Morningstar Indexes Corporate Actions Methodology

Morningstar Indexes
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Contents

Introduction

Corporate Actions and Adjustments

To understand the operational and maintenance aspects of an index, it is imperative to know how adjustments are made for different kinds of corporate actions and index weighting schemes. This document outlines the corporate action policy that Morningstar Equity Indexes follows consistently and transparently.

Cash Distribution

Cash Dividend or Ordinary Cash Dividend is a distribution of a portion of a company's earnings to its shareholders at regular intervals, typically on a quarterly, semiannual, or annual basis, and quoted in per share amounts. For index calculation, it is not treated as a corporate action and thus affects total returns and net returns but not price returns.

Special Dividend is a nonrecurring cash distribution of a company's earnings or assets to shareholders and is treated as a corporate action with price and divisor adjustments. It is also quoted in dividends per share. For index calculation, the price on the day before the ex-date is adjusted for the special dividend and thus affects all three variants of indexes. It results in a stock's price being reduced by the amount at the opening of the effective date. The third consecutive instance of a nonordinary dividend (in terms of time) will be considered as an ordinary dividend for index calculation purposes.

Capital Repayment is a distribution of cash to shareholders from a company's share capital or additional paid-in capital. It is generally nonrecurrent and treated like a special dividend. A return of capital can be treated as an ordinary cash dividend if it is declared in lieu of an ordinary cash dividend and the amount and frequency fit the historical pattern of an ordinary dividend.

Scrip Dividend is a dividend paid by the issue of new shares in lieu of cash. On occasion, shareholders can opt to receive dividends in shares rather than cash. Scrip dividends are always treated as cash dividends on the ex-date, and any share change due to a shareholder's election to receive shares will be adjusted according to the standard share change policy.

Exhibit 1 Capital Repayment Categories

Corporate Action	Divisor Change
Special Dividend	Yes
Capital Repayment	Yes

Source: Morningstar.

Treatment of ADR/GDR is handled by declaring the cash dividend in the local currency for the depositary receipts. If the ex-date is known in advance, the depositary bank usually provides an estimated dividend amount in the trading currency of ADR/GDR based on the exchange rate at that time.

Variations in the Treatment of Cash Dividends by Region

United Kingdom

Cash dividends in the U.K. are reported as net dividends, because U.K. dividends are taxed at the source from the company profits after corporation tax has already been paid. Net dividends are used for index calculation purposes.

Property income distributions (PIDs) are a kind of dividend Real Estate Investment Trusts (REITs) can issue and are taxed at a rate of 20%. REITs may declare that dividends are PIDs, ordinary dividends, or a combination of the two.

Taiwan

If there is a known suspension in trading, the event is recognized on the date trading resumes. For example, a reverse split will be recognized after the stock resumes trading instead of the ex-date.

Japan

In general, dividends in Japan are provided as an estimated amount that will be reinvested into the index on the ex-date. An estimate is calculated for those companies that do not provide one but have a historical pattern of paying dividends. The calculated estimate will be the same as the previous year's dividend adjusted for any split/bonus issues. If an estimated dividend is not available and no dividend was paid in the same period the prior year, no dividend amount is reinvested on the ex-date. Once a dividend amount is announced, the difference will be reinvested using the post ex-date dividend calculation methodology. Irregular dividends declared by Japanese companies are treated as ordinary dividends.

Korea

In general, dividends in Korea are not announced before their ex-date, but if an estimate is provided then the estimated dividend will be reinvested into the index on the ex-date. An estimate is calculated for those companies that do not provide one but have a historical pattern of paying dividends. The calculated estimate will be the same as the previous year's dividend adjusted for any split/bonus issues. If an estimated dividend is not available and no dividend was paid in the same period the prior year, no dividend amount is reinvested on the ex-date. Once a dividend amount is announced, the difference will be reinvested using the post ex-date dividend calculation methodology. A negative dividend adjustment will be applied if the estimated dividend has not been confirmed by the company six months after the ex-date.

Canada

There is a minimum price threshold of 4% to recognize a dividend as special. For example, if a dividend is over 4% of the price of the stock, it is considered a return of capital and the price is reduced by the dividend amount before the ex-date. Income trusts sometimes pay special dividends to satisfy their mandate to distribute all excess cash to unitholders. These special dividends usually have the same payment schedule as an ordinary dividend, so the treatment is to add them together and treat them as an ordinary dividend.

Brazil

Interest on capital is generally recognized as an ordinary dividend subject to a different withholding tax rate.

Turkey

REIT company distributions are treated as ordinary dividends but are not subject to withholding tax.

Australia

In Australia, profits are taxed only once at either the company or shareholder level. The "franking rate" tracks whether the tax was paid on a cash dividend or not. The dividend will be 0% franked when the taxes were not paid and 100% franked if the tax was paid at the company level. The franking rate can be between 0% and 100%.

Conduit Foreign Income (CFI) in Australia is foreign income received by a foreign resident via an Australian corporate tax entity. Tax relief for CFI ensures that income distributed to foreign owners is not taxed in Australia when distributed by the Australian corporate tax entity.

Post Ex-Date Dividend Adjustment

Companies in Japan and South Korea typically do not confirm cash dividend amounts before the ex-dates. Korean companies do not usually provide dividend estimates before the ex-date, while Japanese companies typically provide an estimated dividend amount before the ex-date. The actual dividend amounts are confirmed by companies in both countries after the ex-date.

The difference in the amount recognized on the ex-date and the actual dividend amount announced by the company is realized using a dividend adjustment. This adjustment is applicable to Japanese and Korean companies listed in their home markets and overseas as depositary receipts (ADR/GDR). For depositary receipts, the final confirmed dividend amount announced by the depositary bank is used.

The adjustment, in terms of dividend points, is applied to affected indexes weekly at the close of the following Friday without restatement to past index levels. Dividend adjustments are announced one day in advance. If the following Friday is not a trading day, then it is applied on the next trading day. The dividend point adjustment is calculated using the following formula:

$$Index\ Dividend\ Point\ Adjustment = (D_{dt} \times S_{at})/Divisor_t$$

$$D_{dt} = Difference\ between\ the\ original\ and\ the\ confirmed\ dividend$$
$$S_{at} = Index\ Shares\ on\ ex-date$$
$$Divisor_t = Divisor\ on\ ex-date$$

The gross total return (TR) and net return (NR) versions of the dividend point adjustment are calculated. The TR and NR index dividend point adjustments are added to the price index levels on Friday for the calculation of the total return and net return indexes respectively. If there are multiple dividend adjustments to implement in an index, a separate index dividend point is calculated for each dividend adjustment and then the dividend points are aggregated for index level return calculations. If a negative dividend adjustment results in a negative index dividend for the day, then the gross and net total return series underperform the price return on the effective date.

Foreign Exchange Conversions for Dividends

When companies declare dividends in currencies other than their stock trading currency, the dividend is converted using the foreign exchange rate on the ex-date for regular cash dividends. For special dividends, the exchange rate on the day before the ex-date is used, and for Asia-Pacific, the rate two days before the ex-date is used. For ADRs and GDRs, the dividend amount and currency provided by the depositary banks are generally used for calculations.

Multiple Dividend Distributions on a Single Day

When there are multiple cash dividends on a single day, they will be combined into a single amount for implementation. If the different dividends or multiple components of a single dividend are subject to different dividend withholding taxes, the standard withholding tax rate for the country will be used and the gross dividend amount may be adjusted accordingly.

Dividend Not Quoted by the Exchange

When companies declare a conditional dividend, it may still be recognized whether the event happens or not. Clients will be notified in advance.

Bonus Issues of Shares Not Entitled to Cash Dividend

There are times when bonus issues of shares may not be entitled to a dividend effective on a later date. The bonus issue will be applied on the ex-date and the dividend will be adjusted. The dividend amount will be decreased in order to adjust it over the new number of shares, which includes those from the bonus issue.

Total Return and Net Return Indexes

Gross and net return indexes are calculated for most indexes, and cash dividends are generally applied on the ex-date of the dividend. Net return indexes reflect the return to an investor where dividends are reinvested after the deduction of a withholding tax.

The withholding tax is the amount that is withheld by the company making a dividend payment that is to be paid to the taxation authorities. This refers to the tax that nonresidents are subject to when the country in which the company is incorporated is not where the shareholder resides. In most countries, domestic shareholders are not required to pay this tax. Tax treaties between countries may reduce the amount of withholding tax required, but the withholding tax rates used by Morningstar do not reflect these reductions. Tax rates are sourced and verified with independent data sources. The current tax rate information can be found here.

Rights Offering

In a rights issue, shareholders of a company are issued rights to buy a specified number of additional shares at a specified price, a rights or subscription price, generally at a discount (in the money) within a fixed period, the subscription period. The right to additional shares is usually proportional to the number of shares held. Only the rights available to all shareholders are recognized.

Exhibit 2 Rights Offering Categories

Corporate Action	Divisor Change
Rights to Acquire New Underlying Shares	Yes
Rights to Acquire Other Asset [1]	Yes

Source: Morningstar.

For all markets, price adjustments and share changes are applied at the opening of the rights ex-date using the calculation method below. If the rights are undersubscribed or oversubscribed
If the rights are undersubscribed or oversubscribed, the corresponding share adjustments are made at the next quarterly share rebalancing.
When the new shares are not entitled to a forthcoming dividend in which the amount is known, the dividend treatment is as follows:

- If the subscription price ≥ (market price – dividend), the subscription is considered at a premium and no adjustment is made.
- If the subscription price < (market price – dividend), the subscription price is considered at a discount and an adjustment is made.

When the subscription price is known only after the ex-date, the share adjustment is made after the end of the subscription period (only if the rights are in the money when the terms are disclosed).

Rights Offering Calculation

If the subscription price is less than the stock closing price the day before the ex-date, then the rights offering is in the money. If the subscription price is greater than or equal to the closing price the day before the ex-date, then the rights offering is out of the money.

In some cases, a future dividend is announced in which the new shares are not entitled to. In this case, the rule will differ. The confirmed dividend amount will be added to the subscription price and the rule above will be applied.

1 The price is adjusted only if the value of the other asset is recognized.

If the offer is in the money, the price and share adjustment will be applied. The share adjustment is carried out, on the ex-date, using the calculation below

Value of the Rights = {Market Value of the Stock – (Subscription Price + Dividend)}/ (Number of Rights required to purchase 1 share + 1)

Price Adjustment Factor = (Market Value of the Stock - Value of the Rights)/ Market Value of the Stock Adjusted Price or Theoretical Ex-Rights Price (TERP) = Mar

If the offer is out of the money, then no action is taken since a rational investor would not subscribe to the rights issue. Any subsequent shares issued are made at the quarterly rebalancing.

Treatment for Equal-Weighted and Alternatively Weighted Indexes

A rights issue is treated as a market-capitalization-neutral event, that is, the change in the weight of the company is neutralized by applying an adjustment factor. The index divisor remains unchanged.

Spin-Off

When a parent company sells a business or division, this results in an independent company known as a spun-off entity. A spin-off is also called a demerger or divestiture.

Spin-offs can be categorized as follows:

Exhibit 3 Spin-Off Categories

Corporate Action	Treatment	Divisor Change
Spun-off entity is trading before the ex-date	Zero price spin-offs[2] treatment is not used. The price adjustment to the parent is calculated as the (price of the spin-off) * (spin-off ratio).	Yes
Spun-off entity starts trading on or after the ex-date	1. Spun-off entity is added to the index at a price of zero with no accompanying change in the parent or divisor at this time. 2. It is removed from the index after at least one day of trading at the last traded price, and appropriate divisor adjustment is made.	Yes
	The price adjustment to the parent is calculated as the (price of the spin-off) * (spin-off ratio).	

Source: Morningstar.

The spun-off entity is not added to the index, and its weight is distributed proportionately across the rest of the index constituents.

2 Zero price spin-offs: The spun-off entity is added to all indexes of which the parent is a constituent, at a zero price at the market close of the day before the ex-date. There is no accompanying divisor change at this time.

If the security is ineligible to remain in the index, it will be removed after at least one day of regular trading. This will result in a divisor adjustment. In certain instances, the spun-off security will be added to indexes using a nonzero price and applying a price adjustment to the parent. If there is a lack of information on the value of the spun-off security, it may not be added to the parent's indexes.

Spun-Off Security Is an Existing Publicly Traded Entity (In Specie Distribution)

The in specie distribution will be added to all indexes in which the parent is a constituent on the ex-date at a zero price and will mimic the price of the existing publicly traded entity on the close of the ex-date. A place holder security will be used to represent the distribution. The place holder will hold the weight of the assets distributed but not yet received by index clients to allow for easier replication. The place holder security will be added to indexes where the parent is a constituent using the parent's float and shares equal to the product of distribution ratio and the parent's total shares outstanding. The price of the place holder will match the price of the existing publicly traded entity. On the date the place holder security is removed, the existing security is up-weighted to reflect the distribution. Notice will be given for any instances that will not be handled using this methodology.

Treatment for Equal-Weighted and Alternatively Weighted Indexes

The above events are treated as a market-capitalization-neutral event, that is, the change in the weight of the company is neutralized by applying an adjustment factor. The index divisor remains unchanged.

Share Outstanding and Free Float Factor Updates

In general, share changes and float changes are grouped into mandatory and nonmandatory categories. Mandatory events include merger- and acquisition-driven share/ Investable Weighting Factor (IWF) changes, stock splits, and mandatory distributions. Mandatory events are implemented regardless of impact. Nonmandatory share/IWF changes follow an accelerated implementation rule below, which is intended to reduce unnecessary turnover by aggregating smaller share changes and implementing them with the next quarterly rebalancing.

Material share/IWF changes resulting from non-mandatory actions follow the accelerated implementation rule with sufficient advance notification, and share/IWF changes deemed non-material are implemented quarterly. Examples of such changes include, but are not limited to, public offerings (also known as secondary offerings or follow-on offerings), tender offers, Dutch auctions, exchange offers, bought deal equity offerings, company stock repurchases, redemptions, exercise of options, warrants, conversion of derivative securities, and acquisitions of private companies or nonindex companies that do not trade on a major exchange. The public offerings will go accelerated implementation only if it's the materiality threshold - size of the offering is more than USD 150 million and share change of more than 5%. An exception would be made if the size of offering is more than USD 1 billion, then it will follow accelerated implementation even if the share change is below 5% threshold.

Free float of each constituent share class is reviewed annually. Changes are effective at the time of September reconstitution. Changes in the float factor resulting from corporate actions where free float change exceeds 5 percentage points are implemented either on the effective date of the corporate action in the case of a mandatory event or accelerated implementation in case of nonmandatory event and it is material; changes will only be made at the quarterly review if the change represents at least 5%

of total current shares outstanding and is related to a single corporate action that did not qualify for the accelerated implementation rule.

These changes are not implemented during the freeze period that begins after the market close on the Tuesday before the second Friday of the rebalancing month and ends after the market close of the third Friday of the rebalancing month. This freeze period is not applicable for the mandatory corporate actions like mergers, stock split, or rights issues.

Special Treatment

- When shares outstanding increase by more than 5%, but the new share issuance is directed to a strategic shareholder resulting in no change in float-adjusted shares, an update to shares outstanding and resulting float factor update will be made regardless of the size of the change.

Treatment for Equal-Weighted and Alternatively Weighted Indexes

The above events are treated as a market-capitalization-neutral event, that is, the change in the weight of the company is neutralized by applying an adjustment factor. The index divisor remains unchanged.

Mergers and Acquisitions

In a merger, two or more companies join to form a new entity. This is generally done by a mutual agreement or through a tender offer that can be structured in a wide variety of ways that involve cash, stock, or a combination of both. If two or more companies are in the same index, one company is identified as the target company and is deleted from the index. The acquirer may undergo a share, free float factor, or name change, depending on the terms of the agreement.

In an acquisition, a company buys most or all of the target company and assumes controlling interest. The acquisition could be funded through cash, stock, or a combination of both. An acquisition will result in the deletion of the target company, and the share and free float factor of the acquirer is changed, depending on the terms of the agreement. Generally, a target company is dropped from all indexes on or around the delisting date. A target company may be dropped earlier once the security can no longer be acquired.

M&A can be categorized as follows:

- Target company is in the index and the acquiring company is not.
- Target company is not in the index, but the acquiring company is.
- Target and acquiring companies are both in the index.

Exhibit 4 M&A Categories

Corporate Action	Details	Divisor Change
Merger	Implementation is determined on a case-by-case basis.	Yes
An acquisition is funded by cash. • Target company is dropped. • No change is made to the acquirer.	Only acquiring company is in the index.	No
	Only target company is in the index.	Yes
	Both acquiring company and target company are in the index.	Yes
An acquisition is funded by stock or stock and cash. • Target company is dropped. • Share change and a possible free float factor change is made for the acquirer.	Only acquiring company is in the index..	Yes
	Only target company is in the index	Yes
	Both acquiring company and target company are in the index.	Yes

Source: Morningstar.

The target company is typically dropped at the closing price of the stock on the date of deletion, with the deal price being used in certain markets. The deal price could be the tender offer price for cash takeovers or a derived deal price for partial stock/all stock takeovers. Clients are notified if any price other than market close prices or deal prices are used to drop stocks from indexes. If the primary exchange suspends or halts an M&A target security before the announced effective deletion date, the security is removed at the market close price or the deal price, whichever is lower if the merger is all cash. A derived price is used for a suspended security using the deal ratio terms if the acquirer is issuing stock as part of the merger. This synthetically derived price is used to calculate the index until the deletion date. If any other pricing mechanism is used that deviates from this policy, an announcement describing the alternative method to be used is issued.

There might be situations that require special treatment:

- When an index constituent acquires another index constituent and the delisting of the target company is a few days before the acquisition effective date, adjustments for the acquirer would, typically, be made effective the same date as the deletion date.

- If the security gets suspended or halted before the announced effective deletion date, it is removed at the market close price or the deal price, whichever is lower. A synthetic price determined by using the deal ratio terms is used to calculate the index until the deletion date.

Treatment for Equal-Weighted and Alternatively Weighted Indexes

M&As are treated as market-capitalization-neutral events, that is, the change in the weight of the company is neutralized by applying an adjustment factor. The index divisor remains unchanged.

- If an index constituent is acquired by another index constituent, the target company is removed and the index market capitalization of the acquirer is kept constant by applying an adjustment factor. The index market capitalization of the target company is redistributed among the remaining constituents in proportion to their weights.

- If an index constituent is acquired by a non-constituent, the target company is removed with no replacement. The weight of this target company is redistributed among the remaining constituents in proportion to their weights.

- If an index constituent acquires a non-constituent of the index, the event is market-capitalization-neutral.

Splits and Reverse Splits

Splits and reverse splits refer to the redenomination of shares and does not result in a change to a company's market capitalization. The increase or decrease in shares is accompanied by a proportional change in price. It can be structured as follows:

- A stock split is an issue of new shares to shareholders in proportion of their current holding. The price per share is simultaneously reduced.
- A reverse stock split results in a reduction of existing shares and an increase in the price per share.

Exhibit 5 Splits and Reverse Splits Categories

Corporate Action	Divisor Change
Split/Reverse Split	No

Source: Morningstar.

Stock Distribution

Stock distribution is a type of share issuance in which a company distributes its own shares or shares of another company.

The stock dividend or a bonus issue is a payment made generally in the form of additional shares. At times, other types of assets (bonds, warrants, preferred shares, for example) are also distributed in addition to the shares.

Exhibit 6 Stock Distribution

Corporate Action	Treatment	Divisor Change
Paid in the form of shares only.		No
Paid in the form of shares and other asset (bond/warrant).	Price of other asset is not available.	No
	Price of other asset is available.	Yes

Source: Morningstar.

The distribution to shareholders of company A is made in shares of another company, B.

Exhibit 7 Stock Distribution Categories

Corporate Action	Divisor Change
Both A and B in the index [3]	No
Only A in the index	Yes
Only B in the index [3]	No

Source: Morningstar.

Bankruptcy and Financial Distress

Bankrupt securities are generally ineligible. Same-day removals for the bankruptcies are not done. Announcements are made such that a minimum of one day's notice is given to clients.

A security that is trading on its usual or primary exchange is removed from the index at the price at the close of the day with a minimum of one day's notice. If the trading of a security is halted or it is delisted from its usual exchange, it is deleted at a zero price.

Companies that have been placed under FDIC receivership are also dropped from all indexes according to the same rules.

Delisting

A security is delisted when it is removed from a tradeable exchange. Various reasons may cause delisting: corporate actions, failure to comply with the exchange's listing requirement, or a company may decide to be delisted.

A security is generally dropped from all Morningstar indexes on or around its expected delisting date. If the delisting is the result of a merger or acquisition, the target company may be dropped once an offer to acquire the security is considered as unconditional. The adjustment of weight for the acquirer, and the deletion of the target company from the index are carried out simultaneously.

The securities are removed at the primary exchange price, if it is available, or at a zero price if no primary exchange price is available. For U.S. companies, the security will be removed at the over-the-counter (OTC) or pink-sheet price if no primary exchange price is available. If no OTC or pink-sheet price is available, the security may be removed at a zero price.

Exhibit 8 Delisting Categories

Corporate Action	Divisor Change
Delisting	Yes

Source: Morningstar.

Stock Suspension

Suspended index constituents will be retained during the suspension period. The security is carried forward at the last traded price immediately before the suspension. If the suspension period goes

3 In case company A issues shares of company B that it already owns, this will result in update of free float factor of company B.

beyond 60 business days and there is no known date it will resume trading, the suspended stock will be reviewed for possible index deletion.

Suspended stocks are tracked and reviewed for possible deletion on a case-by-case basis; typically, they are dropped at a zero price. To minimize turnover, if a stock is deleted, it will not be eligible for reinclusion in any index for six months following the deletion.

Rebalancing

The share and free float factor of the index constituents are revised at the quarterly rebalance, which generally results in a change in float market value. The divisor is therefore adjusted to keep the index level unchanged due to the rebalance share and float change.

Exchange Closures

- If an exchange fails to open because of unanticipated circumstances, the index uses the previous day's closing prices. However, if all exchanges in the index fail to open, index publishing may be called off for that day.

- If an exchange is forced to close early because of unanticipated circumstances, the closing price is calculated based on:
    - the closing prices published by the exchange, or
    - if no closing price is available, the last traded price before the close of the exchange.

- Treatment of any mandatory corporate actions and pricing is based on the guidance of the affected exchange.

- If a market is unexpectedly closed on the ex-date of market-driven corporate actions, they will be moved to the next trading date. Adds, drops, and share updates remain unchanged in this instance. If the market is closed the day before the effective date, market-driven actions are unaffected, but adds, drops, and share updates will be moved to the close of the next trading date. This is also the treatment taken if the market unexpectedly closes early the day before the effective date. If there is an unexpected early market closure on the corporate action effective date, market-driven actions take place at the open on the ex-date, and adds, drops, and share changes remain unaffected.

- If an exchange is closed or unexpectedly closes early the day before an index rebalancing effective date, corporate actions will be moved to the close of the next trading date. If the exchange is fully closed or closes early on the effective date, the actions are not affected as they are completed at close the day before the effective date.

Snap Announcements

The snap announcement driven corporate actions are generally made effective within two to five days of notice.

About Morningstar, Inc.

Morningstar, Inc. is a leading provider of independent investment research in North America, Europe, Australia, and Asia. Morningstar offers an extensive line of products and services for individual investors, financial advisors, asset managers, and retirement plan providers and sponsors. Morningstar provides data on approximately 510,000 investment offerings, including stocks, mutual funds, and similar vehicles, along with real-time global market data on more than 17 million equities, indexes, futures, options, commodities, and precious metals, in addition to foreign exchange and Treasury markets. Morningstar also offers investment management services through its investment advisory subsidiaries.

About Morningstar Indexes

Morningstar® Indexes combine the science and art of indexing to give investors a clearer view into the world's financial markets. Our indexes are based on transparent, rules-based methodologies that are thoroughly back-tested and supported by original research. Covering all major asset classes, our indexes originate from the Morningstar Investment Research Ecosystem — our network of accomplished analysts and researchers working to interpret and improve the investment landscape. Clients such as exchange-traded fund providers and other asset management firms work with our team of experts to create distinct, investor-focused products based on our indexes. Morningstar Indexes also serve as a precise benchmarking resource.

Morningstar Index Committee

The Morningstar Index Committee consists of senior officials who possess the appropriate levels of knowledge in relation to indexes. A wide array of business groups are represented to allow for a broad voice to be heard and for a wider view to be expressed in evaluating all subjects brought up during committee meetings. The committee seeks to create indexes of the highest quality that meet the recognized qualities of a good benchmark.

Contact the Indexes Team

For any queries, reach out to us via our communication page.

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Any matter arising from undocumented events will be resolved at the discretion of the Morningstar Index Committee.