

MSCI VOTING RIGHTS-ADJUSTED INDEXES METHODOLOGY

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1 INTRODUCTION

The MSCI Voting Rights-Adjusted Indexes (“Indexes”) specifically include voting rights in the weighting criteria and construction methodology. These indexes have been developed for use by institutional investors seeking equity benchmarks adjusted to reflect voting rights in addition to standard criteria such as size, liquidity and free float.

The MSCI Voting Rights-Adjusted Indexes aim to better align constituent weights with economic rights and voting power, while continuing to represent the performance of a broad opportunity set. With this intent, the Indexes are designed to adjust the weights of unequal voting structures to reflect differential voting power, in addition to the use of free float market capitalization.

The Indexes are based on the MSCI Global Investable Market Indexes (“Parent Indexes”) and are currently available for the Standard size-segment in Developed and Emerging Markets. The methodology book for the MSCI Global Investable Market Indexes is available at: <https://www.msci.com/index-methodology>.

2 CONSTRUCTING THE MSCI VOTING RIGHTS-ADJUSTED INDEXES

2.1 ELIGIBLE UNIVERSE

The eligible universe for the MSCI Voting Rights-Adjusted Indexes is defined by the constituents of the Parent Indexes.

2.2 WEIGHTING CRITERIA

The Indexes incorporate voting rights to determine the weight of securities in the eligible universe.

The calculation of the MSCI Voting Rights-Adjusted Indexes is identical to the calculation of the Parent Indexes except that the MSCI Voting Rights-Adjusted Indexes use the Vote-Adjusted Foreign Inclusion Factor (VFIF) in the calculation of the index market capitalization, while the Parent Indexes use the Foreign Inclusion Factor (FIF)¹.

The VFIF is calculated for each security in the eligible universe. The VFIF considers both the free float and the voting power. The security's VFIF is lower than the security's FIF in the case of "unequal voting structures", defined as companies that provide less voting power than economic rights to their free float shareholders. Conversely, if the free float shareholders have voting power equal to or greater than the economic rights, the security's VFIF is equal to the security's FIF.

The calculated value for the security's VFIF is equal to zero for securities of companies that do not provide any voting rights to their free float shareholders. This results in the exclusion of such securities from the Indexes.

The calculation details are provided below.

2.2.1 CALCULATION FORMULAE

Vote-Adjusted Foreign Inclusion Factor (VFIF)

The security's Vote-Adjusted Foreign Inclusion Factor (VFIF) is calculated as follows:

$$VFIF = MIN [(Float * VAF), FOL] * Foreign Room Adj. Factor * Liquidity Adj. Factor$$

¹ For the definition of FIF, please refer to section 2.2.6 of the MSCI Global Investable Market Indexes methodology book. For details on the calculation of the index market capitalization, please refer to section 1.1.1 of the MSCI Index Calculation methodology book.

Where:

- *Float* = security’s free float², rounded as follows:
 - For securities with free float greater than 15%, the rounded free float is equal to the estimated free float, rounded up to the closest 5%
 - For securities with free float less than 15%, the rounded free float is equal to the estimated free float, rounded to the closest 1%
- *VAF* = Voting Adjustment Factor for the security’s issuer (see formula below)
- *FOL* = security’s Foreign Ownership Limit²
- *Foreign Room Adj. Factor* = adjustment factor applied to the security in the Parent Index due to low foreign room
- *Liquidity Adj. Factor* = Liquidity Adjustment Factor applied to the security in the Parent Index

Voting Adjustment Factor

The Voting Adjustment Factor (VAF) is calculated at an issuer level and is applicable to all the securities of the issuer.

The issuer’s VAF is calculated as follows:

$$VAF = MIN\left(\frac{\text{Company Free Float Voting Power}}{\text{Company Free Float}}, 1\right)$$

The Company Free Float Voting Power is the proportion of the issuer’s voting rights held by the free float shareholders and is calculated as follows:

Company Free Float Voting Power

$$= \frac{\sum NOS_i * Float_i * Votes\ per\ Share_i * VRestr\ Items_i * VRestr\ Directors_i * VRestr\ Foreigners_i}{\sum NOS_i * Votes\ per\ Share_i * VRestr\ Items_i * VRestr\ Directors_i}$$

² For the definition of free float and the calculation of Foreign Ownership Limits, please refer to Appendix V of the MSCI Global Investable Market Indexes methodology book.

The Company Free Float is the proportion of the issuer’s share capital held by the free float shareholders and is calculated as follows:

$$Company\ Free\ Float = \frac{\sum NOS_i * Float_i * 50days\ Median\ Price_i}{\sum NOS_i * 50days\ Median\ Price_i}$$

Where:

- *i* = security *i* of the issuer. The following securities are considered in the calculations:
 - All securities in the MSCI Equity Universe, as defined in the MSCI Global Investable Market Indexes methodology
 - All securities that have only voting rights but no economic rights (i.e., no rights to receive dividends or liquidation proceeds)
- *NOS_i* = number of shares of security *i*
- *Float_i* = free float of security *i* (see details under the VFIF formula)
- *Votes per Share_i* = number of votes per share of security *i*
 - If the voting rights are adjusted upon occurrence of a specific event, MSCI uses the number of votes under the scenario that the event does not occur³
- *VRestr Items_i* = voting restrictions factor on agenda items for security *i*
 - Equals to 0 in the following scenarios, otherwise equals to 1:
 - (applies to all agenda items except for the election of Directors): Shareholders of security *i* are restricted from voting on agenda items that can be voted on by shareholders of other securities of the issuer
 - (applies only to the election of Directors): Shareholders of security *i* do not have the right to elect any Directors
- *VRestr Directors_i* = voting restrictions factor on the election of Directors for security *i*

³ Examples:

- The votes per share equals to 0 if shareholders get voting rights only if they are not paid any dividends
- The votes per share applicable to a new shareholder is used if shareholders get increased voting rights after holding their shares during a given period

- Equals to 0 in the following scenarios, otherwise equals to 1:
 - Shareholders of security i have the exclusive right to elect certain Directors but cannot vote on the election of other Directors, and the proportion of Directors that they can elect is lower than the minimum of the voting power and percentage economic rights of security i ⁴
 - Shareholders of security i have the right to elect certain Directors only, while other securities of the issuer have the right to elect all Directors⁵
- $VRestr Foreigners_i$ = voting restrictions factor on foreign investors for security i
 - Equals to 0 if the company restricts all foreign shareholders of security i from voting, otherwise equals to 1⁶
- $50days Median Price_i$ = median of the closing prices in USD for security i in the last 50 days of trading
 - The trading days are defined as days during which all the issuer's listed securities had trading volume greater than zero
 - For unlisted securities, the closing prices in USD are determined as the closing prices in USD of the reference listed security times the unlisted conversion factor
 - In case a security was subject to Price Adjustment Factor(s) (PAF) due to a corporate event during the calculation period, the prices are adjusted accordingly so they remain comparable throughout the period

The issuer VAF calculation does not take into account the existence of special purpose non-voting instruments (e.g., Non-Voting Depositary Receipts (NVDRs) in Thailand and CPOs in Mexico) issued in the context of regulatory restrictions on foreign investors' voting rights.

⁴ See Appendix 1 for details on the calculation of security voting power and security percentage economic rights.

⁵ This restriction may be ignored if the voting power of security i on the election of Directors is specifically increased to compensate for the security's otherwise low voting rights.

⁶ Voting restrictions on foreign investors that are driven by regulation are not considered.

3 MAINTAINING THE MSCI VOTING RIGHTS-ADJUSTED INDEXES

3.1 INDEX REVIEWS

The MSCI Voting Rights-Adjusted Indexes are reviewed on a quarterly basis to coincide with the regular Semi-Annual and Quarterly Index Reviews of the Parent Indexes. The changes are implemented as of the close of the last business day of February, May, August and November.

The pro forma Indexes are generally announced nine business days before the index review effective date.

3.1.1 SEMI-ANNUAL INDEX REVIEWS

During the Semi-Annual Index Reviews, the MSCI Voting Rights-Adjusted Indexes are fully reviewed to reflect all changes in the Parent Indexes – including additions, deletions and updates to the relevant security attributes used in the calculation of the security Vote-Adjusted Foreign Inclusion Factors (VFIFs).

In addition, the factors specific to the MSCI Voting Rights-Adjusted Indexes are reviewed for all securities of issuers included in the pro forma Parent Index:

- Votes per share
- Voting restrictions factor on agenda items
- Voting restrictions factor on the election of Directors
- Voting restrictions factor on foreign investors
- 50-days median price

For such factors, the data cutoff dates are as follows:

- Votes per share and voting restrictions factors: Equity Universe Cutoff Date of the Parent Indexes
- 50-days median price: Price Cutoff Date of the Parent Indexes

The votes per share and voting restrictions factors are fully reviewed and updated as of the Price Cutoff Date for issuers that have securities added to the Parent Index as part of the Index Review.

The votes per share and voting restrictions factors information is primarily sourced from the company’s annual reports and accounts. Additionally, MSCI may use other sources such as proxy statement, Articles of Association and Corporate Governance report.

3.1.2 QUARTERLY INDEX REVIEWS

During the Quarterly Index Reviews, the MSCI Voting Rights-Adjusted Indexes are fully reviewed to reflect all changes in the Parent Indexes – including additions, deletions and updates to the relevant security attributes used in the calculation of the security Vote-Adjusted Foreign Inclusion Factors (VFIFs).

The Voting Adjustment Factor (VAF) generally remains unchanged as part of the Index Review except for:

- Issuers that have securities added to the Parent Index as part of the Index Review
- Issuers for which the set of securities used in the VAF calculation changes as part of the Index Review (i.e., issuers with securities newly used or no longer used in the VAF calculation)

The factors specific to the MSCI Voting Rights-Adjusted Indexes are reviewed for securities of these issuers to determine the VAF:

- Votes per share
- Voting restrictions factor on agenda items
- Voting restrictions factor on the election of Directors
- Voting restrictions factor on foreign investors
- 50-days median price

For such factors, the data cutoff dates are as follows:

- Votes per share and voting restrictions factors: Equity Universe Cutoff Date of the Parent Indexes
- 50-days median price: Price Cutoff Date of the Parent Indexes

The votes per share and voting restrictions factors are fully reviewed and updated as of the Price Cutoff Date for issuers that have securities added to the Parent Index as part of the Index Review.

The votes per share and voting restrictions factors information is primarily sourced from the company’s annual reports and accounts. Additionally, MSCI may use other sources such as proxy statement, Articles of Association and Corporate Governance report.

3.2 ONGOING EVENT-RELATED MAINTENANCE

The MSCI Corporate Events Methodology is applied for the maintenance of the MSCI Voting Rights-Adjusted Indexes between index reviews.

All changes implemented in the Parent Indexes due to corporate events are simultaneously reflected in the MSCI Voting Rights-Adjusted Indexes, including additions, deletions and updates to all relevant security attributes used in the calculation of the security Vote-Adjusted Foreign Inclusion Factors (VFIFs).

The Voting Adjustment Factor (VAF) generally remains unchanged at the time of the event except for the following corporate events:

- New additions to the Parent Indexes (i.e., IPOs and other early inclusions), including migrations;
- Corporate events leading to the creation or the deletion of a constituent share class (i.e., conversion, split/addition, acquisition with impact on voting structure⁷);
- Corporate events leading to more than 50% increase in the full market capitalization of the company;
- Spin off cases where the spun off company has a voting structure⁷ which is different from the one of the parent company.

For corporate events leading to the addition of a new security to the Parent Indexes at the time of the event, but not meeting the abovementioned criteria, the Voting Adjustment Factor (VAF) of the new security will be:

- Equal to the VAF of the spinning off entity, in case of spin off cases where the voting structure⁷ of the spun off company is equal to the one of the spinning off company;
- Equal to the VAF of the linked security in case of merger and acquisitions.

⁷ "Voting structure" is defined as the universe of securities of an issuer used in the calculation of the VAF and the securities' votes per share and voting restriction factors.

APPENDIX 1: ADDITIONAL CALCULATIONS ON VOTING RESTRICTIONS

As per section 2.2.1, the voting restrictions factor on the election of Directors for security i ($VRestr_{Directors_i}$) equals to 0 if shareholders of security i have the exclusive right to elect certain Directors but cannot vote on the election of other Directors, and the proportion of Directors that they can elect is lower than the minimum of the voting power and percentage economic rights of security i .

The security voting power is calculated as follows:

$$Security\ Voting\ Power = \frac{NOS * Votes\ per\ Share}{\sum NOS_i * Votes\ per\ Share_i}$$

The security percentage economic rights is calculated as follows:

$$Security\ Economic\ Rights\ (\%) = \frac{NOS * 50days\ Median\ Price}{\sum NOS_i * 50days\ Median\ Price_i}$$

Where:

- i = security i of the issuer (see section 2.2.1 for details)
- NOS , $Votes\ per\ Share$ and $50days\ Median\ Price$ are defined in section 2.2.1

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