Morningstar Indexes

Morningstar Equity Indexes Corporate Action Methodology

August 2025

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MORNINGSTAR Indexes

Introduction

Morningstar Indexes have two primary weighting schemes for our equity indexes: float market-cap, or FMC, weighted and alternative weighted indexes. Generally, the weighting scheme of the equity index determines the corporate action treatment applied in its maintenance. This document outlines the mandatory and nonmandatory corporate action policy that Morningstar Indexes follows in the maintenance of our equity indexes for both weighting schemes. Any exceptions in the corporate action framework applied for a given index would be outlined in the index rulebook.

Corporate Action Framework

Float Market-Cap Weighted

This table summarizes the corporate action treatment for the float market-cap-weighted indexes.

Corporate Action Type	Market Value Change	Divisor Change
Stock Split/Reverse Stock Split/Stock Dividend/Bonus Issue	No	No
Rights Offering/Subscription Offer	Yes	Yes
Special Dividend	Yes	Yes
Spinoff	Yes	Yes
Merger and Acquisition	Yes	Yes
IWF Change	Yes	Yes
Share Issuance	Yes	Yes
Delisting	Yes	Yes

Alternative Weighted

This table summarizes the corporate action treatment for alternative (non-market-cap) weighted indexes.

Corporate Action Type	Market Value Change	Divisor Change
Stock Split/Reverse Stock Split/Stock Dividend/Bonus Issue	No	No
Rights Offering/Subscription Offer	No	No
Special Dividend	Yes	Yes
Spinoff	Yes	Yes
Merger and Acquisition	Yes	Yes
IWF Change	No	No
Share Issuance	No	No
Delisting	Yes	Yes

Additional Weight Factor

The Additional Weight Factor, or AWF is a multiplier applied to each stock's market capitalization in an index. This multiplier is calculated in such a way that when multiplied by the stock's current market capitalization, it results in the desired target weight for that stock within the index. For indexes that follow a market capitalization-weighted scheme without any capping, the AWF is 1.

$AWF_{i,t} = DW_{i,t} / MW_{i,t}$

Where:

- $DW_{i,t}$ *is the desired market cap of the security in the index*
- $MW_{i,t}$ is the uncapped market cap of the security

For alternatively weighted indexes where treatment of corporate actions is as per the alternate weighted scheme, the calculation of AWF is below. In any corporate action that is treated as a market-neutral event (such as an alternate weighting scheme), the AWF would adjust for the security on which corporate action is applied such that the market cap of security in the index before and after the event stays the same.

$AWF_{i,new} = (1/SAF) * (1/ FAF) * (1/PAF) * AWF_{i,old}$

Where:

- *$AWF_{i,new}$ refers to new AWF of the security after the event*.
- $AWF_{i,old}$ *refers to old AWF of the security before the event*.
- SAF refers to share adjustment factor.
- FAF refers to float adjustment factor.
- PAF refers to price adjustment factor.

Corporate Action Category

Corporate Action Type	Index Category
Stock Split/Reverse Stock Split/Stock Dividend/Bonus Issue	Mandatory
Rights Offering/Subscription Offer	Mandatory
Special Dividend/Cash Dividend	Mandatory
Spinoff	Mandatory
Merger and Acquisition/Tender offer	Mandatory
Mandatory Security Conversion	Mandatory
Public/Secondary Offering	Nonmandatory
Voluntary Split-off Exchange Offer	Nonmandatory
Dutch Auctions/Buyback of Shares/ Self-tender Offer Buybacks	Nonmandatory
Private Placement	Nonmandatory
Voluntary Security Conversion	Nonmandatory

Mandatory Corporate Action Methodology

In general, corporate action changes are classified as mandatory and nonmandatory. Mandatory events are implemented regardless of impact.

Ordinary Dividend

An ordinary dividend is a distribution of a company's profit to its shareholders at regular intervals typically on a quarterly, semi-annual, or annual basis, and quoted in a per-share amount.

Key Dividend Dates

- Declaration Date: Date on which the board of director announces and approves the payment of a dividend.
- Ex-Dividend Date: Date before shareholder must own shares to receive declared dividend. shareholder buying shares on or post ex-date are not entitled to receive declared dividend.
- Record Date: Date on which shareholder must be a registered owner of shares held in a company's record book to receive declared dividend.
- Payment Date: Date on which the dividend is paid to shareholder.

Index Treatment

For index calculation purposes, an ordinary dividend will only influence the Total Return, or TR, and Net Return, or NR, indexes and not Price Return, or PR, indexes. Gross dividends are used in calculating TR index levels and net dividends are used in calculating NR index levels. Price or share adjustment is not made for ordinary cash dividends. Net dividends are calculated as follows:

Net Ordinary Dividend = Gross Ordinary Dividend * (1 - tax rate)

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. For example, many Swiss companies distribute dividends from capital in lieu of ordinary dividends.

Due to country- and industry-specific conventions of dividend reporting and distribution, there is a difference in calculation of net ordinary cash dividend across regions, as the examples below illustrate.

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, or PIDs, are a kind of dividend that Real Estate Investment Trusts, or REITs, can issue and are subject to withholding tax. REITs may declare that dividends are PIDs, ordinary dividends, or a combination of the two.

For index calculation purposes, the gross and net dividend amount will be the same for ordinary dividends, whereas the tax rate will be applied to calculate the net PID dividend amount.

Total Gross Ordinary Dividend = Ordinary Dividend + Gross PID Dividend
Total Net Ordinary Dividend = Ordinary Dividend + Net PID Dividend = Ordinary Dividend + Gross PID Dividend * (1 - tax rate)

Example
Company “Derwent London Plc” announced a PID of 35 pence and an ordinary cash dividend of 17.45 pence.[1]

Gross Ordinary Dividend = Ordinary Dividend + Gross PID Dividend = 35 + 17.45 = 52.45 pence
Net Ordinary Dividend = Ordinary Dividend + Gross PID Dividend * (1 - tax rate) = 35 + 17.45*(1-0.2) = 48.96 pence

Australia
In Australia, ordinary cash dividends are subject to withholding tax at the individual investor level. To prevent double taxation, companies that have already paid tax on its profits (out of which dividends are distributed) distribute franking credits to its resident shareholders to offset the corporate tax impact, whereas such franked dividends are tax-exempt for non-resident shareholders. Gross dividend calculation for Australia companies must take into account the franking rate provided by the company, so as to reflect the dividend from a non-resident perspective. The franking rate provides information about how much tax has been paid at the corporate level.

For example, a franking rate of 100% states that the dividend has been taxed 100% at the corporate level. A franking rate of 0% states that the dividend has not been taxed at the corporate level therefore shareholders are liable to pay withholding tax. The franking rate can range anywhere from 0 to 100%.

The net dividend is calculated using the below formula:
Net Ordinary Dividend = Gross Ordinary Dividend – (Gross Ordinary Dividend * (1 – Franking Rate) * tax rate)

Conduit Foreign Income, or CFI, in Australia is foreign income received by a non-resident via an Australian corporate tax entity. Tax relief for CFI ensures that income distributed to non-resident shareholders is not taxed in Australia when distributed by the Australian corporate tax entity. Gross and net dividend will be the same for CFI.

Example
Company “Harvey Norman Holdings Limited” announced an ordinary dividend of AUD 20 per share and franked at 100%.[2]
Net Ordinary Dividend = Gross Ordinary Dividend – (Gross Ordinary Dividend * (1 – Franking Rate) * tax rate)
= 20 – (20 * (1 – 1) * 0.3) = 20

New Zealand
In New Zealand, ordinary cash dividends are subject to withholding tax at the individual investor level. To prevent double taxation, companies that have already paid tax on its profits (out of which dividends are distributed) distribute imputation credits to its resident shareholders to offset the withholding tax impact, whereas non-resident shareholders get supplementary dividends to offset withholding tax payable on imputed dividends. Dividend calculation for New Zealand companies must take into account the imputation rate provided by the company. The imputation rate provides information on how much tax has been paid at the corporate level.

[1] https://www.derwentlondon.com/investors/shareholder-information/dividend-summary

[2] Harvey Norman Holdings Ltd Dividend 2023 | Dividend Dates

For example, an imputation rate of 100% states that the dividend has been taxed 100% at the corporate level. An imputation rate of 0% states that the dividend has not been taxed at the corporate level, therefore shareholders are liable to pay withholding tax. The imputation rate can range anywhere from 0 to 100%.

The net dividend is calculated using the below formula:
Net Ordinary Dividend = Total Gross Ordinary Dividend *(1- tax rate)

Examples
Company "ABC Limited" announced an ordinary dividend of NZD 20 per share and fully imputed at 100%. Fully imputed dividends are considered as nontaxable for nonresident shareholders, hence 0% tax charged.

Net Ordinary Dividend = Total Gross Ordinary Dividend *(1 - tax rate) = 20 * (1 - 0) = 20

Company "XYZ Corporation Limited" announced an ordinary dividend of NZD 0.112 per share and partially imputed at 86%. Supplementary dividend to be paid to nonresident shareholders of NZD 0.0169. Total gross dividend includes ordinary dividend and supplementary dividends to be paid to nonresident shareholders in case of partially imputed dividends.

Net Ordinary Dividend = Total Gross Ordinary Dividend *(1 - tax rate) = (0.112 + 0.0169) * (1 - 0.3) = 0.1289 * 0.7 = 0.09023

Turkey
Ordinary cash dividends from Turkish companies are subject to withholding tax rate. Only dividends from REITs are not subject to withholding tax rates.

Examples
Company "BIM Birlesik Magazalar AS" announced an ordinary cash dividend of TRY 2. The company is not a REIT.

Net ordinary dividend = Gross Ordinary Dividend * (1 – tax rate) = 2 * (1 – 0.10) = 1.8

Company "Emlak Konut Gayrimenkul Yatirim Ortakligi AS" announced an ordinary cash dividend of TRY 0.0217. The company is a REIT.

Net ordinary dividend = Gross Ordinary Dividend * (1 – tax rate) = 0.0217 * (1 – 0) = 0.0217

Switzerland
Ordinary cash dividends from Swiss companies are subject to withholding tax. Dividends declared from capital contribution reserves are not subject to any withholding tax.

Net Ordinary Dividend = Gross Dividend from Capital Contribution + Gross Dividend from Retained Earnings * (1 – tax rate)

Example
Company "VAT Group AG" announced a cash dividend of CHF 4.5. Half of this amount is from the retained earnings of the company and the remaining 2.25 is from the capital contribution reserves.

Net Ordinary Dividend = Gross Dividend from Capital Contribution + Gross Dividend from Retained Earnings * (1 – tax rate)
= 2.25 + 2.25 * (1-0.35) = 3.7125

Brazil

Brazilian companies usually distribute income to shareholders in two ways: ordinary dividend or interest on capital. Interest on capital is generally recognized as an ordinary dividend subject to a different withholding tax rate. Ordinary dividends are not subject to any withholding tax, whereas interest on capital is subject to withholding tax.

Net Dividend = Ordinary Dividend + Interest on Capital (1 - tax rate)

Example

Brazilian company “ABC” announced an ordinary dividend of BRL 15 and an interest on capital of BRL 25.

Net Dividend = Ordinary Dividend + Interest on Capital (1 - tax rate)
= 15 + 25 * (1 – 0.15) = 15 + 21.25 = 36.25

Taiwan

In Taiwan, companies are allowed to distribute cash dividends from retained earnings or capital & legal reserve. Dividends from capital & legal reserve are not subject to any withholding tax, whereas dividends from retained earnings are subject to withholding tax.

Net Dividend = Dividend from Capital & Legal Reserve + Dividend from Retained Earnings (1 – tax rate)

Example

Taiwanese company “PQR” announced a dividend from capital & legal reserve of TWD 15 and dividend from retained earnings of TWD 25.

Net Dividend = Dividend from Capital & Legal Reserve + Dividend from Retained Earnings (1 – tax rate)
= 15 + 25 * (1 – 0.21) = 15 + 19.75 = 34.75

Mexico

Mexico has passed a reform legislation replacing the Income Tax Law, or ITL, with a new law. A transitory rule was imposed such that dividends paid from Capital Contribution Accounts and Net Tax Income Accounts, or CUFIN, through Dec. 31, 2013, will not be subject to withholding tax under the final reform.

Companies are required to maintain separate CUFIN accounts for earnings before and after Dec. 31, 2013. If a portion of the newly announced dividend originates from the earnings in the CUFIN account before Dec. 31, 2013, that portion of dividend is not subject to withholding tax. Dividends from REITs are subject to a different withholding tax rate.

Guernsey

Guernsey REIT companies following the UK REIT regime and declare dividends that are property income distributions (PID) are taxed at UK REIT Withholding tax rate.

Post-Ex-Date Dividend Adjustment

Morningstar may adjust dividends due to local market practices or dividend revisions by companies after the ex-date. 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 also applicable to Japanese and Korean companies listed depository receipts (ADR/GDR), where the confirmed dividend amount announced by the depositary bank is used. The adjustment, in terms of dividend points, is applied to impacted indexes weekly at the close of the following Friday without restatement to past index levels. 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 Gross adjusted Dividend (X) =

$$\left(\frac{D * S * FxRate}{Divisor}\right) * \left(\frac{\text{Divisor on implementation date}}{(\text{Index shares on implementation date} * \text{FxRate on implementation date})}\right)$$

Index Net Dividend Point Adjustment (NX) =

$$\left(\frac{D * (1 - TaxRate) * S * FxRate}{Divisor}\right) * \left(\frac{\text{Divisor on implementation date}}{(\text{Index shares on implementation date} * \text{FxRate on implementation date})}\right)$$

where:

- D = Difference between the original and the confirmed gross dividend amount; foreign-exchange conversion, if applicable, is based on the exchange rate on the ex-date.
- S = Index shares on the ex-date
- Divisor = Index divisor on the ex-date
- Tax rate = Tax rate on the ex-date
- FX rate = FX rate on the ex-date

The gross total return, or TR, and net return, or 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 could underperform the price return on the effective date.

Morningstar will not apply dividend adjustment if security is not part of the index on the dividend ex-date or on the dividend adjustment date. The close, or CLS file, for the implementation day will include the adjusted dividend (X and NX in the above calculation) for that index. The corporate action file for the implementation day will include the dividend adjustment value (D in the above calculation).

Japan and Korea

Most Japanese and Korean companies declare their dividends after the ex-date. An estimated dividend amount is usually available before the ex-date, which will be reinvested into the index on the ex-date. If the estimated dividend is not provided by the company, then Morningstar will evaluate on a case-by-case basis based on the available information. Once the dividend amount is announced, the difference between the estimated and actual dividend will be reinvested or deducted according to the post ex-date dividend adjustment policy.

Irregular distributions, including special dividend, return of capital, and memorial dividend declared by Japanese companies are generally treated as ordinary dividends. A negative dividend adjustment is made to reverse the dividend, if the estimated dividend has not been confirmed by the company six months after the ex-date.

Example
Japanese company "Advantest Corp" announced a dividend payment to be made in March 2021. The dividend amount was not disclosed. The dividend estimate was made based on historical dividends paid. The estimated dividend on the ex-date was JPY 57. The company later announced the declared dividend as JPY 80. An adjustment is required to be made to the index level on the Friday open after the declaration date.

Difference between estimated gross dividend and actual gross dividend (D)	23.00
Index Shares of security on ex-date (S)	199,567,000.00
FX rate on ex-date	0.00906577
Divisor on ex-date	9,550,718,198.17
Divisor on implementation date	9,545,672,167.21029000
FX rate on implementation date	0.0092110717
Index Shares on implementation date	199,567,000.00
Tax Rate	0.20

Index Gross Adjusted Dividend (X) =

$$\left(\frac{D * S * FxRate}{Divisor}\right) * \left(\frac{\text{Divisor on implementation date}}{(\text{Index shares on implementation date} * \text{FxRate on implementation date})}\right)$$

$$=\left(\frac{23*199{,}567{,}000*0.00906577}{9{,}550{,}718{,}198.17}\right) * \left(\frac{9{,}545{,}672{,}167.21029}{(19{,}956{,}7000*0.0092110717)}\right)$$

= 22.62522748

Index Net Dividend Point Adjustment (NX) =

$$\left(\frac{D * (1 - TaxRate) * S * FxRate}{Divisor}\right) * \left(\frac{\text{Divisor on implementation date}}{(\text{Index shares on implementation date} * \text{FxRate on implementation date})}\right)$$

$$=\left(\frac{23*(1-0.2)*199{,}567{,}000*0.00906577}{9{,}550{,}718{,}198.17}\right) * \left(\frac{9{,}545{,}672{,}167.21029}{(199{,}567{,}000*0.0092110717)}\right)$$

= 18.00515603

Adjusted Dividend (X)	22.62522748
Adjusted Net Dividend (NX)	18.00515603

Depository Receipt Fees Treatment

Custodians responsible for collecting the dividends by the foreign issuer typically charge fees to the investors for their services. Morningstar considers the gross payout amount as the gross dividend and makes the depository receipts, or DR, fees adjustment while calculating the net dividend amount.

For special dividends, the Price Adjustment Factor, or PAF, is calculated using gross dividend value. Taxes and dividend fees on special dividends if applicable will be reflected as a negative dividend distribution applied to the net return indexes at the close of the ex-date[3].

For taxable ordinary & special cash dividend:

Gross Dividend = Gross payout amount
Net Dividend = (Gross Dividend*(1-Tax Rate)) - DR Fees

For non-taxable ordinary & special cash dividend:

Gross Dividend = Gross payout amount
Net Dividend = Gross Dividend - DR Fees
Negative special dividend = Net special dividend - Gross special dividend

Multiple Dividend on Same Ex-Date

When there are multiple cash dividends on a same ex-date, 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, then net dividend is calculated using applicable withholding tax rate for each dividend component.

Dividend Not Quoted by the Exchange

When companies declare a conditional dividend, it may still be recognized on the expected ex-date, whether the event happens or not. Clients will be notified via the corporate action file in case of a change in dividend details.

Special Dividend

A special dividend is a nonrecurring distribution of company assets, usually in cash, to shareholders, and it is treated as a corporate action with price and divisor adjustments. These are irregular or one-time payments.

From 1st August 2024 on non-ordinary cash distributions greater than or equal to 5% of market price of the underlying security on the day when event is announced in “finalized” status will be recognized as special dividends[4]. This may include bonus

[3] This treatment is applicable to special dividends effective on or after 1st August 2024. See the Methodology Update History for further details.

[4] This treatment is applicable to special dividends effective on or after 1st August 2024. Prior to this date, non-ordinary dividends were only recognized as special until the third consecutive instance of that distribution, based on timing rather than amount. See the Methodology Update History for further details.

dividends, irregular dividends, capital repayments termed as return of capital, and capital gain distributions etc. Non-ordinary dividends below 5% of the market price of the underlying security are treated as ordinary dividends.

Special dividends announced in "finalized" status will not be cancelled if the size of the special dividend becomes smaller than 5% after the announcement. Special dividends smaller than 5% announced as an ordinary dividend in "finalized" status will not be cancelled if the size of the special dividend becomes greater than or equal to 5% of market price of underlying security after the announcement.

Special dividends greater than or equal to 5% of market price subjected to withholding tax are treated as taxable[5]. Such taxes and dividend fees on depository receipts will be reflected as a negative dividend distribution applied to the net return indexes at the close of the ex-date.

If a security is trading on more than one eligible exchange, then Morningstar uses the security's price for which the trading currency matches the declared dividend currency to compare against the 5% price threshold.

Ordinary dividends, regardless of size, are treated as ordinary dividend. Merger & acquisition prepayments and spin-off cash payments are treated as special dividends, regardless of size.

Index Treatment

For index calculation, the price is adjusted (reduced) for the special dividend at the effective date opening.

$$\text{Adjusted Price} = \text{Price}_{\text{ExDate}-1} - \text{Gross Special Dividend}$$

$$\text{Price Adjustment Factor (PAF)} = \frac{\text{Adjusted Price}}{\text{Price}_{\text{ExDate}-1}}$$

$$\text{Gross Special Dividend} = \text{Gross payout amount}$$

$$\text{Net Special Dividend} = \text{Gross Special Dividend} * (1 - \text{tax rate})$$

$$\text{Negative Dividend} = \text{Net Special Dividend} - \text{Gross Special dividend}$$

Morningstar will apply taxes on special dividends only when company announces it as taxable.

Corporate action treatment for special dividends is the same for FMC weighted and alternate-weighted indexes.

Return of Capital

Return of capital or capital repayment is a distribution of cash to shareholders from a company's share capital or additional paid-in capital. It is generally nonrecurring and treated like a special dividend. Refer to the special dividend price threshold treatment in the special dividend section. A return of capital can be treated as an ordinary cash dividend if it is declared in

[5] This treatment is applicable to special dividends effective on or after 1st August 2024. Prior to this date, special dividends were treated as non-taxable. See the Methodology Update History for further details.

lieu of an ordinary cash dividend, and if the amount and frequency fit the historical pattern of an ordinary dividend. Please refer to the example of “VAT Group AG” provided in the dividend treatment for Switzerland companies.

Capital Gains Distribution

A capital gains distribution is the investor’s share of the proceeds of a fund’s sale of stocks and other assets. It is generally nonrecurring and treated like a special dividend. Refer to the special dividend price threshold treatment in the special dividend section. Capital gain distribution 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.

Stock Dividend

A stock dividend is a payment to shareholders in shares rather than as cash. Stock dividends are quoted in terms of percentage of new shares received to old shares held.

Index Treatment

The treatment for stock dividend is the same as stock split. Please refer to Stock Split for more details. The index shares increase, while the price of the stock decreases as determined by the stock dividend ratio. The market value of the stock in the index remains the same before and after the stock dividend event.

Consider an example where company ABC is a part of index and announces a stock dividend of 1-for-1. The index shares were 100,000 and the security was trading at a price of USD 100 before the event, making the market value of the security ABC USD 10 million (100,000* USD 100) in the index.

After the stock dividend event, every shareholder of company ABC will receive one additional share for every one share held, increasing the index shares from 100,000 to 200,000 (100,000*2), while the price of the security will decrease from USD 100 to USD 50 (USD 100/2) on the effective date. The market value of the security ABC in the index will remain the same at USD 10 million (200,000* USD 50).

In the case of a stock dividend where companies issue unlisted shares, or other asset types such as warrants, options, contingent value rights, convertible bonds, or any other index-ineligible securities, Morningstar does not recognize the stock dividend event, and no changes are made to the shares and price of the index constituent on the ex-date.

The stock dividend treatment is the same for FMC weighted and alternative-weighted indexes.

Bonus Issue

A bonus issue is an offer of additional shares to existing shareholders at no cost. Bonus issues are quoted in terms of new shares received to old shares held.

Index Treatment

The index treatment for bonus issues will be the same as stock dividends. Bonus rights issues with only stock options will be treated in the same manner as bonus issues.

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 adjusted based on the new number of shares, which includes those from the bonus issue.

Example
Consider company “PQR,” which announced a bonus issue of one for one with an ex-date of March 12, 2020.
The company also announced an ordinary dividend of $2 with an ex-date of March 25, 2020, but the new bonus shares are not entitled to the ordinary dividend. The dividend is subject to a withholding tax rate of 20%.

Consider index shares as 1,000,000 and a price of $100 on the day prior to the ex-date of bonus issue.
Morningstar will increase the index shares and decrease the price as determined by the bonus issue corporate action treatment mentioned earlier.

Price Adjustment Factor, or PAF, is the factor by which the price of the security will decrease after the stock dividend event. This is computed as:

PAF = Share Outstanding before event / Share Outstanding after event= 1 / 2 = 0.5

Share Adjustment Factor (SAF) is the factor by which the index shares will increase after the stock dividend event. This is computed as:

SAF = Share Outstanding after event / Share Outstanding before event = 2 / 1 = 2

Index shares on Effective Date (T): Index shares $_{T-1}$ * SAF = 1,000,000 * 2 = 2,000,000

Adjusted Opening Price on Effective Date (T): Price $_{T-1}$ * PAF = 100 * 0.5 = $50

On the ex-dividend date, Morningstar will recognize the adjusted dividend amount using the PAF of the bonus-issued shares.

Gross Dividend = Gross Dividend announced by the company * PAF of bonus issue not entitled to dividend = 2 * 0.5 = $1

Net Dividend = Gross Dividend * (1 – tax-rate) = 1 * (1 – 0.2) = $0.8

Scrip Dividend

A 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.

Index Treatment
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.

Gross Dividend: Gross cash dividend + Gross scrip dividend
Net Dividend: (Gross cash dividend + Gross scrip dividend) * (1 – tax rate)

Example
"Iberdrola SA" announced dividend cash dividend of EUR 0.03 and scrip dividend of EUR 0.147.

Gross Dividend = Gross Cash Dividend + Gross scrip dividend = (0.03 + 0.147) = 0.177

Net Dividend = (Gross Cash Dividend + Gross Scrip Dividend) * (1 – tax-rate) = (0.03+0.147) * (1-0.19) = 0.177*0.81 = 0.14337

In a bonus rights issue with both cash and stock options, Morningstar will consider cash as a default option for index calculation purposes and the treatment would be the same as a scrip dividend.

Coupon Distribution Cash/Stock

A distribution of coupons that is usually associated with a dividend with option of cash or stock.

Index Treatment
Coupon distribution with cash or stock options 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.

Dividend Reinvestment Plan

A dividend reinvestment plan, or DRIP, is a program that allows investors to reinvest their cash dividends into additional shares or fractional shares of the underlying stock on the dividend payment date.

Index Treatment
DRIPs are treated as ordinary cash dividends. Any share changes due to reinvestment will be adjusted according to the standard share change policy.

Foreign-Exchange Conversions for Dividends

When companies declare dividends in currencies other than their stock trading currency, the dividend is converted into the price currency using the exchange rate on the day before the ex-date for special dividends; for Asia-Pacific, the rate two days before the ex-date is used. For regular cash dividends, the exchange rate on the day before the ex-date is used in the open-file calculation and the exchange rate on the ex-date is used in close-file calculation.

For ADRs and GDRs, the dividend amount and currency provided by the depositary banks are generally used for calculations.

Withholding Tax

For Morningstar-branded indexes, the following applies: The tax on dividend distributions to which nonresidents are subject when the country in which the company is incorporated is not where the shareholder resides. Morningstar considers the maximum standard withholding tax rate applicable to nonresident institutional investors. Morningstar uses the companies' country of incorporation, and sometimes industry, to determine the relevant withholding tax rate. Tax treaty rates are not reflected in tax application.

Tax-rate data is reviewed quarterly by Morningstar. Morningstar may update withholding tax rates outside of the quarterly review when it becomes aware of a change in a rate with advance notice to clients.

Stock Split

A stock split is a corporate action where the company divides the existing number of shares into multiple new shares. The shares are distributed on a pro rata basis based on the shares held by the existing shareholders. The price per share is simultaneously reduced by the same factor, such that a stock split should not result in a change to a company's market capitalization. Stock splits are quoted in the ratio of new shares received/old shares held.

Index Treatment

The index shares increase and the price of the stock decreases as determined by the stock-split ratio, while the market value of the security in the index remains the same before and after the stock split.

Example

Consider an example where company ABC is a part of an index and splits its shares 2-for-1. The index shares were 100,000 and the security was trading at a price of $100 before the event, making the market value of security ABC $10 million (100,000*$100) in the index. After the stock split, every shareholder of company ABC will receive one additional share for every one share held, resulting in an increase in index shares from 100,000 to 200,000 (100,000*2), whereas the price of the security will decrease from $100 to $50 ($100/2) on the effective date. The market value of security ABC will remain the same as $10 million (200,000*$50) in the index.

Share Adjustment Factor, or SAF, is the factor by which the index shares will increase post-stock-split event. This is computed as:

$$SAF = \frac{Post - Event\ Total\ Shares\ Outstanding}{Pre - Event\ Total\ Shares\ Outstanding}$$

New index shares on the open of effective date. This is computed as:

$$Index\ Shares_{ExDate} = (Index\ Shares_{ExDate-1}) * SAF$$

Price Adjustment Factor, or PAF, is the factor by which the price of the security will reduce after the stock split. This is computed as:

$$PAF = \frac{Pre - Event\ Total\ Shares\ Outstanding}{Post - Event\ Total\ Shares\ Outstanding}$$

Price on the open of effective date. This is computed as:

$$Adjusted\ Opening\ Price_{ExDate} = (Close\ Price_{ExDate-1}) * PAF$$

The corporate action treatment for stock splits is the same for FMC weighted and alternative-weighted indexes.

Reverse Stock Split

A reverse stock split is a corporate action where the company consolidates the existing number of shares into fewer shares. This is also known as a stock consolidation, stock merge, or stock rollback.

Index Treatment

The index shares decrease while the price of the security increases as determined by the reverse stock-split ratio. The market value of the security in the index remains the same before and after reverse stock split.

Example

Consider an example where the company XYZ decides to consolidate or "split" its shares for 1-for-10. The total index shares were 10,000,000 and the security was trading at a price of $1 before the event, making the total market value of XYZ $10 million (10,000,000*$1) in the index.

After the reverse stock-split event, every 10 shares held of security XYZ in the index will consolidate to one share, resulting in a decrease in index shares from 10,000,000 to 1,000,000 (10,000,000/10), while the price of the security will increase to $10 ($1*10). The market value of the security will remain the same at $10 million (1,000,000*$10) in the index.

Share Adjustment Factor, or SAF, is the factor by which the index shares will decrease after the reverse stock split. This is computed as:

$$SAF = \frac{\text{Total Outstanding Shares After Event}}{\text{Total Outstanding Shares Before Event}}$$

New index shares on the open of the effective date. This is computed as:

$$\text{Index Shares}_{\text{ExDate}} = (\text{Index Shares}_{\text{ExDate}-1}) * \text{SAF}$$

Price Adjustment Factor, or PAF, is the factor by which the price of the security will increase after the reverse stock split. This is computed as:

$$PAF = \frac{\text{Total Outstanding Shares Before Event}}{\text{Total Outstanding Shares After Event}}$$

Adjusted Opening Price on the open of the effective date. This is computed as:

$$\text{Adjusted Opening Price}_{\text{ExDate}} = (\text{Close Price}_{\text{ExDate}-1}) * \text{PAF}$$

The corporate action treatment for reverse stock splits is the same for FMC weighted and alternative-weighted indexes.

Rights Offering (Issue)

In a rights offering, or rights issue, shareholders of a company are issued rights to buy a specified number of additional shares at a specified price (known as the 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. Rights offerings usually lead to dilution of an existing share's value as the number of outstanding shares increases, and the earnings per share, or EPS, decreases.

Index Treatment

Before making the corporate action adjustment for rights offering in the index, it is first necessary to determine if the rights offering is in the money, at the money, or out of the money. This is done by calculating the value of the rights offering. Only rights available to all shareholders are recognized in the index. The value of rights is calculated as follows:

$$\text{Value of Rights} = \frac{\left(\text{Close Price}_{\text{ExDate}-1} - (\text{subscription price of stock} + \text{dividend})\right)}{(\text{Number of rights required to purchase 1 share} + 1)}$$

Forthcoming known ordinary and/or special dividend amount is added to subscription price while calculating the value of rights and theoretical ex-right price, or TERP if the rights offering is not entitled to forthcoming dividends.

If the rights offering is at the money or out of the money (for example, value of right is zero or negative), then there will be no corporate action adjustment for the event.

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).

In the case of a rights offering where companies issue unlisted shares, or other asset types such as warrants, options, contingent value rights, convertible bonds, or any other index-ineligible securities, Morningstar does not recognize the rights-offering event and no changes are made to the shares and price of the index constituent on the ex-date.

In a rights offering in Korea, the subscription price is generally estimated and set at a discount to the current market price of the shares at the time the rights issue is announced. The final confirmed subscription price is typically announced after the rights ex-date. Morningstar Indexes will use the estimated rights subscription price based on available information prior to the rights ex-date to apply the treatment for the rights offering.

For rights offerings in India, where companies issue partly paid-up shares that are traded separately under a different identifier, Morningstar will adjust price of parent security on the ex-date. Shares & float changes resulting from the conversion of partly paid-up shares to fully paid-up shares will be handled as per the share & float change policy mentioned under Nonmandatory Corporate Action Methodology and Annual and Quarterly Review Process section.

If the rights offering is in the money (that is, value of right is positive), then the corporate action adjustment is applied based on the following calculations:

Theoretical ExRight Price (TERP) =

$$\frac{\left(\text{Close Price}_{\text{ExDate}-1} * \text{CommonShareOutstanding}_{\text{PreCorpAction}} + (\text{Subscription value of the rights} + \text{Dividend}) * \text{Additional stock via Rights Issue}\right)}{\left(\text{Total Shares Outstanding}_{\text{PostCorpAction}}\right)}$$

$$\text{Price Adjustment Factor (PAF)} = \frac{\text{TERP}}{\text{Close Price}_{\text{ExDate}-1}}$$

$$\text{Open Price}_{\text{ExDate}} = \text{PAF} * \text{Close Price}_{\text{ExDate}-1}$$

$$\text{Share Adjustment Factor (SAF)} = \frac{\text{Number of shares declared in rights issue}}{\text{Number of total outstanding shares}_{\text{PreCorpAction}}} + 1$$

For FMC weighted index,

$$\text{Open Index Shares}_{\text{ExDate}} = \text{SAF} * \text{Index Shares}_{\text{ExDate}-1}$$

For alternative weighted index,

$$\text{Open Index Shares}_{\text{ExDate}} = \text{Number of total outstanding shares}_{\text{PostCorpAction}} * \text{Float factor} * \text{New AWF}$$

Example: In the Money
Aveva Group announced a 7-for-9 rights issue at GBP 22.55 per share in November 2020. There were no dividend events during the rights-offering period.

"For every 9 existing ordinary shares of AVEVA (each an 'Existing Ordinary Share'), its holder is entitled to 7 shares (nil paid). The Company proposes to issue a total of 125,739,796 rights issue shares. The rights issue price of GBP 22.55 per share represents a discount of 32.2% to the theoretical ex-rights price (TERP) of GBP 33.28 per existing ordinary share by reference to the closing price on 5 November 2020 (the last business day before the publication of this announcement)."

Corporate Action Details		Corporate Action Dates	
Company Making Offer	Aveva Group	Announcement Date	06-Nov-20
Corporate Action Status	Finalized	Record date	20-Nov-20
Corporate Action Type	Rights Issue	Ex-Rights Date	25-Nov-20
Currency Code	British Pound	Effective Date	25-Nov-20

$$\text{Value of Rights} = \frac{\left(\text{Market value of stock} - (\text{subscription price of stock} + \text{dividend})\right)}{(\text{Number of rights required to purchase 1 share} + 1)}$$

$$= \frac{\left(41.16 - (22.55 + 0)\right)}{\left(\left(\frac{9}{7}\right) + 1\right)} = 8.142$$

Since the value of rights is positive, we will proceed with the implementation of corporate action adjustment.
Note: Market value used in the above formula is as of t-1 date such as, Nov. 24 close price.

$$\text{Theoretical Ex} - \text{Right Price (TERP)} =$$

$$\frac{\left(\text{Close Price}_{\text{ExDate}-1} * \text{CommonShareOutstanding}_{\text{PreCorpAction}} + (\text{Subscription value of the rights} + \text{Dividend}) * \text{Additional stock via Rights Issue}\right)}{\left(\text{Total Shares Outstanding}_{\text{PostCorpAction}}\right)}$$

$$= \frac{(41.16 * 161{,}207{,}000 + (22.55 + 0) * 125{,}739{,}796)}{286{,}946{,}796} = 33.005$$

$$\text{Price Adjustment Factor (PAF)} = \frac{\text{TERP}}{\text{Close Price}_{\text{ExDate}-1}} = \frac{33.005}{41.16} = 0.802$$

$$\text{Open Price}_{\text{ExDate}} = \text{PAF} * \text{Close Price}_{\text{ExDate}-1} = 0.802 * 41.16 = 33.005$$

$$\text{Share Adjustment Factor (SAF)} = \frac{\text{Number of shares declared in rights issue}}{\text{Number of total outstanding shares}_{\text{PreCorpAction}}} + 1$$

$$= \frac{125{,}739{,}796}{161{,}207{,}000} + 1 = (0.78 + 1) = 1.78$$

Open Index $\text{Shares}_{\text{ExDate}} = \text{SAF} * \text{Index Shares}_{\text{ExDate}-1}$ = 161,207,000*1.78 = 286,946,796

Before Event Values		After Event Values	
Total Shares Outstanding	161,207,000	Total Shares Outstanding	286,946,796
Float Amount	0.4	Float Amount	0.4
Price (EOD)	41.16	Theoretical ex-rights price (TERP)	33.005
Number of Shares in Index	64,482,800	Number of Shares in Index	114,778,718

Example: At/Out of the Money

Aveva Group announced a 7-for-9 rights issue at GBP 50 per share in November 2020. There were no dividend events during the rights-offering period.

"For every nine existing ordinary shares of AVEVA, its holder is entitled to seven rights issue shares (nil paid). The company proposes to issue a total of 125,739,796 rights issue shares. The rights issue price is GBP 50."

Corporate Action Details		Corporate Action Dates	
Company Making Offer	Aveva Group	Announcement Date	06-Nov-20
Corporate Action Status	Finalized	Record date	20-Nov-20
Corporate Action Type	Rights Issue	Ex-Rights Date	25-Nov-20
Currency Code	British Pound	Effective Date	25-Nov-20

$$\text{Value of Rights} = \frac{(\text{Market value of stock} - (\text{subscription price of stock} + \text{dividend}))}{(\text{Number of rights required to purchase 1 share} + 1)}$$

$$= \frac{(41.16 - (50 + 0))}{\left(\left(\frac{9}{7}\right) + 1\right)} = -3.868$$

Since the value of rights is negative, there would be no corporate action adjustment.

Subscription Offer

When a company plans a secondary offering, existing shareholders are given a subscription right to purchase shares at a price generally below market price before new investors.

Index Treatment

The treatment for subscription offers is the same as rights offerings. Please refer to Rights Offering (Issue) for more details.

Spinoff

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

Index Treatment

If the spinoff security is newly created, it will be added to all indexes, in which the parent entity is a constituent of, at a zero price without divisor adjustment. The spinoff security will then be removed from the indexes after at least two days of regular trading with a divisor adjustment. If it does not trade for 60 trading days after the ex-date and there is no listing information, Morningstar Indexes may remove the spinoff security at a zero price with advance notice given to clients.

If the spinoff security is already publicly listed, then it is treated as an in-specie distribution. A placeholder security representing the publicly listed entity will be added at zero price to all indexes, in which the parent is a constituent of, on the ex-date using the parent's float and shares equal to the product of distribution ratio and the parent's total shares outstanding. Using the parent's attributes like weight, float and shares are calculated using the parent's total outstanding shares. The spinoff security will be removed from the indexes after two days of distribution at the closing price of the publicly traded entity.

A spinoff security may also be added to indexes using a nonzero price and applying a price adjustment to the parent in certain instances. There also may be cases when Morningstar decides not to add an ineligible spinoff security to indexes due to minimis value, lack of information on value of security, or if security will not be listed on an exchange.

In the case of a spinoff where companies issue unlisted shares, or other asset types such as warrants, options, contingent value rights, convertible bonds, or any other index-ineligible securities, Morningstar does not recognize the spin-off event, and no changes are made to the shares and price of the index constituent on the ex-date.

At the removal of the spinoff security, the weight of the spinoff security is redistributed across the index. This applies to all FMC and alternative market-cap-weighted indexes. Notice will be given for any instances that will not be handled using this methodology.

Spinoffs can be categorized as follows:

Corporate Action Details	Treatment*	Divisor Change
Spunoff entity is newly created and starts trading regularly on or after ex-date.	1. Spunoff entity is added to index at a price of zero with no accompanying change in the parent or divisor at this time.	No
	2. It is removed from the index after at least two days of trading at the last traded price and appropriate divisor adjustment is made.	Yes
Spunoff entity is already publicly listed and trading regularly before ex-date.	1. Temporary placeholder representing publicly listed entity is added to index at a price of zero with no accompanying change in the parent or divisor at this time.	No
	2. Temporary placeholder to mimic price of publicly listed entity from ex-date close till drop date from index.	–

	3. It is removed from the index after at least two days of distribution at the last traded price of public entity and appropriate divisor adjustment is made.	Yes

*In certain cases, Morningstar might add spunoff entity at non-zero price with parent's price adjustment or might not add placeholder.

Number of Shares Outstanding for Spinoff Entity:
Shares Adjustment Factor for Spinoff Entity or, SAF, or Spinoff ratio = New shares issued/Old shares held
Number of Shares Outstanding for Spinoff Entity= SAF * Number of Shares Outstanding of Parent Company on previous trading day

Ex-Date Open Price for Spinoff Entity:
Ex-Date Open Price for Spinoff Entity= 0 (For Zero-Price Spinoff)
Ex-Date Open Price for Spinoff Entity= Market Cap of Spinoff Entity/Shares of Spinoff Entity (For Nonzero-Price Spinoff)

Ex-Date Close Price for Spinoff Entity:
If the spinoff entity is not listed on the ex-date, the close price will be determined using the below formula:
Ex-Date Close Price for Spinoff Entity= ((Close Price of Parent on previous trading day) – (Exchange Open Price of Parent on Ex-Date)) / (Spinoff Ratio)

If the spinoff entity is listed on the ex-date, the close price will be the actual close price of the entity on the listed exchange.
Ex-Date Close Price for Spinoff Entity= Actual Close Price of Spinoff Entity

Price Adjustment Factor (PAF) for Parent:
Price Adjustment Factor for Parent Company = 1 - Spinoff Ratio of child
If there is more than one child entity, then PAF of Parent = 1 - sum of spinoff ratio of all child entities

Example: Zero-Price Spinoff
Sanofi SA is to spin off its Active Pharmaceutical Ingredients (API) business, to be named Euroapi. Shareholders will receive 1 share of Euroapi for every 23 shares held in Sanofi. The shares of Euroapi are expected to be tradable on Euronext Paris from 10th May 2022.

Corporate Action Details		Corporate Action Dates	
Company Making Offer	Sanofi SA	Announcement Date	25-Feb-20
Corporate Action Status	Finalized	Record date	6-May-22
Corporate Action Type	Spinoff	Ex-Date	6-May-22
Currency Code	FRA	Effective Date	6-May-22

Shares Adjustment Factor for Spinoff Entity (Spinoff Ratio) = 1/23 = 0.0434782

Number of Shares Outstanding for Spinoff Entity = SAF * Number of Shares Outstanding of Parent Company on previous trading day = 0.0434782* 1,263,523,000 = 54,935,706

Ex-Date Open Price for Spinoff Entity = 0 (Zero-Price Spinoff)

Ex-Date Close Price for Spinoff Entity = ((Close Price of Parent on previous trading day) - (Exchange Open Price of Parent on Ex-Date)) / (Spinoff Ratio) = (100.0200 - 97.05) / 0.0434782 = 68.31

Before Event (Spinoff Entity)		After Event (Spinoff Entity)	
Total Shares Outstanding (on previous trading day)	0	Total Shares Outstanding (ex-Date Open)	54,935,706
Price (ex-Date Open)	0	Price (ex-Date Close)	68.31

Example: Nonzero Price Spinoff
Daelim Industrial has decided to spin off into a surviving entity and two business entities:
The surviving entity will be a holding company named DL (to remain listed).
The construction business will be spun off to form a new entity tentatively named DL E&C (to be listed).
The petrochemical business will be split off as a wholly owned subsidiary of DL tentatively named DL Chemical (unlisted).[6]

The DL/DL E&C spinoff ratio will be 0.5562856. This means there will be a spinoff of 0.5562856 shares of DL E&C Co Ltd for every one share held in Daelim Industrial Co.

Corporate Action Details		Corporate Action Dates	
Company Making Offer	Daelim Industrial Co.	Announcement Date	10-Sep-20
Corporate Action Status	Finalized	Record date	26-Dec-20
Corporate Action Type	Spinoff	Ex-Date	25-Dec-20
Currency Code	KRW	Effective Date	25-Dec-20

Shares Adjustment Factor for Spinoff Entity (Spinoff Ratio) = 0.5562856/1 = 0.5562856

Ex-Date Number of Shares Outstanding for Spinoff Entity = SAF * Number of Shares Outstanding of Parent Company on previous trading day = (0.5562856 * 34,800,000) = 19,358,739

Ex-Date Open Price for Spinoff Entity = (Market Capital of Spinoff Entity/Shares of Spinoff Entity)
= 1606775327040 /19,358,739 = 83,000

Ex-Date Close Price for Spinoff Entity = The close price will be the same as the open price in this case. The same price will carry forward until the security is traded/listed or dropped at zero if it's not trading based on general spinoff policy.

Price Adjustment Factor for Parent Company = 1 - Spinoff Ratio of child = 1 – 0.5562856 = 0.4437144

If there is more than one child entity, then PAF of Parent = 1 - sum of spinoff ratio of all child entities

[6] http://www.dlenc.co.kr/common/fileDownload.do?fileseq=30452

Ex-Date Open Price for Parent Company = PAF * (Close Price of Parent on Ex-Date – 1) = 0.4437144 * 83,000 = 36,828.2952

Example: In Specie Distribution
"Kinnevik AB ('Kinnevik') announced that its board intends to propose the distribution of Kinnevik's shareholding in Zalando SE ("Zalando") to its shareholders."[7] Based on the closing price of Zalando's shares on Feb. 15, 2021, the intended distribution corresponds to an extraordinary value transfer of approximately SEK 55.1 billion to Kinnevik's shareholders, equivalent to approximately SEK 200 or 0.195 Zalando shares per Kinnevik share. Kinnevik currently owns 54.0 million Zalando shares, equivalent to 21% of Zalando's total shares outstanding.[8]

Index Treatment
Term: 1 redemption share for 1 share held in KINV B, which later will be exchanged for 28 ZAL shares for every 143 redemption shares held.
Morningstar Indexes will treat this event as an in specie distribution and add a temporary placeholder stock to all indexes where KINV B is a constituent. The redemption shares will trade on XSTO from May 19 to June 9 and will be removed from all indexes effective June 11.

Effective prior to the open of trading on Thursday, June 10, 2021: redemption shares (placeholder security) will be removed from all indexes. Zalando SE IWF and shares data will be reviewed accordingly.

Corporate Action Details		Corporate Action Dates (Spinoff)	
Company Making Offer	Kinnevik Investments AB	Announcement Date	20-Mar-21
Corporate Action Status	Finalized	Record date	18-May-21
Corporate Action Type	Spinoff	Ex-Date	17-May-21
Currency Code	SEK	Effective Date	17-May-21

Shares Adjustment Factor for Spinoff Entity (Spinoff Ratio) = 1/1 = 1
Redemption Ratio = 28 / 143 = 0.195804196

Ex-Date Number of Shares Outstanding for Spinoff = SAF * Number of Shares Outstanding of Parent Company on previous trading day
= (1 * 241,911,000) = 241,911,000

Ex-Date Open Price for Spinoff Entity = 0 (Zero-Price Spinoff)

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7 https://www.kinnevik.com/media--contact/press-releases/2021/2/2459858-Kinnevik-intends-to-propose-a-distribution-of-its-Zalando-shareholding-to-its-shareholders-accelerating-Kinneviks-strategic-transformation

8 https://www.kinnevik.com/globalassets/documents/2.-investors/zalando/20210331-en-information-brochure-the-zalando-distribution.pdf

Ex-Date Close Price for Spinoff Entity = (Close Price of Distributed Company on Ex-Date) * FX Rate Ex-Date (to convert in spinoff currency) * Redemption Ratio = (85.4 * 10.12874916 * 0.195804196) = 169.37

Before Event (Spinoff Entity)		After Event (Spinoff Entity)	
Total Shares Outstanding	0	Total Shares Outstanding	241,911,000
Price	0	Price	169.37

Before Event (Parent Company)		After Event (Parent Company)	
Total Shares Outstanding	241,911,000	Total Shares Outstanding	241,911,000
Price	410.95	Price	410.95

Spinoff— Return on Capital

A company may sometimes spin off its holdings in another listed company where it is a majority shareholder directly to its shareholders, giving them the option of either opting for shares of the spinoff company or cash. In such a case, Morningstar Index will consider this as a return on capital and consider cash as a default option and treat it as a special dividend.

Index Treatment

Price Adjustment = Price on previous business close of effective date - special dividend
Price Adjustment Factor = Adjusted price/price on previous close of effective date

Corporate Action treatment for special dividends is same for FMC and alternative-weighted indexes.

Example—Return of Capital (Spinoff)

Evraz Plc (Exchange: XLON; Ticker: EVR, “Evraz”) is to distribute its shareholding in Raspadskaya JSC (Exchange: MISX; Ticker: RASP, “Rasp”) whereby shareholders will receive an entitlement to 0.4255477880 share of Rasp for each share held in Evraz as of Tuesday, Feb. 15, 2022, with Evraz expected to trade ex-entitlement on Monday, Feb.14, 2022.

Evraz shareholders will need to elect to receive the Rasp shares by Tuesday, March 15, 2022. Shareholders who do not participate in the election will instead receive cash proceeds through a “Share Sale Facility.” Within the Share Sale Facility, Evraz will sell the Rasp shares before Oct. 6, 2022, and pay the net cash proceeds to the nonelected shareholders, expected to take place by Nov. 4, 2022.

Index Treatment

Morningstar Index will implement the event basis nonelection of Rasp shares and treat this as a “Return of Capital.” Effective at the open of Monday, Feb. 14, 2022, a special dividend will be applied for Evraz based on the previous day’s close price of Rasp, converted using the previous day’s RUB/GBP 4pm London rate and the distribution ratio.

A further adjustment will be applied once the finalized value attributed to the share sale facility is confirmed.

Price Adjustment = Price on previous business close of effective date—special dividend = 4.447 - 1.8875 = 2.5594
Price Adjustment Factor = Adjusted price/price on previous close of effective date = 2.5594 / 4.447 = 0.57555

Redistribution of Weights Across Index
At the removal of the spinoff entity, its weight is redistributed across the index.

Example
Consider company A has spun off company S, and the weights of the securities as of previous close date of drop date is as mentioned below:

Security Name	Index Market Value	Index Weight
Security A (Parent Entity)	1,002,399,481	7.45%
Security B	128,847,729	0.96%
Security C	2,187,729,312	16.27%
Security D	82,930,012	0.62%
Security E	726,513,929	5.40%
Security F	1,277,739,101	9.50%
Security G	1,727,889,310	12.85%
Security H	1,268,930,848	9.44%
Security I	863,652,892	6.42%
Security J	3,188,362,527	23.71%
Security S (Spinoff Entity)	991,772,018	7.38%

On the drop date, Security S will be removed from the index and its weight will be redistributed proportionally among all the constituents in the index. Weight of the securities on the open of drop date:

Security Name	Index Market Value	Index Weight
Security A (Parent Entity)	1,002,399,481	8.05%
Security B	128,847,729	1.03%
Security C	2,187,729,312	17.57%
Security D	82,930,012	0.67%
Security E	726,513,929	5.83%
Security F	1,277,739,101	10.26%
Security G	1,727,889,310	13.87%
Security H	1,268,930,848	10.19%
Security I	863,652,892	6.93%
Security J	3,188,362,527	25.60%

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. In an acquisition, a company buys most or all of the target company and assumes controlling interest. The merger and acquisition, or M&A, could be funded through cash, stock, or a combination of both.

Index Treatment
In a merger and acquisition, 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. 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.

In certain situations, at Morningstar's discretion, de minimis M&A share changes may be implemented with the quarterly share rebalancing. If an index constituent company acquires a private company, or a company not part of any Morningstar-maintained indexes, M&A share/IWF changes are implemented at the next quarterly rebalancing. Such an event will not be reflected in the corporate action file.

Merger and Acquisition Categories

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

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 acquirer shares and free float factor are not updated in a partial stock acquisition, these changes will be implemented along with the subsequent weekly shares update.

In the case of a Merger & Acquisition event where companies issue unlisted shares, or other asset types such as warrants, options, contingent value rights, convertible bonds, or any other index-ineligible securities, Morningstar does not recognize this event, and no changes are made to the shares and price of the index constituent on the ex-date.

The target company is typically dropped at the closing price of the stock on the date of deletion. If the security gets suspended or halted before the announced effective deletion date, it is removed at the deal price. The deal price is generally the tender offer price for cash takeovers or a derived deal price for partial stock/all stock takeovers.

If the deal is subject to a shareholder election and target security is suspended or halted before the announced effective deletion date, it will be removed at the deal price from the perspective of a non-elective investor.

Clients will be notified if any price other than market close prices or deal prices are used to remove these stocks from Morningstar indexes.

Reverse Mergers/Takeovers

Generally, in a reverse merger a private company acquires a public company and is then listed on the stock exchange. The private company may reorganize the public company and there can be a security identifier change and/or a name change.

Morningstar index might apply a split event on the target company, current index constituent as per share ratio with new identifiers, and/or a new name to align all changes of the newly listed company.

Tender Offer

A tender offer is a bid to purchase some or all the shareholder's stock, usually at a premium to the market price. Cash or other securities may be offered to the target company's shareholders. The objective of the tender offer is to take control of the target company. Morningstar will closely monitor the results of the tender offer through public announcements before implementing any changes into the indexes.

- If at the end of the tender offer, 90% of the target company's total shares are tendered (or the target float drops below 10%), then Morningstar might drop target security from the index with a two-day client notice period.
- If less than 90% of the total shares are tendered (or the target float remains above 10%), then Morningstar might retain the security in the index and implement the target company's float update in the next rebalance period.
- If the company extends the tender offer, Morningstar will track the tender offer until the extended offer date and the tender offer results are publicly announced.
- In the case of stock payouts, the acquirer company's shares change will be implemented at the end of tender offer after results of the tender offer are announced publicly. Morningstar might review the tender offer treatment on a case-by-case basis.
- If tendered shares are replaced with a tradable tendered share class on the same stock exchange, Morningstar might replace the current share class identifier with a tendered share class identifier once the minimum acceptance ratio of 75% has been reached and the tender offer is subjected to a further acceptance period.

Shares Adjustment Factor (SAF) = 1 + ((Merger Ratio * Number of Shares Outstanding of Target Company on previous trading day * Percentage of Company to be acquired) / (Number of Shares Outstanding of Acquirer on previous trading day))

If the Target Company is trading on the previous business day of effective date, then the Closing Price of the Target Company will be the last traded price:
Close Price of Target Company= Last Traded Price of Target on previous trading day. (All Stock, All Cash, and Cash + Stock Deal)

If the Target Company is suspended from the exchange before effective date, then the Closing Price of the Target Company is derived using the below formulas:

All-Stock Deal
Close Price of Target Company = Merger Ratio * Acquirer Company Latest Close Price

All-Cash Deal
Close Price of Target Company = Deal Price (this is used even if it is higher than the last traded price)

Cash + Stock Deal
Close Price of Target Company = (Merger Ratio * Acquirer Company Latest Close Price) + Cash

Number of Index Shares of Acquirer Post-M&A = Number of Index Shares of Acquirer on previous trading day * Shares Adjustment Factor
Total outstanding shares, or TOS, of Acquirer Post-M&A = TOS of Acquirer on previous trading day * Shares Adjustment Factor

Float Factor of Acquirer Post-CA= ((TOS of Target on previous trading day* Float Factor of Target on previous trading day* M&A ratio) + (TOS of Acquirer on previous trading day* Float Factor of Acquirer on previous trading day))/TOS of Acquirer Post-M&A

Examples

All-Stock Deal
ConocoPhillips (NYSE: COP) is to acquire Concho Resources Inc (NYSE: CXO) in an all-stock deal. Both the acquirer and target companies are part of Morningstar-maintained Index. CXO shareholders will receive 1.46 COP shares for every CXO share held.

Corporate Action Details		Corporate Action Dates	
Company Making Offer:	ConocoPhillips	Announcement Date:	19-Oct-20
Corporate Action Status:	Finalized	Record date:	N/A
Corporate Action Type:	Acquisition	Ex-Date:	N/A
Currency Code:	USD	Effective Date:	13-Jan-21

Shares Adjustment Factor (SAF) = 1 + ((Merger Ratio * Number of Shares Outstanding of Target Company on previous trading day* Percentage of Company to be acquired) / Number of Shares Outstanding of Acquirer on previous trading day)
= 1 + ((1.46 * 196,305,000 * 1)/1,067,957,000) = 1.268368

Close Price of Target Company = Merger Ratio * Acquirer Company Latest Close Price (Company is suspended from trading prior to effective date) = 1.46 * 45.36 = 66.2256

Number of Index Shares of Acquirer Post-M&A = Number of Index Shares of Acquirer on previous trading day* Shares Adjustment Factor = 1,067,957,000 * 1.268368 = 1,354,562,300
TOS of Acquirer Post-M&A = TOS of Acquirer on previous trading day* Shares Adjustment Factor = 1,067,957,000 * 1.268368 = 1,354,562,300

Float Factor of Acquirer Post-CA= ((TOS of Target on previous trading day* Float Factor of Target on previous trading day* M&A ratio) + (TOS of Acquirer on previous trading day* Float Factor of Acquirer on previous trading day))/TOS of Acquirer Post-M&A
= ((196,305,000 * 1 * 1.46) + (1,067,957,000 * 1))/ 1,354,562,300 = 1

ConocoPhillips—Before Event		ConocoPhillips—After Event	
Total Shares Outstanding	1,067,957,000	Total Shares Outstanding	1,354,562,300
Float Amount	1	Float Amount	1
Price (EOD)	45.36	Price (EOD)	45.36
Adjusted Opening Price	45.36	Adjusted Opening Price	45.36

The target company “Concho Resources” is dropped from the index.

All-Cash Deal

Societa finanziaria macchine automatiche Spa (private company) is to acquire shares of IMA-Ind Macchine Automatiche (MTAA:IMAI) for EUR 68 per share in cash.

Corporate Action Details		Corporate Action Dates	
Company Making Offer:	Societa finanziaria macchine automatiche Spa (private company)	Announcement Date:	29-Jul-20
Corporate Action Status:	Finalized	Record date:	N/A
Corporate Action Type:	Acquisition	Ex Date:	N/A
Currency Code:	USD	Effective Date:	08-Jan-21

The publicly traded share will be dropped from the index on the effective date. No other action will be taken.
If shares of IMA-Ind Macchine Automatiche (MTAA:IMAI) are suspended on the exchange before the effective date, Morningstar would remove the at the deal price of EUR 68.

Cash + Stock Deal

Worldline SA (XPAR:WLN) is to acquire Ingenico Group (XPAR:INGC). Eleven shares of Worldline SA and EUR 22.9285714285714 in cash per share in exchange for seven shares of Ingenico Group. 1.57143 shares of Worldline SA and EUR 22.9285714285714 in cash in exchange for each share of Ingenico Group.

Corporate Action Details		Corporate Action Dates	
Company Making Offer:	Worldline SA	Announcement Date:	03-Feb-20
Corporate Action Status:	Finalized	Record date:	N/A
Corporate Action Type:	Acquisition	Ex Date:	N/A
Currency Code:	EUR	Effective Date:	30-Oct-20

Shares Adjustment Factor (SAF) of Acquirer =

$$1+\left(\frac{(\text{Merger Ratio} * \text{Number of Shares Outstanding of Target Company} * \text{Percentage of Company left to be acquired})}{\text{Number of Shares Outstanding of Acquirer}}\right)$$

= 1 + ((1.57143 * 63,145,000 * 1) / 182,554,000)
= 1.54355345345956

Close Price of Target Company = Last Traded Price (Company is trading on previous day)
= 125

Number of Index Shares of Acquirer Post-M&A = Number of Index Shares of Acquirer on previous trading day* Shares Adjustment Factor
=182,554,000 * 1.54355345345956
= 281,781,857

TOS of Acquirer Post M&A = TOS of Acquirer on previous trading day* SAF
=182,554,000 * 1.54355345345956
= 281,781,857

Float Factor of Acquirer Post-CA= ((TOS of Target on previous trading day* Float Factor of Target on previous trading day* M&A ratio) + (TOS of Acquirer on previous trading day* Float Factor of Acquirer on previous trading day))/TOS of Acquirer Post-M&A
= ((63,145,000* 1 * 1.57143) + (182,554,000* 0.71))/ 281,781,857 = 0.81

Worldline SA— Before Event		Worldline SA —After Event	
Total Shares Outstanding	182,554,000	Total Shares Outstanding	281,781,857
Float Factor	0.71	Float Factor	0.81
Price (EOD)	65.18	Price (EOD)	65.18
Adjusted Opening Price	65.18	Adjusted Opening Price	65.18

Ingenico Group— before Event		Ingenico Group—After Event	
Total Shares Outstanding	63,145,000	Total Shares Outstanding	0
Float Factor	1	Float Factor	0
Price (EOD)	125	Price (EOD)	0
Adjusted Opening Price	125	Adjusted Opening Price	0

The target company is dropped from the index.

FMC Weighted Index Treatment

The acquirer is a part of the index, but the target company is not:
There will be the change in the acquirer's index shares and float factor if the merger is an all-stock deal or cash + stock deal. (Please refer to the examples mentioned in the previous section for calculation.)

New index shares and float factor will be calculated considering the underlying data of the acquiring and target company. In an all-cash deal, there will be no changes to the acquirer's index shares or float factor.

Note: If target is not part of any Morningstar-maintained indexes, acquirer's index shares and float factor change are implemented at the next quarterly rebalancing.

The target is a part of the index, but the acquiring company is not:
The target company will be dropped from the index.

The acquirer and target are both part of the index:
There will be the change in the acquirer's index shares and float factor if the merger is an all-stock deal or cash + stock deal. (Please refer to the examples mentioned in the above section for calculation.)

New index shares and float factor will be calculated considering the underlying data of the acquiring and target company. The target company will be dropped from the index. In an all-cash deal, there will be no changes to the acquirer's index shares or float factor.

Alternate-Weighted Index Treatment

The acquirer is a part of the index, but the target company is not:
There will be the change in the acquirer's AWF factor since the total shares outstanding and the float factor will change for the acquiring company for an all-stock deal or cash + stock deal.

A new AWF factor will be calculated based on the new total shares outstanding and float factor considering the underlying data of the acquiring and target company. This is done to neutralize the effect of increase in index shares of acquirer.
In an all-cash deal, there will be no changes to the acquirer's index shares, float factor, or AWF.
Note: If target is not part of any Morningstar-maintained indexes, acquirer's index shares and float factor change are implemented at the next quarterly rebalancing.

The target is a part of the index, but the acquiring company is not:
The target company will be dropped from the index and the weights will be distributed proportionally to all the remaining constituents of the index.

The acquirer and target are both part of the index:
There will be the change in the acquirer's AWF factor since the total shares outstanding and the float factor will change for the acquiring company for an all-stock deal or cash + stock deal.

A new AWF factor will be calculated based on the new total shares outstanding and float factor considering the underlying data of the acquiring and target company. This is done to neutralize the effect of the increase in index shares of the acquirer. The target company will be dropped from the index. In an all-cash deal, there will be no changes to the acquirer's index shares or float factor.
Calculation of New Acquiring Company AWF for Alternate-Weighted Indexes on Ex-Date:

Acquiring Company New AWF= ((Acquiring Company Market Value + Target Company Market Value) / (Acquiring Company Market Value)) * Acquiring Company Old AWF

Where,
Acquiring Company Market Value = Acquiring Company TOS * Acquiring Company Close Price * Acquiring Company Float Factor * Acquiring Company Old AWF

Target Company Market Value = Target Company TOS * Target Company Close Price * Target Company Float Factor * Target Company AWF

Note: For the above calculations:
Acquiring company old AWF is the AWF of the Parent security as of previous day close of target drop ex-date.
Acquiring company market value is calculated using values as of previous day close of target drop ex-date.
Target company market value is calculated using values as of previous day close of target drop ex-date.

Bankruptcy and Financial Distress

Bankrupt securities are generally ineligible to be an index constituent. Morningstar Indexes will provide a minimum of two days' notice for any companies that become bankrupt, and the security has to be removed from the index.

- 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 two days' notice.
- If the trading of a security is halted or it is delisted from its usual exchange, it is deleted at a zero price.
- For U.S. companies, the security will be removed at the over-the-counter 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.

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 tradable exchange. A security is generally dropped from all Morningstar indexes on or around its expected delisting date with minimum two days' notice. 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 target company drop price is determined as per the merger pricing methodology explained in the Mergers and Acquisitions section. The adjustment of weight for the acquirer and the deletion of the target company from the index are carried out simultaneously.

- 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 two days' notice.
- If the trading of a security is halted or it is delisted from its usual exchange, it is deleted at a zero price.
- For U.S. companies, the security will be removed at the over-the-counter 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.

In cases where a security is delisted from the primary exchange but continues to be listed on some other exchange, Morningstar Indexes will apply the following treatment:

- If the new primary exchange is covered by Morningstar and shares of the new primary exchange are fungible, shares on the new exchange will replace the dropped listing.
- In cases where the new primary exchange is not covered by Morningstar or shares are not fungible with the new exchange, the new listing will generally not be added. However, the Morningstar Indexes Operation Committee may review these cases and decide to take a different course.

Stock Suspension

Long-Term Suspension

Stocks that have been suspended for at least 60 consecutive business days are reviewed for possible index deletion at the next reconstitution or rebalance. These reviews reference the last business day of February, May, August, and November. Morningstar will provide advance notice that a stock will be removed at a zero price at the next rebalancing following the quarterly suspension evaluation.

While stocks are suspended, Morningstar carries forward the last available market closing price and freezes the index shares for those that are suspended. Stocks with pending corporate actions or those that are scheduled to resume trading are typically not deleted from the indexes. Morningstar does not consider restructuring as a corporate action for this purpose, except for Chinese companies. Companies other than Chinese companies with pending restructuring event will be deleted from index if it's suspended for at least 60 consecutive business days without scheduled trading resumption. Chinese companies (including A, B, and H shares) going through restructuring events will not be deleted from the indexes until the stock resumes trading.

Stocks suspended for less than 60 business days, as of the quarterly evaluation date, are reviewed for deletion at the following quarterly review. If a stock resumes trading after Morningstar's announcement that the stock will be deleted, the Morningstar Index Operation Committee may reevaluate the deletion decision.

During reconstitution, if a suspended security fails to meet the eligibility criteria for the parent index (Morningstar Global Markets Index or Morningstar Global All Cap TME Index), it will be dropped from the Morningstar equity index universe with advance notice following the 60-day suspension rule or when it resumes trading. If there is movement of the suspended security within the parent index (for example, mid-cap to small-cap), all index share changes will be frozen until the next reconstitution or when it resumes trading. The security will be reviewed at the next reconstitution as per the standard process.

Short-Term Suspension

If it is known in advance that the stock will be suspended from trading, corporate actions (even if quoted ex by the exchange) are not recognized until trading resumes. However, if information about a suspension is not available and a corporate action has been recognized for that day then the adjusted prices due to implemented corporate actions will be carried until trading resumption.

Rebalancing Share/Float Changes

For stocks suspended for less than 60 consecutive business days with no information regarding the date when the stock will resume trading or information that the stock will resume after the rebalancing effective date, no share or IWF changes will be applied at the rebalancing.

Index committee discretion can be used when determining whether or when to implement a corporate action for a suspended stock.

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 corporate actions, they will be moved to the next trading date.

Nonmandatory Corporate Action Methodology

Material share changes and corresponding float changes resulting from nonmandatory actions are implemented between index rebalances based on the accelerated (weekly) implementation schedule. Share changes deemed non-material and related float changes are implemented quarterly, provided those events meet the review threshold, as outlined in the Annual and Quarterly Review Process section. This is intended to reduce unnecessary turnover by aggregating smaller share changes and implementing them with the next quarterly rebalancing. Please refer to the respective individual index methodology for any deviations from this policy.

Accelerated Implementation Rule

Nonmandatory corporate actions like public offerings, split-off exchange offers, Dutch auctions, self-tender offer buybacks as well as concurrent share repurchase events accompanied by other nonmandatory events are subject to accelerated implementation (implemented weekly) if they meet at least one of the following materiality thresholds:

- The size of the offering is more than USD 150 million and the share change is more than 5%, or
- The size of the offering is more than USD 1 billion, even if the share change is below the 5% threshold.

Nonmandatory corporate actions that were eligible as per the accelerated implementation rule above but not updated owing to a lack of information will be implemented the subsequent week when the data becomes available. When the price is in a non-US currency, it is converted into US dollars using the foreign-exchange rate on the day before the pricing date.

Nonmandatory Corporate Action Announcement and Effective Date

Nonmandatory corporate action resulting in material share change will be announced to clients every Friday and made effective on the Thursday of the following week. If Thursday is a holiday, the share change and corresponding float changes will be effective on the next business day.

If a security does not trade for any reason at the close date of the corporate action effective date, the event will be implemented on the day when the security resumes trading.

These changes are not implemented during the freeze period that begins after the market close on the Wednesday 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.

All share changes and corresponding float changes that are not implemented during the freeze period will be announced on the third Friday of the rebalancing month and made effective on Thursday following the third Friday of the rebalancing month. In case Thursday is a calendar holiday, the change will be effective on the next business day.

Multiple Share Class

For companies with multiple share classes, the accelerated implementation rule applies to each individual share class. For Indonesian companies with multiple share series attached to a share class, Morningstar will use the consolidated number of series shares in the index calculation.

Exception to Multiple Share Class

Berkshire Hathaway Inc. (NYSE:BRK.B) is an exception to the Multiple Share Class rule. Because of investability issues, BRK.A shares will be aggregated with share class B (BRK.B).

Brazil Units

Brazil units are securities listed on a stock exchange, representing underlying common and preferred shares. Morningstar indexes derive the unit number by dividing the total of underlying common and preferred shares by the units ratio.

Depositary Receipts

Depositary Receipts, or DRs, are calculated by multiplying the underlying shares by the DR ratio. The DR ratio represents the number of foreign shares represented by a single DR.

Examples

Case 1: XYZ Inc. Share Change > 5% of the total shares before event and size of event > USD 150 million

XYZ Inc. announces public offering effective on March 1, 2023. XYZ Inc. offers 970,000,00 shares to shareholders.

After Event Total Shares	Before Event Total Shares	Before Event USD Closing Price
757,302,529	660,302,529	4.75

Index Treatment
% Change in Total outstanding shares, or TOS = (After Event TOS - Before Event TOS)/ (Before Event TOS) = 14.69%
Size of Event (in USD) = (Before Event USD Closing Price) *(After Event TOS - Before Event TOS) = USD 460,750,000

Since share change is greater than 5% and the size of event is greater than USD 150 million, share change will be announced on March 3, 2023 (Friday), and made effective on March 9, 2023 (Thursday of next week).

Case 2: XYZ ltd. Share Change < 5% of the total shares before event and size of event > USD 150 million

XYZ ltd. announces public offering effective on March 1, 2023. XYZ Inc. offers 32,354,823 shares to shareholders.

After Event Total Shares	Before Event Total Shares	Before Event USD Closing Price
692,657,352	660,302,529	4.75

Index Treatment
% Change in TOS= (After Event TOS - Before Event TOS)/ (Before Event TOS) = 4.90%
Size of Event (in USD) = (Before Event USD Closing Price) *(After Event TOS - Before Event TOS) = USD 15,36,85,409.25

This share change does not meet implementation criteria, as this change is less than 5% and the size of event is greater than USD 150 million, hence share change will be implemented during the next rebalancing period.

Case 3: XYZ ltd. Share Change < 5% of the total shares before event and size of event > USD 1 billion

XYZ ltd. announces equity share conversion from Class A to Class B effective on March 1, 2023. Both share classes are part of the Morningstar-maintained index. Share conversion results in issuance of new 32,354,823 equity shares.

After Event Total Shares	Before Event Total Shares	Before Event USD Closing Price
692,657,352	660,302,529	35.71

Index Treatment
% Change in TOS = (After Event TOS - Before Event TOS)/ (Before Event TOS) = 4.90%
Size of event (in USD) = (Before Event USD Closing Price) *(After Event TOS - Before Event TOS) = USD 1,155,390,729.33

Share change is less than 5% but the size of event is greater than USD 1 billion, hence share change will be announced on March 3, 2023 (Friday of week), and made effective on March 9, 2023 (Thursday of next week).

Case 4: XYZ Inc. Share Change > 5% of the total shares before event and size of event > USD 150 million

XYZ Inc. announces share-buyback program effective on March 1, 2023. XYZ Inc. repurchased 970,000,00 equity shares from its shareholders.

After Event Total Shares	Before Event Total Shares	Before Event USD Closing Price
563,302,529	660,302,529	4.75

Index Treatment
% Change in TOS = (After Event TOS - Before Event TOS)/ (Before Event TOS) = 14.69%
Size of Event (in USD) = (Before Event USD Closing Price) *(After Event TOS - Before Event TOS) = USD 460,750,000

Repurchased shares will be deducted to derive after event TOS. Since share change is greater than 5% and the size of the event is greater than USD 150 million, share change will be announced on March 3, 2023 (Friday), and made effective on March 9, 2023 (Thursday of next week).

Case 5: Illustration Showing the Impact of Change Implementation of Float for Nonmandatory Material Events from Quarterly to Accelerated (Weekly)

XYZ Inc. announces a public offering of 100,000 shares effective Aug. 1, 2024. The current shares of the company stand at 1,000,000 and the float at 70% (700,000 float shares).

Index Treatment

Before Event Total Shares	Before Event Free Float	After Event Total Shares	After Event Free Float
1,000,000	0.70	1,100,000	0.73*

Index Treatment

After Event TOS Calculation = Old TOS + Delta Event TOS
= 1,000,000+100,000
= 1,100,000

After Event Float Calculation = (Old Float Shares + Delta Event Float Shares)/ (After Event TOS)
= (700,000+100,000*)/ (1,100,000)
= 800,000/1,100,000
= 0.73

** Note: Since the event is a public offering, assuming it to be float shares and accordingly implementing the terms. As per the previous treatment (quarterly implementation), the float would have remained unchanged at 0.70.*

Annual and Quarterly Review Process

The annual review of Total Shares Outstanding and Free Float will be implemented coinciding the June Reconstitution cycle using the data as of cutoff date of last business day of April. Only Total Share changes of more than 1% (relative) and Free Float changes of more than 1% (absolute) will be implemented to avoid unnecessary turnover due to insignificant changes.

The quarterly review of Total Shares Outstanding and Free Float will be implemented coinciding the September, December and March reconstitution/rebalance cycle using the data as of cutoff date of last business day of July, October, and January, respectively. The Total Shares Outstanding changes will be implemented if it meets the either of the following conditions:

1. Total Shares Outstanding change is more than 5% and Total Market Cap change is more than 100 million USD
2. Total Market Cap change is more than 500 million USD

Free Float will be reviewed for securities with Total Shares Outstanding changes and will be implemented if the change is more than 1% (absolute).

The Total Shares Outstanding and Free Float changes due to mandatory and material voluntary corporate events between the data cutoff and the reconstitution effective date will be implemented as per the respective corporate action methodology. Please refer to the respective sections for more information.

Securities with confirmed delisting, bankruptcy, tender offers, and mergers/acquisitions as of the reconstitution reference dates, that would have otherwise resulted in a removal after the reconstitution effective date, will be removed and replaced at the reconstitution.

Exceptions

While Morningstar will seek to apply the method described above, 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 relevant Morningstar Index Methodology Committee, and in all instances, the application of a nonstandard process will be reported to the Morningstar Index Oversight Committee.

Methodology Update History

Version	Date	Description
1	June 2023	First published version
2	September 2023	Added Additional Weight Factor section, Corporate Action Category section Added Long term suspension treatment during reconstitution Added accelerated implementation rule content, Multiple share class, Brazil units section under Nonmandatory Corporate Action methodology
3	November 2023	Updated $AWF_{i,new}$ formula under Additional Weight Factor section
4	March 2024	Added Annual and Quarterly Review Process section Updated suspended/halted target pricing methodology under Merger & Acquisition section
5	May 2024	Updated Theoretical ExRight Price (TERP) formula in Rights offering (Issue) section to account rights not entitled to upcoming dividend scenario
6	June 2024	Updated Alternative Weighted Indexes- Index shares calculation under the Rights offering (Issue) section
7	July 2024	Updated the Special Dividend section. Under the new methodology, non-ordinary dividends will be recognized as special if they exceed 5% of the stock price. Previously, non-ordinary dividends were recognized as special until the third consecutive instance of that distribution, based on timing, not amount. Under the new treatment, special dividends are also recognized as taxable. This new methodology is effective from 1 August 2024 on.
8	October 2024	Added Korean rights offering treatment to the Rights Offering (Issue) section.
9	December 2024	Updated the Nonmandatory Corporate Action section for implementing float changes arising from material nonmandatory events. Under the new rule, which is effective from December 20, 2024, changes in float from such events will be implemented along with share changes, based on the terms of the events. Previously, changes in float arising from such events were only updated quarterly. Added index treatment for the issuance of other asset types under the Stock Dividend, Rights Offering (Issue), Spinoff, Merger and Acquisitions sections.

		Added index treatment for the Indian rights offering of partly paid-up shares under the Rights Offering (Issue) section.
10	April 2025	Added details on forthcoming dividend entitlement treatment in Rights Offering (Issue) section.
11	August 2025	Updated Merger- Target closing price formula for suspended companies in stock-based mergers.

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.

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