

S&P Float Adjustment *Methodology*

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Introduction

The majority of S&P Dow Jones Indices' market capitalization-weighted indices are float-adjusted. Under float adjustment, the share counts used in calculating the indices reflect only those shares available to investors rather than all of a company's outstanding shares. Float adjustment excludes shares that are closely held by control groups, other publicly traded companies or government agencies.

With a float-adjusted index, the value of the index reflects the value available in the public markets. Further, reducing the relative investment index investors have in stocks with limited float should enhance the investability of the index.

Index Family

The float adjustment rules described here apply to the global S&P Dow Jones family of indices, including the S&P U.S. indices (S&P 500, S&P MidCap 400, S&P SmallCap 600 and S&P TMI/CI), the S&P Global 1200 and related indices, as well as many specialty indices.

Float adjustment does not apply to equal-weighted, attribute-weighted and other specialty indices, which are not capitalization weighted.

Since there may be regional exceptions to the general rules on float-adjustment, please refer to individual index methodologies for information that may not be contained in this document.

Float Adjustment Rules

The goal is to distinguish between strategic (control) shareholders, whose holdings depend on concerns such as maintaining control rather than the economic fortunes of the company, and those holders whose investments depend on the stock's price and their evaluation of a company's future prospects. Holdings of stock in one corporation by another corporation are normally for control, not investment, purposes. Likewise, most government holdings are not investments made because a stock is expected to appreciate or the government entity is managing its excess funds through equity investments.

Shareholders concerned with control of a company generally include:

1. Officers and Directors (O+D) and related individuals whose holdings are publicly disclosed
2. Private Equity, Venture Capital & Special Equity Firms
3. Shares held for control by another Publicly Traded Company
4. Strategic Partners
5. Holders of Restricted Shares
6. ESOPs
7. Employee and Family Trusts
8. Foundations associated with the Company
9. Holders of Unlisted Share Classes of Stock
10. Government Entities at all levels except Government Retirement/Pension Funds
11. Any individual person listed as a 5% or greater stakeholder in a company as reported in regulatory filings (a 5% threshold is used as detailed information on holders and their relationship to the company is generally not available).

Share owners acting as investors will consider changes in the stock's price, earnings or the company's operations as possible reasons to buy or sell the stock. They hold the stock because they expect it to appreciate in value and believe the stock offers better risk and return opportunities than other investments. Further, a sharp rise or fall in the stock's price could be a reason to adjust their positions. It is common for domestic and international fund managers to have exposures in companies which put them in the category of "block owners" by most definitions. However, the nature of the fund management business is to buy and sell shares when there is value in doing so, and not to seek control or remove shares from circulation. Ordinarily these shares are considered part of the float. Mutual funds, ETF providers, asset managers, pension plans and other institutional investors are usually in this category. The fact that an institutional investor has held a block of shares for several years is not evidence that the block is being held for control rather than investment reasons. Rather, it merely suggests that the portfolio manager continues to see the stock as a good investment. Further, when the stock is held in an index fund, one would not expect to see substantial changes in the holdings.

The following holders' shares are generally considered part of float:

1. Depository Banks
2. Pension Funds
3. Mutual Funds & ETF providers
4. 401K Plans of the Company
5. Government Retirement/Pension funds

6. Investment Funds of Insurance Companies
7. Asset Managers and Investment Funds
8. Independent Foundations
9. Savings and Investment Plans

A company's annual report, regulatory filings, proxy or 10-K may include listings of some equity-like securities that are not included in total shares outstanding and need not be considered in calculating available float. These generally include treasury stock, stock options, equity participation units, warrants, preferred stock, convertible stock and rights. Due to local reporting patterns in some markets, S&P Dow Jones Indices may include treasury shares in total shares outstanding but exclude them from float.

When shares are held in a trust to allow investors in countries outside the country of domicile, these shares are normally included in float. Examples include ADRs, CDIs, Canadian exchangeable shares and similar arrangements. If the holdings underlying ADRs, CDIs, etc. form a control block, those shares are excluded from float.

Using various public sources, S&P Dow Jones Indices gathers all public share ownership information for each company in our coverage universe. After adding up all O+D (as a group) and all 5% or greater holders deemed to be control holders as defined above, S&P Dow Jones Indices calculates an Investable Weight Factor (IWF) for each stock. S&P Dow Jones Indices uses a 5% minimum threshold for control blocks. For example, if O+D as a group controls 3% of a company's shares and no other control shareholders own a 5% or greater stake, then S&P Dow Jones Indices would assign this company an IWF of 1.00, indicating 100% of shares outstanding are freely tradable and available to the marketplace. If the same company's O+D controlled 7% of the company's share as a group, S&P Dow Jones Indices would assign that company an IWF of 0.93, reflecting the fact that only 93% of the shares outstanding are freely tradable and available to the marketplace. However, if O+D controlled 3% of a company's total shares and other control holders together own 20% of a company's total shares, S&P Dow Jones Indices would assign that company an IWF of 0.77, since 23% of the total shares outstanding are considered held for control. Please note that O+D shares are excluded from the float even if, as a group, the total O+D control block is less than 5%, provided that there are other control blocks greater than 5%, thus enabling total float to surpass the 5% minimum threshold.

Foreign investment limits are not applied to indices where the major users are domestic (e.g. the S&P 500, S&P/TSX 60); they are applied to regional or global indices where a significant portion of the index users are outside of the countries covered by the index (e.g., the S&P Global Equity Indices).

In most cases, Investable Weight Factors (IWFs) are reported to the nearest one percentage point.

Regional Variations

Canada. Canadian security filings provide data on complete holdings of officers and directors and holdings greater than 10% of other shareholders. However, a substantial number of Canadian companies are also listed on exchanges in the U.S. or other countries and may have shareholders with different reporting threshold requirements. For Canadian companies where holdings data at the 5% threshold are available, the float adjustment is based on 5%. Float adjustment of officers and directors of Canadian companies follows the rules listed above; holdings of less than 5% by officers and directors are removed from the float if there are other reported control holders of 5% or more. Since S&P Dow Jones Indices publishes several multi-country indices which include Canadian companies, such as the S&P/TSX Global Gold Index, global consistency is preferable wherever possible.

For Canadian companies listed only on Canadian exchanges, the Annual IWF Review will return to float status any individual shareholding under 10% that has not been disclosed in the previous 12 months. Note that shareholdings of officers and directors, as a group, will still be subject to the 5% ownership threshold since they are disclosed at least annually in the Annual Information Form.

Mexico. The S&P/BMV Indices follow the float adjustment methodology of the Bolsa Mexicana de Valores, S.A.B. de C.V. (BMV) as referenced in the S&P/BMV Indices Methodology available at www.spdji.com. All other S&P- and Dow Jones-branded indices follow S&P Dow Jones Indices' standard float adjustment methodology as detailed in this document.

Bangladesh. For Bangladesh-domiciled companies whose primary exchange is the Dhaka Stock Exchange, IWFs provided by the exchange are used at annual reviews.

India. Stakeholders with controlling interests of less than 5% are also considered in the calculation of the IWF for stocks listed on the Bombay Stock Exchange (BSE).

Japan. Individual shareholders and treasury shares with controlling interests of less than 5% are also considered in the calculation of the IWF.

Pakistan. Associate companies, Undertakings & Related parties as a group have been considered in the calculation of the IWF.

Calculation of Investable Weight Factors

For each stock an Investable Weight Factor (IWF) is calculated:

$$IWF = (\text{available float shares}) / (\text{total shares outstanding}) \quad (1)$$

where available float shares are defined as total shares outstanding less shares held by control holders.

The float-adjusted index is calculated:

$$\text{Index} = \frac{\sum_j (P_j S_j IWF_j)}{\text{Divisor}} \quad (2)$$

where P_j is the price of stock j , S_j is the total shares outstanding of stock j and IWF_j is the investable weight factor. The divisor is the index divisor.

Shares Outstanding

The precise definition of shares outstanding or the share count depends on the specific market and the laws and accounting principles that apply.

Multiple Share Classes of Stock

The treatment of multiple share classes of stock varies across S&P Dow Jones indices depending on local market custom and conditions. In those indices which include multiple share classes of stock – a company may have more than one share class line included in the index – each class is float-adjusted individually.

Foreign Investment Limits

Additionally, statutory limits on foreign ownership, also known as Degree of Freedom (DOF), are recognized and applied where necessary. Case by case research is needed to assess the impact of large foreign holdings within a foreign ownership restriction. The final IWF is one minus the larger of the sum of all strategic holdings or the statutory foreign ownership limit. DOFs are reviewed on a quarterly basis.

As stated in the prior section, foreign investment limits are not applied to indices where the major users are domestic (e.g. the S&P 500, S&P/TSX 60); they are applied to regional or global indices where a significant portion of the index users are outside of the countries covered by the index (e.g., the S&P Global BMI indices).

The first test of a stock's investability is determining whether the market is open to foreign institutions. S&P Dow Jones Indices considers factors such as a foreign institution's ability to buy and sell shares on local exchanges and its ability to repatriate capital, capital gains, and dividend income without undue constraints.

Once it is determined that a market is open to foreign investors, S&P Dow Jones Indices investigates each security that may be a candidate for inclusion in the S&P Global BMI, the S&P Frontier BMI, the S&P GCC Composite and other related indices. Each share class is reviewed to determine whether there are any corporate by-law, corporate charter, or industry limitations on foreign ownership of the stock.

Foreign investors may face limits on the amount of a company's capital they may hold individually, and separate limits on the amount they may hold collectively. S&P Dow Jones Indices considers the total amount of capital that foreign institutions may own collectively as the basis for determining a stock's DOF.

Examples of Restrictions on "Openness"

- Special classes of shares, such as A and B classes in China where foreign investors are restricted to B-class only.
- Sector restrictions, most commonly limiting foreign ownership of airlines, defense, energy producers, financial institutions, print and broadcast media and public utilities.
- Single foreign shareholder limits on general classes of shares, such as Brazil's rule of no more than 5% of the voting classes or 20% of aggregate capital, or Colombia's 10% limit per foreign investor. For example, in Colombia foreigners may own up to 100% of most listed companies, although no single foreigner may own more than 10%. In such a case, S&P Dow Jones Indices uses the aggregate amount which foreigners as whole might acquire, and thus considers 100% of the shares as available.
- Company statutes that impose limits which differ from national law. In such cases, S&P Dow Jones Indices uses the most restrictive limit. For example, if the national limit on foreign ownership is 49% but a company's articles of incorporation set a limit of 25%, S&P Dow Jones Indices uses a DOF of 25% for that company's capital.

The basic formula to calculate IWF considering DOF is:

$$IWF = \min \{1 - (\sum \text{strategic holders}), \text{ or the DOF}\}$$

Example:

Major shareholders for Security ABC

- Private Investors – Board of Directors/ Founders = 18%
- Corporate Holder – Company ZXC = 10%
- Government - Government Agency = 15%

Major shareholders own collectively = 18% + 10% + 15% = 43%

Amount left in the market (100 - 43%) = 57%

Foreign Investment limit (DOF) = 49%

Note: When comparing the smallest amount available to foreign investors, 49% DOF or 57% available in the market, the IWF is 49%.

Pan Arab Indices. S&P Dow Jones Indices' Pan Arab indices have further rules. While the concepts are exactly the same, the GCC markets use two different sets of DOFs:

1. One set of DOFs, the most restrictive, are used for all foreign investors. Foreign investors are defined as all investors who are not nationals of the GCC region. This would include investors from countries outside the region. This set is used for the calculation of the S&P Frontier BMI and the GCC Investable indices.
2. The second set of DOFs, which are less restrictive, are used for investors residing within the GCC region. These DOFs are used for the calculation of the GCC Composite indices.

Domestic Indices. In the domestic index versions of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE, there is no DOF considered in the IWF calculation. These indices are designed for domestic investors only, similar to the S&P 500, the S&P/ASX 200, and the S&P TSX 60.

Application of DOF in IWF calculation for indices for GCC countries and related regions

For indices in GCC regions, different DOFs are used in the Composite series (for GCC investors) and Investable series (for non-GCC foreign investors). While GCC and non-GCC foreign investors have separate applicable limits, their investment limits are not mutually exclusive. Therefore when determining the IWF, it is necessary to consider both the major holdings within the same category of investors (GCC and non-GCC foreign) and the combined holdings of the two types of holders. For each company, three initial calculations are necessary:

For cases where GCC DOF is higher or equal to foreign DOF

1. $1 - \text{sum of all strategic holders (without using DOF)}$
2. $\text{DOF (GCC)} - \text{sum of GCC and foreign strategic holders}$
3. $\text{DOF (foreign)} - \text{sum of foreign strategic holders}$

The IWF for domestic country would just be #1.

The IWF for Composite (GCC) would be the smaller of #1 or #2.

The IWF for Investable (foreign) would be the smallest of #1, #2 or #3.

Likewise, where Foreign DOF is higher than the GCC DOF

1. $1 - \text{sum of all strategic holders (without using DOF)}$
2. $\text{DOF (GCC)} - \text{sum of GCC strategic holders}$
3. $\text{DOF (foreign)} - \text{sum of foreign and GCC strategic holders}$

The IWF for domestic country would just be #1.

The IWF for Composite (GCC) would be the smallest of #1, #2 or #3.

The IWF for Investable (foreign) would be the smaller of #1 or #3.

Example 1 – A Kuwaiti company

Shareholder A (Block), from Bahrain has 27%

Shareholder B (Block), from U.S. has 10%

Foreign investment limit is: 20%

GCC investment limit is: 49%

$1 - \text{sum of all strategic holders} \Rightarrow 100 - (27+10) = 63\%$

$\text{DOF (GCC)} - \text{sum of GCC and foreign strategic holders} \Rightarrow 49 - (27 + 10) = 12\%$

$\text{DOF (foreign)} - \text{sum of foreign strategic holders} \Rightarrow 20 - 10 = 10\%$

For the Kuwait domestic index, the IWF = 63%

For the Composite series, the IWF = min (#1 or #2) = 12%

For the Investable series, the IWF = min (#1, #2, #3) = 10%

Example 2 – the same Kuwaiti company with the GCC holder from Bahrain owning 35%

Shareholder A (Block), from Bahrain has 35%

Shareholder B (Block), from U.S. has 10%

Foreign investment limit is: 20%

GCC investment limit is: 49%

1 – sum of all strategic holders => 100 – (35+10) = 55%

DOF (GCC) – sum of GCC and foreign strategic holders => 49 – (35 + 10) = 4%

DOF (foreign) – sum of foreign strategic holders => 20 – 10 = 10%

For the Kuwait domestic index, the IWF = 55%

For the Composite series, the IWF = min (#1 or #2) = 4%

For the Investable series, the IWF = min (#1, #2, #3) = 4%

Investable Weight Factor Maintenance

Rebalancing Frequency

Investable Weight Factors (IWFs) are reviewed annually based on the most recently available data filed with various regulators and exchanges. For the S&P Dow Jones indices, revised IWFs are applied either prior to the open of the Monday after the third Friday of September or a date that is more appropriate for a particular index family. For example, the S&P Global BMI constituents' new IWFs are applied at the annual reconstitution at the open of the Monday after the third Friday of September; for the S&P Frontier BMI index constituents, revised IWFs are applied at the annual reconstitution at the open of the Monday after the third Friday of March.

Please refer to individual index methodologies for specifics on IWF rebalancing schedules.

Updates. Changes in IWFs resulting from corporate actions which exceed five percentage points will be implemented as soon as possible or weekly depending on index methodology; changes of less than five percentage points are implemented at the next annual review.

Index Data

Data Distribution

Investable Weight Factors (IWFs) are provided with other index data as part of regular S&P Dow Jones Indices' index data distribution. Supporting documentation such as government or regulatory filings is not normally distributed.

Index Governance

Index Committee

Questions of interpretation or possible exceptions to float adjustment rules are considered by the Index Committee responsible for the indices in question. There is no separate committee for float adjustment.

Index Policy

To the maximum extent possible, S&P Dow Jones Indices seeks to float adjust all market capitalization indices and to apply consistent and uniform rules across all its indices.

Index Precision

In most cases, Investable Weight Factors (IWFs) are reported to the nearest one percentage point.

Appendix

Methodology Changes

Methodology changes since January 1, 2017 are as follows:

Change	Effective Date (After Close)	Previous	Methodology Updated
Frequency of DOF reviews	03/21/2017	--	Language has been added to indicate that all statutory limits on foreign ownership, also known as Degree of Freedom (DOF), are reviewed on a quarterly basis.

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