

# S&P Dow Jones Indices

A Division of **S&P Global**

# S&P Quality FCF Aristocrats Indices *Methodology*

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# Introduction

## Index Objective and Highlights

The S&P Quality FCF Aristocrats Indices measure the performance of companies within an underlying index universe that have had positive free cash flow (FCF) for at least 10 consecutive years and simultaneously have high FCF margin and high FCF return on invested capital (ROIC).

## Index Family

The S&P Quality FCF Aristocrats Indices consist of the following:

- S&P 500 Quality FCF Aristocrats Index
- S&P Developed Quality FCF Aristocrats Index

## Supporting Documents

This methodology is meant to be read in conjunction with supporting documents providing greater detail with respect to the policies, procedures and calculations described herein. References throughout the methodology direct the reader to the relevant supporting document for further information on a specific topic. The list of the main supplemental documents for this methodology and the hyperlinks to those documents is as follows:

Supporting Document	URL
S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology	<a href="#">Equity Indices Policies &amp; Practices</a>
S&P Dow Jones Indices' Index Mathematics Methodology	<a href="#">Index Mathematics Methodology</a>
S&P Dow Jones Indices' Float Adjustment Methodology	<a href="#">Float Adjustment Methodology</a>
S&P Dow Jones Indices' Global Industry Classification Standard (GICS) Methodology	<a href="#">GICS Methodology</a>

This methodology was created by S&P Dow Jones Indices to achieve the aforementioned objective of measuring the underlying interest of each index governed by this methodology document. Any changes to or deviations from this methodology are made in the sole judgment and discretion of S&P Dow Jones Indices so that the index continues to achieve its objective.

# Eligibility Criteria

## Index Universe

At each rebalancing, the index universe is all constituents of the respective underlying index (see table below).

Index	Underlying Index
S&P 500 Quality FCF Aristocrats	S&P 500
S&P Developed Quality FCF Aristocrats	S&P Developed LargeMidCap

## Eligibility Factors

As of each rebalancing reference date, stocks in the index universe must satisfy the following to be eligible for index inclusion:

- **GICS Classification:** not be classified in the following GICS categories:
  - Real Estate Sector (60)
  - Banks (4010)
  - Insurance (4030)
  - Mortgage Real Estate Investment Trusts (REITs) (402040)
  - Specialized Finance (40201040)
  - Asset Management & Custody Banks (40203010)
  - Investment Banking & Brokerage (40203020)
- **FCF Screening:** have had positive FCF for at least 10 consecutive years.
- **Multiple Share Classes and Dual-Listed Companies:** Each company is represented once by the Designated Listing. For more information regarding the treatment of multiple share classes, please refer to Approach B within the Multiple Share Classes section of the S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

Each company's most liquid share line is used to calculate index levels. Some index constituents use ADRs, GDRs or foreign ordinary shares if the common stock in their local market is illiquid. Pricing for these issues is based on the ADR, GDR or foreign ordinary share in the listing market's currency. In cases of multiple share classes, only the most liquid share lines are used.

# Index Construction

## Constituent Selection

Rank constituents from the underlying index by FCF score and select the highest ranked according to the following table:

Index	Index Constituent Count
S&P 500 Quality FCF Aristocrats	Top 100 securities by FCF score
S&P Developed Quality FCF Aristocrats	Top 100 securities by FCF score

Please refer to Appendix A for FCF margin and FCF ROIC ratio calculation details. Please refer to Appendix B for z-score and FCF Score calculation details.

## Constituent Weightings

At each rebalancing, the indices weight constituents as follows:

### S&P 500 Quality FCF Aristocrats Index

Weighting Method	Optimization Procedure	Maximum Weight of Security Constraint	Maximum GICS Sector Weight Constraint	Floored Stock Weight
Product of the security's float-adjusted market capitalization (FMC) in the eligible index universe and the FCF Score, subject to security and sector constraints.	Final weights are chosen in a way as to minimize the sum of the squared differences of capped weight and uncapped weight, divided by uncapped weight for each stock.	5%	40%	0.05%

### S&P Developed Quality FCF Aristocrats Index

Weighting Method	Optimization Procedure	Maximum Security Weight Constraint	Maximum GICS Sector Weight Constraint	Maximum Country Weight Constraint	Floored Stock Weight
Product of the security's FMC in the eligible index universe and the FCF Score, subject to security and sector constraints.	Final weights are chosen in a way as to minimize the sum of the squared differences of capped weight and uncapped weight, divided by uncapped weight for each stock.	5%	40%	60%	0.05%

## Constituent Capping

**Daily Capping.** In addition to rebalancings, indices are also reviewed daily to ensure adherence to the Diversification 20/35 Rule. If the largest company weight exceeds 35% or the second-largest company weight exceeds 20%, cap companies according to the following process:

1. Cap the largest company weight at 34%.

2. Proportionally redistribute all excess weight to the remaining companies within the relevant index.
3. Cap the second-largest company weight at 19%.
4. Proportionally redistribute all excess weight to all remaining uncapped companies within the relevant index.
5. Repeat Steps 1 through 4 iteratively until the weight of the largest company does not exceed 34% and the second-largest company does not exceed 19%.

Daily capping changes are announced after the close of the business day on which the daily weight caps are exceeded, with the reference date after the close of that same business day, and changes are effective after the close of the next business day.

Any index requiring daily capping is not assessed on the next business day as the previously performed capping is effective at that day's closing.

**Capping at Rebalancing.** If daily capping is triggered during a rebalancing pro-forma period, the process follows the normal daily capping procedure, with changes effective after the close of the next business day. Previously assigned AWFs from the rebalancing are still implemented.

If on the second-to-last business day prior to the rebalancing effective date – using that day's closing price (adjusted for any applicable corporate actions) and the new assigned quarterly shares, IWFs, and AWFs as of the rebalancing effective date – the index breaches the daily capping requirements, the index recaps using that day's closing prices. If daily capping is triggered, weights only adjust to reflect the reapplication of the Diversification 20/35 Rule as described in the constraints table above. All other constraints are not reapplied.

*For more information on the capping thresholds, please refer to the Regulatory Capping Requirements section of S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

## **Index Calculations**

The indices calculate using the divisor methodology used in all S&P Dow Jones Indices' equity indices.

*Please refer to the Non-Market Capitalization Weighted section of S&P Dow Jones Indices' Index Mathematics Methodology for further details on index calculation.*

# Index Maintenance

## Rebalancing

The indices rebalance semiannually after the close on the third Friday of April and October.

The fundamental data reference date is five weeks prior to the rebalancing date. The rebalancing reference dates are the last business days of March and September, respectively. Weights calculated as a result of the reference date data are implemented in the indices using closing prices as of the Wednesday prior to the second Friday of April and October.<sup>1</sup>

## Additions and Deletions

**Additions.** Except for spin-offs, no additions are made to the index between rebalancings.

**Deletions.** Constituents removed from an underlying universe index are also removed from the index simultaneously.

## Corporate Actions

**Spin-offs.** The spin-off is added to all the indices of which the parent is a constituent, at a zero price at the market close of the day before the ex-date (with no divisor adjustment). The spin-off is removed after at least one day of regular way trading (with a divisor adjustment).

*For more information on Corporate Actions and Spin-Offs, please refer to the Non-Market Capitalization section of the S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

## Currency of Calculation and Additional Index Return Series

The indices calculate in U.S. dollars.

WMR foreign exchange rates are taken daily at 4:00 PM London Time and used in the calculation of the indices. These mid-market fixings are calculated by WMR based on LSEG data and appear on LSEG pages.

In addition to the indices detailed in this methodology, additional return series versions of the indices may be available, including, but not limited to the following: currency, currency hedged, decrement, fair value, inverse, leveraged, and risk control versions. For a list of available indices, please refer to the [S&P DJI Methodology & Regulatory Status Database](#).

*For information on the calculation of different types of indices, please refer to S&P Dow Jones Indices' Index Mathematics Methodology.*

*For the inputs necessary to calculate certain types of indices, including decrement, dynamic hedged, fair value, and risk control indices, please refer to the Parameters documents available at [www.spglobal.com/spdji](http://www.spglobal.com/spdji).*

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<sup>1</sup> Prior to 09/23/2024, the fundamental data reference date and the rebalancing reference date were the last business day of February and August.



## Other Adjustments

In cases where there is no achievable market price for a stock being deleted, it can be removed at a zero or minimal price at the Index Committee's discretion, in recognition of the constraints faced by investors in trading bankrupt or suspended stocks.

## Base Dates and History Availability

Index history availability, base dates, and base values are shown in the table below.

Index	Launch Date	First Value Date	Base Date	Base Value
S&P 500 Quality FCF Aristocrats Index	09/23/2024	03/16/2001	03/16/2001	1000
S&P Developed Quality FCF Aristocrats Index	09/23/2024	03/17/2006	03/17/2006	1000

# Index Data

## Calculation Return Types

S&P Dow Jones Indices calculates multiple return types which vary based on the treatment of regular cash dividends. The classification of regular cash dividends is determined by S&P Dow Jones Indices.

- Price Return (PR) versions are calculated without adjustments for regular cash dividends.
- Gross Total Return (TR) versions reinvest regular cash dividends at the close on the ex-date without consideration for withholding taxes.
- Net Total Return (NTR) versions, if available, reinvest regular cash dividends at the close on the ex-date after the deduction of applicable withholding taxes.

In the event there are no regular cash dividends on the ex-date, the daily performance of all three indices will be identical.

For a complete list of indices available, please refer to the daily index levels file (“.SDL”).

*For more information on the classification of regular versus special cash dividends as well as the tax rates used in the calculation of net return, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

*For more information on the calculation of return types, please refer to S&P Dow Jones Indices' Index Mathematics Methodology.*

# Index Governance

## **Index Committee**

The indices are maintained by an Index Committee. The Committee meets regularly. At each meeting, the Committee reviews pending corporate actions that may affect index constituents, statistics comparing the composition of the indices to the market, companies that are being considered as candidates for addition to an index, and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting companies, treatment of dividends, share counts or other matters.

S&P Dow Jones Indices considers information about changes to its indices and related matters to be potentially market moving and material. Therefore, all Index Committee discussions are confidential.

S&P Dow Jones Indices' Index Committees reserve the right to make exceptions when applying the methodology if the need arises. In any scenario where the treatment differs from the general rules stated in this document or supplemental documents, clients will receive sufficient notice, whenever possible.

In addition to the daily governance of indices and maintenance of index methodologies, at least once within any 12-month period, the Index Committee reviews the methodology to ensure the indices continue to achieve the stated objectives, and that the data and methodology remain effective. In certain instances, S&P Dow Jones Indices may publish a consultation inviting comments from external parties.

*For information on Quality Assurance and Internal Reviews of Methodology, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

# Index Policy

## Announcements

All index constituents are evaluated daily for data needed to calculate index levels and returns. All events affecting the daily index calculation are typically in advance via the Index Corporate Events report (.SDE), delivered daily to all clients. Any unusual treatment of a corporate action or short notice of an event may be communicated via email to clients.

*For more information, please refer to the Announcements section of S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

## Pro-forma Files

In addition to the corporate events file (.SDE), S&P Dow Jones Indices provides constituent pro-forma files each time the index rebalances. The pro-forma file is typically provided daily in advance of the rebalancing date and contains all constituents as well as their corresponding weights and index shares effective for the upcoming rebalancing. Since index shares are assigned based on prices prior to the rebalancing, the actual weight of each stock at the rebalancing will differ from these weights due to market movements.

*Please visit [www.spglobal.com/spdji](http://www.spglobal.com/spdji) for a complete schedule of rebalancing timelines and pro-forma delivery times.*

## Holiday Schedule

Except for the S&P 500 Quality FCF Aristocrats Index, the indices follow the holidays of the underlying index. The S&P 500 Quality FCF Aristocrats Index calculates only on days when at least one of the index's underlying exchanges is open.

*A complete holiday schedule for the year is available at [www.spglobal.com/spdji](http://www.spglobal.com/spdji).*

## Rebalancing

The Index Committee may change the date of a given rebalancing for reasons including market holidays occurring on or around the scheduled rebalancing date. Any such change is announced with proper advance notice where possible.

## Unexpected Exchange Closures

For information on Unexpected Exchange Closures, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

## Recalculation Policy

For information on the recalculation policy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

*For information on Calculations and Pricing Disruptions, Expert Judgment and Data Hierarchy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

**Contact Information**

For questions regarding an index, please contact: [index\\_services@spglobal.com](mailto:index_services@spglobal.com).

# Index Dissemination

Index levels are available through S&P Dow Jones Indices' Web site at [www.spglobal.com/spdji](http://www.spglobal.com/spdji), major quote vendors (see codes below), numerous investment-oriented Web sites, and various print and electronic media.

## Tickers

The table below lists headline indices covered by this document. All versions of the below indices that may exist are also covered by this document. Please refer to the [S&P DJI Methodology & Regulatory Status Database](#) for a complete list of indices covered by this document.

Index (Currency)	Return Type	BBG	RIC
S&P 500 Quality FCF Aristocrats Index (USD)	Price Return	SP5QFAUP	.SP5QFAUP
	Total Return	SP5QFAUT	.SP5QFAUT
	Net Total Return	SP5QFAUN	.SP5QFAUN
S&P Developed Quality FCF Aristocrats Index (USD)	Price Return	SPDQFAUP	.SPDQFAUP
	Total Return	SPDQFAUT	.SPDQFAUT
	Net Total Return	SPDQFAUN	.SPDQFAUN

## Index Data

Daily constituent and index level data are available via subscription.

For product information, please contact S&P Dow Jones Indices, [www.spglobal.com/spdji/en/contact-us](http://www.spglobal.com/spdji/en/contact-us).

## Web site

For further information, please refer to S&P Dow Jones Indices' Web site at [www.spglobal.com/spdji](http://www.spglobal.com/spdji).

# Appendix A

## Fundamental Ratios Calculation

The first step is to calculate, as of the rebalancing reference date, the two fundamental ratios below for each security in the index universe. They are defined as follows:

$$\text{FCF Margin} = \text{FCF} / \text{Revenue}$$

$$\text{FCF ROIC} = \text{FCF} / (\text{Total Debt} + \text{Total Equity})$$

where:

$$\text{FCF} = \text{Net Cash Flow from Operating Activities} - \text{Capital Expenditures}$$

The second step is to calculate the five-year average for both FCF Margin and FCF ROIC. Where there is a missing value, the five-year average calculates by taking a simple average of the remaining values.

**Outlier Handling and Winsorization:** Outlier fundamental ratios are winsorized to ensure that the average values used to calculate the overall component score are less distorted by extreme values. For a given fundamental variable, the values for all securities are first ranked in ascending order. Then, for securities that lie above the 97.5 percentile rank or below the 2.5 percentile rank, their value is set as equal to the value of the 97.5 percentile ranked or the 2.5 percentile ranked security, whichever is applicable.

**Application of Fundamental Ratios:** The FCF Score is based on the average of the z-scores of the five-year average of FCF Margin and the five-year average of FCF ROIC. In the average, a higher value of each fundamental ratio is preferred and is represented by a standard z-score (see *Appendix II*). Where there is a missing value, FCF Score is equal to the available z-score.

# Appendix B

## Z-score & FCF Score Calculation

**Z-score Calculation.** Calculating a z-score is a widely adopted method of standardizing a variable in order to combine it with other variables that may have a different scale or unit of measurement. After winsorizing the two fundamental ratios, the z-score for each of the two ratios for each security calculates using the mean and standard deviation of the relevant variable within each of the index universes.

In general, the z-score calculates as follows:

$$z_{\alpha} = \frac{(x_{\alpha} - \mu_{\alpha})}{\sigma_{\alpha}}$$

where:

$z_{\alpha}$  = Z-score for a given security

$x_{\alpha}$  = Winsorized variable for a given security

$\mu_{\alpha}$  = Arithmetic mean of the winsorized variable in a given index universe, excluding any missing values

$\sigma_{\alpha}$  = Standard deviation of the winsorized variable in a given index universe

**Average Z-score Calculation.** For each security, the average z-score calculates by taking a simple average of the five-year average FCF Margin z-score and the five-year average FCF ROIC z-score. Where there is a missing value, the average z-score is equal to the available z-score. A security must have at least one z-score to be included in the index.

**Outlier Handling and Winsorization.** Outlier average z-scores are winsorized to ensure that the overall FCF scores are less distorted by extreme values. To do this, for a given average z-score, the values for all securities are first ranked in ascending order. Then, for securities that lie above 4 or below -4, the value is set as equal to 4 or -4, whichever is applicable.

**FCF Score Calculation.** Using the winsorized average z-scores, a FCF score calculates for each of the securities. For a given security, if the winsorized average z-score is above 0, then the FCF Score is the addition of 1 and the average z-score. On the other hand, if the winsorized average score is below 0, then the FCF Score is the result of the reciprocal of 1 subtracted by its average z-score.

If average  $Z > 0$ , FCF Score =  $1 + Z$

If average  $Z < 0$ , FCF Score =  $(1 / (1 - Z))$

If average  $Z = 0$ , FCF Score = 1



# Disclaimer

## Performance Disclosure/Back-Tested Data

Where applicable, S&P Dow Jones Indices and its index-related affiliates (“S&P DJI”) defines various dates to assist our clients by providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index’s Launch Date are considered back-tested. S&P DJI defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company’s public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed “Date of introduction”) is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index’s public release date.

Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Information presented prior to an index’s launch date is hypothetical back-tested performance, not actual performance, and is based on the index methodology in effect on the launch date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. In addition, forks have not been factored into the back-test data with respect to the S&P Cryptocurrency Indices. For the S&P Cryptocurrency Top 5 & 10 Equal Weight Indices, the custody element of the methodology was not considered; the back-test history is based on the index constituents that meet the custody element as of the Launch Date. Also, the treatment of corporate actions in back-tested performance may differ from treatment for live indices due to limitations in replicating index management decisions. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate certain ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using “Backward Data Assumption” (or pulling back) of ESG data for the calculation of back-tested historical performance. “Backward Data Assumption” is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as “product involvement”) were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on “Backward Data Assumption” please refer to the FAQ. The methodology and factsheets of any index that employs backward assumption in the back-tested history will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used. Index returns shown do not represent the results of actual trading of investable assets/securities. S&P DJI maintains the index and calculates the index levels and performance shown or discussed but does not manage any assets.

Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US \$100,000 investment for a 12-month period (or US \$10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US \$1,650), the net return would be 8.35% (or US \$8,350) for the year. Over a three-year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US \$5,375, and a cumulative net return of 27.2% (or US \$27,200).

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