factor-based approach to provide exposure to attractively valued Europe, developed market small-capitalization equities.

Index Universe

The Index Universe includes all constituents of the Invesco Indexing Investable (III) Universe designated as Europe, developed market small-capitalization securities. For full details on the III Universe, see Invesco Indexing Investable Universe Methodology at www.InvescoIndexing.com.

Security Selection

Securities are ranked in descending order by their Transformed Factor Score (T) as defined in the Index Details section on page 5. Those securities that fall within the top 50% of the cumulative distribution are selected for Index inclusion. For any sector or country that would be more than 5% underweight relative to the Comparative Benchmark[1] based on the preceding selection methodology and the application of the security weighting described below, the most highly ranked, previously unselected securities by Transformed Factor Score from underweight countries or sectors are included to seek to eliminate the underweight.

Securities are excluded if pricing data is not available from the Calculator (see Index Calculation and the Role of the Calculation Agent on page 7).

Security Weighting

The Index weighting scheme is designed to reflect both a security's market capitalization and its factor exposure. Each security selected for Index inclusion is weighted proportionally to its factor-tilted market capitalization. For each security, we define factor-tilted market capitalization, MT, as:

$$MT = T \times \text{Float-adjusted market capitalization.}$$

For securities with multiple liquid share classes (as defined in the Invesco Indexing Investable Universe Methodology), the float-adjusted market capitalization is scaled up to account for all liquid shares.

The maximum weight for an Index constituent is 5% or the weight of that security in the Comparative Benchmark, whichever is larger. The target weight range of each sector and country in the Index is +/-5% relative to the weight of the same sector and country in the Comparative Benchmark. Notwithstanding the preceding treatment, sector or country exposure may exceed +/-5% to satisfy the maximum weight limit for individual Index constituents.

All security weighting criteria are applied on the Reference Date of an Index update (see Updates on page 6).

[1] Invesco Europe Small Cap Index

History

The Index was launched on July 27, 2020. History is available for the Index since its base date of December 31, 2002. The base value of the Index is 1000.

Related Indexes

Several other related Invesco equity factor indexes are available. Similar to the Invesco Europe Small Cap Value Index, these Indexes are weighted based on factor-tilted market capitalization; however, they differ in their factor and geographical exposures. Please visit www.InvescoIndexing.com/en/indexes/equity to learn more about these related indexes.

Index Details

Factor scores are computed based on several financial statement items: free cash flow, earnings, book value of equity, and funds from operations. Free cash flow, funds from operations and earnings are measured over the previous year, while book value is based on the most recent financial statement. Each financial statement item is divided by the security's current total market capitalization to arrive at free cash flow yield, earnings yield, book yield, and funds from operations yield. Collectively, these yields are referred to as Raw Factor Scores (F).

For all securities in the Index Universe, each Raw Factor Score is scaled between 0 and 1 within sector and region, then standardized over the Index Universe to arrive at the Standardized Factor Score (Z).

A security's Multi-Factor Score (M) is a standardized, equally weighted average of Standardized Factor Scores that is capped at +3 and floored at -3. In general, M is based on free cash flow, earnings, and book value. For banks, M is based on earnings and book value only, and, for real estate companies, M is based on funds from operations, earnings, and book value.

Finally, a Transformed Factor Score (T) is calculated as 2^M.

Updates

The Index is rebalanced semi-annually in June and December, while additional Index maintenance occurs in March and September. June and December are collectively referred to as "Rebalance Months", while March and September are collectively referred to as "Maintenance Months".

Index Rebalance

During the semi-annual Index Rebalance, the Index Universe is selected, factor scores and resulting Index constituents are refreshed, and the new Index constituents are weighted according to the security weighting methodology described in the Index Overview section (see page 3). The timing of the June Index Rebalance is aligned with the annual reconstitution of the underlying Invesco Indexing Investable Universe, while the December Index Rebalance is aligned with the III Universe rebalance at that time. For full details on the III Universe, see Invesco Indexing Investable Universe Methodology at www.InvescoIndexing.com.

Index Maintenance

Index Maintenance is performed at non-rebalance calendar quarters to ensure that Index constituents are also members of the Invesco Indexing Investable Universe. During Index Maintenance, if a current Index constituent is not a member of the underlying Invesco Indexing Investable Universe, that security will be removed from the Index. As with Index Rebalances, Index Maintenance is aligned with the III Universe rebalances in March and September.

Index Key Dates

The key dates are as follows. The Index Review Team (see Governance on page 9) may change these dates for reasons including market holidays. Any such changes will be publicly announced with as much advance notice as possible under the circumstances. All events take place after the close.

Event	Day	Description
Reference Date	Third Friday of month prior to Rebalance Month	Data is captured for Index construction
Announcement Date	Two business days before second Friday of Rebalance Month	Summary of Index rebalance changes are announced to public
Pro-Forma Date	Second Friday of Rebalance Month	Preliminary Index weights begin to be distributed to Index subscribers
Effective Date	Third Friday of Rebalance Month	Rebalanced Index weights are finalized

Index Calculation and the Role of the Calculation Agent

The calculation agent for the Index ("the Calculator") is S&P Dow Jones Indices. The Calculator evaluates the closing value of the Index, updates the Index at Rebalance and Maintenance Months based on constituent selections and weightings determined either by Invesco Indexing LLC or the Calculator (with appropriate oversight and review by Invesco Indexing), taking into account Corporate Events (see Corporate Events on page 8), and disseminates the values of the Index to Invesco Indexing LLC and major index data distribution partners (see Index Information and Data Dissemination on page 11).

Calculator Input Data Used and Hierarchy of Input Data

The Index is calculated using closing prices or last transacted prices of underlying constituent securities from exchanges or exchange equivalents. Should this type of data be unavailable, the Index may be calculated using quotes or evaluated data or, in case when continued availability of transacted security prices from security exchanges is suspended, the Calculator reserves the right to exercise a judgement call, including carrying forward the latest available closing price.

Use of Discretion and/or Expert Judgement

No discretion or expert judgement is exercised by Invesco Indexing LLC in the determination of daily index pricing. Rules-based index methodologies, which cover index construction, maintenance and calculation, provide that discretion is not used in the daily pricing of the indexes except in unusual cases not effectively addressed by the methodology, which could be exercised by the Calculator. These include, but may not be limited to:

- Corporate events not previously encountered,
- Structural changes to the underlying markets,
- Operational issues at security exchanges,
- Geo-political events,
- Technological problems / failures, or
- Natural disaster or other business continuity process-related event.

In such circumstances, the calculating agent will inform Invesco Indexing LLC of any discretion being used.

Potential Limitations of the Methodology and Benchmark Calculation

The potential limitations of daily Index calculation include circumstances where the prices of constituent elements of the Index are not available, either because there are insufficient participants or because the exchange(s) / exchange equivalent(s) suffers an unexpected outage or closure or Invesco and/or the Calculator is denied permission to use such data for determining the Index. In such circumstances an announcement will be made to notify clients, including whether the Index will not be published or delayed in publication.

Corporate Events

The Calculator identifies and adjusts for corporate events based on the following policy.

Corporate Events	Index Adjustments
Rights offer	No impact on the Index
Spin-off	Spin-off stock is added to the Index after market close of ex-date at zero weight. Parent and spin-off will split the original weight.
Share acquisition	Acquired companies are deleted from the Index. If the acquirer is an Index constituent, its shares do not change.
Share changes	No impact on the Index
Addition	Except for spin-offs, there are no intra-rebalancing additions.
Deletion	Acquisition or any other corporate event resulting in the deletion of a stock from the Index causes the weight of the remaining stocks in the Index to change. Relative weights stay the same.

As mentioned above in the Index Calculation and the Role of the Calculation Agent section, the Calculator manages corporate events for this Index using its standard corporate event framework and its divisor index methodology.

Index Policy

All Index constituents are evaluated daily for data needed to calculate Index levels and returns. The Index follows the general Index policies of the Calculator as described below.

Announcements

All events affecting the daily Index calculation are typically announced in advance via the Index Corporate Events report (.SDE) delivered daily via FTP to all clients. Any unusual treatment of corporate events or short notice of an event may be communicated via email to Index clients. Best efforts are made to announce any changes to Index methodology well ahead of time via the Invesco Indexing website and via email to all Index clients.

Pro-Forma Files

Invesco Indexing provides constituent pro-forma files (PRO.SDC) each time the Index rebalances. The pro-forma file is typically provided daily in advance of the rebalancing date and contains all constituents and their corresponding weights effective for the upcoming rebalancing. The actual weight of each security at the Index rebalance typically differs from the pro-forma weights due to market movements.

Holiday Schedule

The Index is calculated daily, throughout the calendar year. The only days the Index is not calculated are on days when all exchanges where the Index's constituents are listed are officially closed.

Governance

The Index is managed by the Index Review Team (IRT). The IRT consists solely of members of Invesco Indexing. The IRT meets at least annually to review and revise Index methodology described in this document as appropriate. The IRT meets at least annually to review additions and deletions to the Index. All changes to the Index on Rebalance and Maintenance Months are subject to the approval of the IRT, and the IRT may make adjustments to the Index at its discretion when such changes are reasonable.

Index Methodology Update and Cessation Policy

Invesco Indexing periodically, at least annually, reviews each Index and its accompanying methodology, in addition to periodic rebalancing (if applicable), in an effort to ensure the Index continues to accurately represent that portion of the market it was originally intended to, and delivers the outcomes one would expect from the Index's exposures.

The procedures for the internal review of the methodologies, changes to the methodologies and procedures performed when the Index administered is ceasing publication are described in detail in the Changes to Benchmark Methodology and Cessation Policy.

Return Types and Tickers

The Calculator computes three return types for the Index on a daily basis: price return, total return, and net total return. The total return Index assumes dividends are reinvested in the Index after the close on the ex-date. The net total return Index reflects the return for which dividends are reinvested after the deduction of withholding tax. The tax rate applied is the rate to non-resident institutions that do not benefit from double taxation treaties.

Return Type	Ticker
Price Return	IIESV
Total Return	IIESVT
Net Total Return	IIESVN

Index Information and Data Dissemination

Data Vendors

Daily Index levels for all return types are available from major quote vendors and at www.InvescoIndexing.com. Intraday Index levels are available for the price return Index only.

FTP

Daily constituent data and Index level data are available via the Invesco Indexing secure FTP site for Index subscribers. Please contact Invesco Indexing customer service at IndexSupport@invesco.com for more information.

File Types

The Invesco Indexing secure FTP site for Index subscribers will distribute the standard overnight Index files from the Calculator. These include:

File Description	File Extension
Index Levels	.SDL
Constituent Details Close	CLS.SDC
Constituent Details Adjusted Close	ADJ.SDC
Constituent Details Pro-forma	PRO.SDC
Corporate Events	.SDE

The data on these files is provided directly by the Calculator, and no descriptive information contained in these files is used by Invesco Indexing at any stage of the Index creation process. In addition, security characteristics are available upon request. The characteristics are created by Invesco Indexing periodically and are updated as necessary. The characteristics data contribute to the creation of the Index or otherwise help to describe the Index constituents. These data include sector, country, region, size classification and developed/emerging classification. Please contact Invesco Indexing customer service at IndexSupport@invesco.com for more information.

Website

Index information is available on the Invesco Indexing website at www.InvescoIndexing.com.

Definitions of Key Terms

Terms used in this document but not otherwise defined are defined in the following table. Definitions, that are marked with a (*) are sourced from Regulation (EU) 2016/1011 ("EU Benchmark Regulation") Article 3. Definitions, that are marked with a (**) are sourced from IOSCO Principles for Financial Benchmarks[2].

Term	Definition
Administrator *	'Administrator' means a natural or legal person that has control over the provision of a benchmark;
Benchmark *	'Benchmark' means any index by reference to which the amount payable under a financial instrument or a financial contract, or the value of a financial instrument, is determined, or an index that is used to measure the performance of an investment fund with the purpose of tracking the return of such index or of defining the asset allocation of a portfolio or of computing the performance fees;
Calculation Agent **	A legal entity with delegated responsibility for determining a Benchmark through the application of a formula or other method of calculating the information or expressions of opinions provided for that purpose, in accordance with the Methodology set out by the Administrator;
Contribution of Input Data *	'Contribution of input data' means providing any input data not readily available to an administrator, or to another person for the purposes of passing to an administrator, that is required in connection with the determination of a benchmark, and is provided for that purpose.
Corporate Action	A Corporate Action occurs when there is a change to a company's capital structure. Unlike Corporate Events, Corporate Actions have a prescribed ex-date. The share price will be subject to an adjustment on the ex-date and Invesco Indexing and/or the calculating agent will adjust the index to counteract the effect that the price change would otherwise have on the index. Examples of corporate actions include rights or entitlement issues, consolidations, stock splits and capital repayments.
Expert Judgment *	'Expert judgement' means the exercise of discretion by an administrator or a contributor with respect to the use of data in determining a benchmark, including extrapolating values from prior or related transactions, adjusting values for factors that might influence the quality of data such as market events or impairment of a buyer or seller's credit quality, and weighting firm bids or offers greater than a particular concluded transaction;
Index*	'Index' means any figure: (a) that is published or made available to the public; (b) that is regularly determined: (i) entirely or partially by the application of a formula or any other method of calculation, or by an assessment; and (ii) on the basis of the value of one or more underlying assets or prices, including estimated prices, actual or estimated interest rates, quotes and committed quotes, or other values or surveys;
Input Data *	'Input data' means the data in respect of the value of one or more underlying assets, or prices, including estimated prices, quotes, committed quotes or other values, used by an administrator to determine a benchmark;
Material Change to Methodology	In determining whether a change to an Index is material, the following factors shall be taken into account: • Economic impact of the change; • Whether the change affects the original purpose of the Index.
Methodology **	The written rules and procedures according to which information is collected and the Benchmark is determined;
Rebalance	The regular process (typically quarterly, semi-annually or annually) in which the eligibility and weights of constituent elements of indexes are reassessed;
Subscriber **	A person or entity that purchases Benchmark determination services from an Administrator;
Transaction Data *	'Transaction data' means observable prices, rates, indices or values representing transactions between unaffiliated counterparties in an active market subject to competitive supply and demand forces;

[2] http://www.iosco.org/library/pubdocs/pdf/IOSCOPD415.pdf

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