

S&P Momentum Indices *Methodology*

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Introduction

Index Objective and Highlights

The S&P Momentum Indices measure the performance of securities which were among the best performing quintile or rank on the basis of risk-adjusted price performance during the specified prior measurement period. Index constituents are weighted by the product of their market capitalization and their momentum score, subject to the constraints defined in *Constituent Weightings*.

The S&P Momentum Indices are constructed from the constituents of the S&P Global BMI or other headline universe index.

For more information on the S&P Global BMI or other headline universe indices, please refer to the respective Index Methodology document at www.spdji.com.

Index Family

The S&P Momentum Indices currently consist of the following:

- S&P Momentum Global LargeMidCap
- S&P Momentum Developed LargeMidCap
- S&P Momentum Developed Ex. U.S. LargeMidCap
- S&P Momentum Developed Ex. U.S. & South Korea LargeMidCap
- S&P Momentum Developed Ex. Japan LargeMidCap
- S&P Momentum Emerging LargeMidCap
- S&P Momentum Emerging Plus LargeMidCap
- S&P Momentum Europe LargeMidCap
- S&P Momentum Pan Asia LargeMidCap
- S&P Momentum Pan Asia Ex. Japan LargeMidCap
- S&P Momentum Japan LargeMidCap
- S&P Momentum United States LargeMidCap
- S&P Momentum South Africa
- S&P Short Term Momentum South Africa
- S&P 500 Momentum
- S&P Europe 350 Momentum
- S&P/ASX 200 Momentum
- S&P MidCap 400 Momentum
- S&P SmallCap 600 Momentum
- S&P China A-Share Short Term Momentum
- S&P Momentum GCC Composite

- S&P Momentum Saudi Arabia
- S&P Momentum Saudi Arabia Shariah
- S&P Momentum Pan Arab Composite LargeMidCap

The size-based S&P Momentum Indices follow the size classifications of the S&P Global BMI.

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	Equity Indices Policies & Practices
S&P Dow Jones Indices' Index Mathematics Methodology	Index Mathematics Methodology
S&P Dow Jones Indices' Float Adjustment Methodology	Float Adjustment Methodology
S&P Dow Jones Indices' Global Industry Classification Standard (GICS) Methodology	GICS Methodology

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

To qualify for the index inclusion for the S&P Momentum Indices, a stock must be a member of the below universe on the rebalancing reference date:

1. S&P Global BMI or other respective headline universe
2. Exclude China-A Shares (except for the S&P China A-Share Short-Term Momentum Index). For the S&P China A-Share Short-Term Momentum Index, the stock must be a member of the S&P China A BMI Domestic or S&P China A Venture Enterprises Index, as detailed below.

Index	Universe	Measurement Period (months)
S&P Momentum Global LargeMidCap	S&P Global LargeMidCap	12
S&P Momentum Developed LargeMidCap	S&P Developed LargeMidCap	12
S&P Momentum Developed Ex. U.S. LargeMidCap	S&P Developed Ex. U.S. LargeMidCap	12
S&P Momentum Developed Ex. U.S. & South Korea LargeMidCap	S&P Developed Ex. U.S. & South Korea LargeMidCap	12
S&P Momentum Developed Ex. Japan LargeMidCap	S&P Developed Ex. Japan LargeMidCap	12
S&P Momentum Emerging LargeMidCap	S&P Emerging LargeMidCap	12
S&P Momentum Emerging Plus LargeMidCap	S&P Emerging Plus LargeMidCap	12
S&P Momentum Europe LargeMidCap	S&P Europe LargeMidCap	12
S&P Momentum Pan Asia LargeMidCap	S&P Pan Asia LargeMidCap	12
S&P Momentum Pan Asia Ex. Japan LargeMidCap	S&P Pan Asia Ex. Japan LargeMidCap	12
S&P Momentum Japan LargeMidCap	S&P Japan LargeMidCap	12
S&P Momentum United States LargeMidCap	S&P United States LargeMidCap	12
S&P Momentum South Africa	S&P South Africa Composite	12
S&P Short Term Momentum South Africa	S&P South Africa Composite	6
S&P 500 Momentum	S&P 500	12
S&P Europe 350 Momentum	S&P Europe 350	12
S&P/ASX 200 Momentum	S&P/ASX 200	12
S&P MidCap 400 Momentum	S&P MidCap 400	12
S&P SmallCap 600 Momentum	S&P SmallCap 600	12
S&P China A-Share Short Term Momentum	S&P China A BMI Domestic + S&P China A Venture Enterprises Index	6
S&P Momentum GCC Composite	S&P GCC Composite	12
S&P Momentum Saudi Arabia	S&P Saudi Arabia	12
S&P Momentum Saudi Arabia Shariah	S&P Saudi Arabia Shariah	12
S&P Momentum Pan Arab Composite LargeMidCap	S&P Pan Arab Composite LargeMidCap	12

For a security to be eligible for consideration for the S&P Momentum Indices, it must be a member of the relevant index universe as of the rebalancing effective date.

Index Eligibility

Some S&P Momentum Indices require additional criteria, as detailed below.

Except for the S&P Momentum GCC Composite, S&P Momentum Saudi Arabia, S&P Momentum Saudi Arabia Shariah Indices, and S&P Momentum Pan Arab Composite LargeMidCap Index, for the S&P Momentum Indices with 12-month measurement periods, stocks must have traded at least 150 days during the period. Additionally, as of the rebalancing reference date, stocks must have a minimum three-month average daily value traded (ADVT) of US\$ 3 million for the following indices:

- S&P Momentum Developed Ex. U.S. & South Korea LargeMidCap
- S&P Momentum Emerging Plus LargeMidCap

For the S&P Momentum GCC Composite, S&P Momentum Saudi Arabia, S&P Momentum Saudi Arabia Shariah, and S&P Momentum Pan Arab Composite LargeMidCap, stocks must have traded for at least 60% of the days of the most traded stock within the 12-month measurement period before the rebalancing reference date. Furthermore, as of the rebalancing reference date, stocks must have a minimum six-month median daily value traded (MDVT) of US\$ 1 million (current constituents US\$ 500,000).

For the S&P China A-Share Short Term Momentum, stocks must be listed at least four months before the rebalancing reference date and must have a minimum three-month ADVT of RMB 20 million (RMB 18 million for current constituents). Moreover, stocks must not be designated as Special Treatment (ST or *ST) by the Shanghai or Shenzhen Stock Exchanges, and have a float market capitalization of at least RMB 1 billion (RMB 900 million for current constituents) as of the rebalancing reference date.

Multiple Share Classes

All publicly listed multiple share class lines are eligible for index inclusion, subject to meeting the eligibility criteria. For more information regarding the treatment of multiple share classes, please refer to Approach A within the Multiple Share Classes section of the S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

Index Construction

Constituent Selection

At each rebalancing a momentum score is calculated for each eligible stock.

For information on the momentum score calculation, please refer to Appendix B.

For the S&P Momentum Indices, with the exception of the S&P Momentum GCC Composite, S&P Momentum Saudi Arabia, S&P Momentum Saudi Arabia Shariah, and S&P Momentum Pan Arab Composite LargeMidCap, securities are first ranked in descending order by momentum score into five quintiles. Securities with the highest scores (the 1st Quintile) are then selected for index inclusion.

For the S&P Momentum indices the number of companies selected is rounded to the nearest integer based on the size of the index universe.

For the S&P China A-Share Short Term Momentum, the top 100 securities with the highest momentum scores are selected.

The target stock count for the S&P Momentum Saudi Arabia and S&P Momentum Saudi Arabia Shariah is determined as the maximum of the following:

- 30
- 20% of the number of constituents in the universe
- the number of stocks (top ranked by momentum score) such that the sum of their float-adjusted market capitalization is at least 50% of the float-adjusted market capitalization of the underlying universe

For the S&P Momentum GCC Composite and S&P Momentum Pan Arab Composite LargeMidCap, the target stock count is determined as the maximum of the following:

- 30
- 20% of the number of constituents in the universe
- the sum of the float-adjusted market capitalization of the selected stocks in each country must make up 50% of the float-adjusted market capitalization of the underlying universe within the country

If the target stock count results in a fractional company amount, the number of companies selected is rounded to the nearest integer.

In order to reduce turnover, a 20% buffer rule based on the winsorized z-score is applied to the security selection at each rebalancing.

To perform the selection, all securities ranked within the top 80% of the target stock count are automatically selected for the index. Next, any current constituents remaining within the top 120% of the target stock count are re-selected for the index, in order by rank, until the target stock count has been reached. Then, if the target stock count still has not been reached, any non-current constituents remaining and ranked from 80% to 100% of the target stock count are selected for inclusion until the target stock count is reached.

Additionally, for the S&P Momentum GCC Composite and S&P Momentum Pan Arab Composite LargeMidCap, S&P Momentum Saudi Arabia and S&P Momentum Saudi Arabia Shariah indices, if a

target of 50% of the float-adjusted market capitalization of the eligible universe has not been reached, remaining stocks are selected by order of rank until this target has been reached.

Constituent Weightings

Except for the indices listed below, the S&P Momentum Indices employ the following weighting process, applied at each rebalancing:

Weighting Method	Maximum Security Weight Constraint
Product of the securities market capitalization in the eligible index universe and the momentum score, subject to security and sector constraints.	Lower of 9% and three times its market capitalization.

Furthermore, the above optimization process includes one additional constraint; the maximum weight of each security should not exceed a multiple of four times its liquidity weight (see *Appendix C*). Where the optimization procedure fails for a given period, the constraints are then relaxed in the following order:

1. the maximum weight of the security,
2. the maximum weight of the sector,
3. the maximum weight of the country (if applicable),
4. 20 times its market capitalization weight,
5. four times its liquidity weight.

Float Adjustment. Investable Weight Factors (IWFs), which define the available float for each stock, are reviewed annually. The float-adjusted shares are used in the calculation of each stock's momentum weight.

Please refer to the S&P Dow Jones' Float Adjustment Methodology for a detailed description of float adjustment and Investable Weight Factor (IWF).

S&P/ASX 200 Momentum and S&P China A-Share Short Term Momentum

Weighting Method	Optimization Procedure	Maximum Security Weight Constraint	Maximum GICS Sector Weight Constraint	Floored Stock Weight
Product of the securities market capitalization in the eligible index universe and the momentum 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.	Lower of 5% and 20 times its market capitalization.	40%	0.05%

Where the optimization procedure fails for a given period, the constraints are then relaxed in the following order: the maximum weight of the security, then the maximum weight of the sector.

S&P Momentum Saudi Arabia and S&P Momentum Saudi Arabia Shariah

Weighting Method	Maximum Security Weight Constraint	Maximum GICS Sector Weight Constraint	Weight Cap	Floored Stock Weight
Product of the securities market capitalization in the eligible index universe and the momentum score, subject to security constraints.	8% or the stocks weight in the universe whichever is greater. Maximum weight should not exceed a multiple of four times its liquidity weight	40%	20 times the market capitalization weight of the security in the underlying index universe.	0.05%

S&P Momentum GCC Composite

Weighting Method	Maximum Security Weight Constraint	Maximum GICS Sector Weight Constraint	Maximum Country Weight Constraint	Weight Cap	Floored Stock Weight
Product of the securities market capitalization in the eligible index universe and the momentum score, subject to security and sector constraints.	5% or the stocks weight in the universe whichever is greater. Maximum weight should not exceed a multiple of four times its liquidity weight.	40%	60%	20 times the market capitalization weight of the security in the underlying index universe.	0.05%

S&P Momentum Pan Arab Composite LargeMidCap Index

Weighting Method	Maximum Security Weight Constraint	Maximum GICS Sector Weight Constraint	Maximum Country Weight Constraint	Weight Cap	Floored Stock Weight
Product of the securities market capitalization in the eligible index universe and the momentum score, subject to security, sector, and country constraints.	5% or the stock's weight in the universe, whichever is greater. Maximum weight should not exceed a multiple of four times its liquidity weight.	50%	60%	20 times the weight of the security in the underlying index universe.	0.05%

S&P Dow Jones Indices believes turnover in index membership should be avoided when possible. At times a company may appear to temporarily violate one or more of the addition criteria. However, the addition criteria are for addition to an index, not for continued membership. As a result, an index constituent that appears to violate criteria for addition to that index will not be deleted unless ongoing conditions warrant an index change.

Index Calculations

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

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

Some index constituents use ADRs, GDRs or foreign ordinary shares if the common stock in their local market is illiquid. Pricing for these issues are based on the ADR, GDR or foreign ordinary share in the listing market's currency. All Chinese A-shares are excluded from the S&P Momentum Global, Emerging, Pan Asia and Pan Asia Ex-Japan LargeMidCap Indices. However, any non-domestic listed Chinese shares included in the Global, Emerging, Pan Asia and Pan Asia Ex-Japan Large MidCap Indices are eligible for inclusion in the S&P Momentum Global, Emerging, Pan Asia and Pan Asia Ex-Japan LargeMidCap Indices. Any changes to pricing sources are announced with as much notice as is reasonably possible.

Index Maintenance

Rebalancing

The following indices rebalance semi-annually, effective after the close on the third Friday of March and September, with a reference date of the last business day of February and August, respectively:

- S&P Momentum Global LargeMidCap
- S&P Momentum Developed LargeMidCap
- S&P Momentum Developed Ex. U.S. LargeMidCap
- S&P Momentum Developed Ex. U.S. & South Korea LargeMidCap
- S&P Momentum Developed Ex. Japan LargeMidCap
- S&P Momentum Emerging LargeMidCap
- S&P Momentum Emerging Plus LargeMidCap
- S&P Momentum Europe LargeMidCap
- S&P Momentum Pan Asia LargeMidCap
- S&P Momentum Pan Asia Ex. Japan LargeMidCap
- S&P Momentum Japan LargeMidCap
- S&P Momentum United States LargeMidCap
- S&P Momentum South Africa
- S&P Short Term Momentum South Africa
- S&P 500 Momentum
- S&P Europe 350 Momentum
- S&P MidCap 400 Momentum
- S&P SmallCap 600 Momentum

The following indices rebalance semi-annually, effective after the close on the third Friday of June and December, with a reference date of the last business day of May and November, respectively:

- S&P/ASX 200 Momentum
- S&P China A-Share Short Term Momentum

The following indices rebalance semi-annually, after the close on Sunday following the third Friday of June and December, with a reference date of the last business day of May and November, respectively:

- S&P Momentum GCC Composite
- S&P Momentum Saudi Arabia
- S&P Momentum Saudi Arabia Shariah
- S&P Momentum Pan Arab Composite LargeMidCap

Weights calculated as a result of the reference date data are implemented in the indices using closing prices as of the rebalancing reference date.

Additions and Deletions

The majority of additions and deletions occur as part of index rebalancings. Since some of these indices do not have a fixed number of constituents, additions to and deletions from an index may not be the same number.

If a stock is deleted from a given index universe, it will be deleted from the corresponding S&P Momentum Index simultaneously.

Spin-Offs and Corporate Actions

A spun-off company 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 spun-off company is removed after at least one day of regular way trading (with a divisor adjustment).

For more information on Spin-offs, and corporate actions in general, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

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.

Currency of Calculation and Additional Index Return Series

Except for the S&P Short Term Momentum South Africa and S&P China A-Share Short Term Momentum, the indices calculate in U.S. dollars. Certain indices are also calculated in other currencies, as follows:

Index	Additional Currency
S&P Momentum Developed Ex. Japan LargeMidCap	Japanese yen
S&P Momentum Europe LargeMidCap	Euros
S&P Momentum Japan LargeMidCap	Japanese yen
S&P Momentum South Africa	South African rand
S&P 500 Momentum	Canadian Dollar
S&P Europe 350 Momentum	Euros
S&P/ASX 200 Momentum	Australian dollar
S&P Momentum Saudi Arabia	Saudi riyal
S&P Momentum Saudi Arabia Shariah	Saudi riyal

The S&P Short Term Momentum South Africa is calculated in South African rand only. The S&P China A-Share Short Term Momentum is calculated in Chinese renminbi only.

WM/Refinitiv foreign exchange rates are taken daily at 04:00 PM London time and used in the calculation of the S&P Momentum Indices. These mid-market fixings are calculated by the WM Company based on Refinitiv data and appear on Refinitiv pages WMRA.

In addition to the indices detailed in this methodology, additional return series versions of the indices may be available, including, but not limited to: 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.spdji.com.

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 Momentum Global LargeMidCap	11/18/2014	12/30/1994	12/30/1994	100
S&P Momentum Developed LargeMidCap	11/18/2014	12/30/1994	12/30/1994	100
S&P Momentum Developed Ex. U.S. LargeMidCap	11/18/2014	12/30/1994	12/30/1994	100
S&P Momentum Developed Ex. U.S. & South Korea LargeMidCap	02/16/2016	12/30/1994	12/30/1994	100
S&P Momentum Developed Ex. Japan LargeMidCap	11/18/2014	12/30/1994	12/30/1994	100
S&P Momentum Emerging LargeMidCap	11/18/2014	12/31/1997	12/31/1997	100
S&P Momentum Emerging Plus LargeMidCap	02/16/2016	12/31/1997	12/31/1997	100
S&P Momentum Europe LargeMidCap	11/18/2014	12/30/1994	12/30/1994	100
S&P Momentum Pan Asia LargeMidCap	11/18/2014	12/30/1994	12/30/1994	100
S&P Momentum Pan Asia Ex. Japan LargeMidCap	11/18/2014	12/30/1994	12/30/1994	100
S&P Momentum Japan LargeMidCap	11/18/2014	12/30/1994	12/30/1994	100
S&P Momentum United States LargeMidCap	11/18/2014	12/30/1994	12/30/1994	100
S&P Momentum South Africa	11/18/2014	09/19/2003	09/19/2003	100
S&P Short Term Momentum South Africa	03/24/2016	09/19/2003	09/19/2003	100
S&P 500 Momentum	11/18/2014	09/16/1994	09/16/1994	100
S&P 500 Momentum CAD Hedged	07/27/2020	11/29/2002	11/29/2002	100
S&P Europe 350 Momentum	11/18/2014	03/16/2001	03/16/2001	100
S&P/ASX 200 Momentum	07/31/2017	06/16/2000	06/16/2000	100
S&P MidCap 400 Momentum	11/13/2017	09/20/1991	09/20/1991	100
S&P SmallCap 600 Momentum	01/04/2018	03/17/1995	03/17/1995	100
S&P China A-Share Short Term Momentum	07/11/2018	06/16/2006	06/16/2006	1000
S&P Momentum GCC Composite	01/07/2019	12/21/2008	12/21/2008	100
S&P Momentum Saudi Arabia	01/07/2019	12/21/2008	12/21/2008	100
S&P Momentum Saudi Arabia Shariah	01/07/2019	12/21/2008	12/21/2008	100
S&P Momentum Pan Arab Composite LargeMidCap	06/29/2020	12/21/2008	12/21/2008	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 Index Committee meets regularly. All committee members are full-time professional members of S&P Dow Jones Indices' staff. At each meeting, the Index 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 announced 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 indices rebalance. The pro-forma file is typically provided daily in advance of the rebalancing date and contains all constituents and 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 differs from these weights due to market movements.

Please visit www.spdji.com for a complete schedule of rebalancing timelines and pro-forma delivery times.

Holiday Schedule

Each S&P Momentum Index is calculated on all days when the index making up its index universe is also calculated.

A complete holiday schedule for the year is available at www.spdji.com.

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 will be 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.

Index Dissemination

Index levels are available through S&P Dow Jones Indices' Web site at www.spdji.com, 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	Bloomberg	RIC
S&P Momentum Global LargeMidCap (USD)	Price Return	SPGLMUP	--
	Total Return	SPGLMUT	--
	Net Total Return	SPGLMUN	--
S&P Momentum Developed LargeMidCap (USD)	Price Return	SPDMUP	--
	Total Return	SPDMUT	--
	Net Total Return	SPDMUN	--
S&P Momentum Developed Ex. U.S. LargeMidCap (USD)	Price Return	SPDUSUP	--
	Total Return	SPDUSUT	--
	Net Total Return	SPDUSUN	--
S&P Momentum Developed Ex. U.S. & South Korea LargeMidCap (USD)	Price Return	SPDUKMUP	--
	Total Return	SPDUKMUT	--
	Net Total Return	SPDUKMUN	--
S&P Momentum Developed Ex. Japan LargeMidCap (USD)	Price Return	SPDJMUP	--
	Total Return	SPDJMUT	--
	Net Total Return	SPDJMUN	--
S&P Momentum Developed Ex. Japan LargeMidCap (JPY)	Price Return	SPDJMJP	--
	Total Return	SPDJMJT	--
	Net Total Return	SPDJMJN	--
S&P Momentum Emerging LargeMidCap (USD)	Price Return	SPEMMUP	--
	Total Return	SPEMMUT	--
	Net Total Return	SPEMMUN	--
S&P Momentum Emerging Plus LargeMidCap (USD)	Price Return	SPEMPMUP	--
	Total Return	SPEMPMUT	--
	Net Total Return	SPEMPMUN	--
S&P Momentum Europe LargeMidCap (USD)	Price Return	SPEUMUP	--
	Total Return	SPEUMUT	--
	Net Total Return	SPEUMUN	--
S&P Momentum Europe LargeMidCap (EUR)	Price Return	SPEUMEP	--
	Total Return	SPEUMET	--
	Net Total Return	SPEUMEN	--
S&P Momentum Pan Asia LargeMidCap (USD)	Price Return	SPPAMUP	--
	Total Return	SPPAMUT	--
	Net Total Return	SPPAMUN	--
S&P Momentum Pan Asia Ex. Japan LargeMidCap (USD)	Price Return	SPPAJMUP	--
	Total Return	SPPAJMUT	--
	Net Total Return	SPPAJMUN	--
S&P Momentum Japan LargeMidCap (USD)	Price Return	SPJMUP	--
	Total Return	SPJMUT	--
	Net Total Return	SPJMUN	--
S&P Momentum Japan LargeMidCap (JPY)	Price Return	SPJMJP	--
	Total Return	SPJMJT	--
	Net Total Return	SPJMJN	--

Index (Currency)	Return Type	Bloomberg	RIC
S&P Momentum United States LargeMidCap (USD)	Price Return	SPUSMUP	--
	Total Return	SPUSMUT	--
	Net Total Return	SPUSMUN	--
S&P Momentum South Africa (USD)	Price Return	SPSAMUP	--
	Total Return	SPSAMUT	--
	Net Total Return	SPSAMUN	--
S&P Momentum South Africa (ZAR)	Price Return	SPSAMZP	--
	Total Return	SPSAMZT	--
	Net Total Return	SPSAMZN	--
S&P Short Term Momentum South Africa (ZAR)	Price Return	SPSASMZP	--
	Total Return	SPSASMZT	--
	Net Total Return	SPSASMZN	--
S&P 500 Momentum (USD)	Price Return	SP500MUP	--
	Total Return	SP500MUT	--
	Net Total Return	SP500MUN	--
S&P 500 Momentum (CAD)	Price Return	SP500MCP	--
	Total Return	SP500MCT	--
	Net Total Return	SP500MCN	--
S&P 500 Momentum CAD Hedged	Price Return	SPXMHCP	--
	Total Return	SPXMHCT	--
	Net Total Return	SPXMHCN	--
S&P Europe 350 Momentum (USD)	Price Return	SP350MUP	--
	Total Return	SP350MUT	--
	Net Total Return	SP350MUN	--
S&P Europe 350 Momentum (EUR)	Price Return	SP350MEP	--
	Total Return	SP350MET	--
	Net Total Return	SP350MEN	--
S&P/ASX 200 Momentum (USD)	Price Return	SPASXMUP	--
	Total Return	SPASXMUT	--
	Net Total Return	SPASXMUN	--
S&P/ASX 200 Momentum (AUD)	Price Return	SPASXMAP	--
	Total Return	SPASXMAT	--
	Net Total Return	SPASXMAN	--
S&P MidCap 400 Momentum (USD)	Price Return	SPMMUP	--
	Total Return	SPMMUPT	--
	Net Total Return	--	--
S&P SmallCap 600 Momentum (USD)	Price Return	SP6MUP	.SP6MUP
	Total Return	SP6MUT	.SP6MUT
	Net Total Return	--	--
S&P China A-Share Short Term Momentum (CNY)	Price Return	SPCASMCP	--
	Total Return	SPCASMCT	--
	Net Total Return	SPCASMUN	--
S&P Momentum GCC Composite (USD)	Price Return	--	--
	Total Return	SPMOGCUT	--
	Net Total Return	--	--
S&P Momentum Saudi Arabia (SAR)	Price Return	--	--
	Total Return	SPMOSDST	--
	Net Total Return	--	--
S&P Momentum Saudi Arabia Shariah (SAR)	Price Return	--	--
	Total Return	SPMOSSST	--
	Net Total Return	--	--
S&P Momentum Pan Arab Composite LargeMidCap Index (USD)	Price Return	SPMPALUP	--
	Total Return	SPMPALUT	--
	Net Total Return	SPMPALUN	--

Index Data

Daily constituent and index level data are available via subscription.

For product information, please contact S&P Dow Jones Indices, www.spdji.com/contact-us.

Web site

For further information, please refer to S&P Dow Jones Indices' Web site at www.spdji.com.

Appendix A

Momentum Value Calculation

Momentum value is calculated for each of the securities in the index universe on each of the rebalancing reference dates. The momentum value is determined as follows:

1. **S&P Momentum Indices.** The momentum value is computed as the 12-month price change, excluding the most recent month of the security in **local** currency. If 12 months of price history is not available, momentum value is calculated from nine months of price history. The effective rebalancing month is stated as month (M).

- a. Momentum Value = $\left(\frac{price_{M-2}}{price_{M-14}} \right) - 1$

- b. Or, Momentum Value = $\left(\frac{price_{M-2}}{price_{M-11}} \right) - 1$ if 12 months of price history is not available.

S&P Short Term Momentum Indices. The momentum value is computed as the six-month price change, excluding the most recent month of the security in **local** currency. If six months of price history is not available, momentum value is calculated from three months of price history. The effective rebalancing month is stated as month (M).

- a. Momentum Value = $\left(\frac{price_{M-2}}{price_{M-8}} \right) - 1$

- b. Or, Momentum Value = $\left(\frac{price_{M-2}}{price_{M-5}} \right) - 1$ if six months of price history is not available.

NOTE 1: For example, if the effective rebalancing date is on 03/24/2014, the reference date is 02/28/2014, and the momentum value will be calculated based on the prices from 01/31/2014 ($price_{M-2}$) and 01/31/2013 ($price_{M-14}$).

NOTE 2: If there is no price available on day $M-2$ or day $M-14$, the price from the day prior will be used. If there is no price available on any of the ten days prior, the momentum value will be calculated using formula (b) above. If the same condition exists for formula (b), the stock is excluded from the S&P Momentum Indices.

NOTE 3: For a stock to be included in the S&P Momentum Indices with 12-month measurement periods, it must be trading for at least ten months prior to the rebalancing reference date.

2. The momentum value is further adjusted by the security's volatility. For a given *positive* price change over the evaluation period, *lower* volatility improves the adjusted momentum value. For a given *negative* price change over the evaluation period, *higher* volatility improves the adjusted momentum value. When many securities within a given index universe experience negative price changes over a relevant evaluation period, the volatility adjustment may cause the selection of constituents with higher negative price changes.

$$\text{Risk-Adjusted Momentum Value} = \frac{\text{Momentum Value}_i}{\sigma_i}$$

where:

σ = Standard deviation of daily price returns for the same date period used in Step 1 above.

Appendix B

Z-Score & Momentum Score Computation

Z-Score Computation. Computing a z-score is a widely adopted method of standardizing a variable. The z-score for risk-adjusted momentum value for each security is calculated using the mean and standard deviation of the relevant variable within each of the index universes.

The z-score is calculated as follows:

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

where:

z_{α} = Z-score for a given security

x_{α} = Observed value for a given security

μ_{α} = Arithmetic mean of the variable in a given index universe, excluding any missing values

σ_{α} = Standard deviation of the variable in a given index universe

Winsorization reduces the impact of outliers on a data set by limiting them to a designated value or score. For the S&P Momentum Indices, the winsorized z-score of a security is capped at ± 3 .

Momentum Score Computation. Using the winsorized z-scores, a momentum score is computed for each of the securities. For a given security, if its winsorized z-score is above 0, then its momentum score will be the addition of 1 and the z-score. On the other hand, if its winsorized z-score is below 0, then its momentum score will be the result of the inverse of 1 subtracted by its z-score.

If $Z > 0$, Momentum Score = $1 + Z$

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

If $Z = 0$, Momentum Score = 1

Appendix C

Liquidity Weight Computation

The liquidity weight of a given stock is defined as:

$$lw_i = \frac{l'_i}{\sum_1^N l'_j}$$

where:

N = number of selected stocks

l'_i = capped stock liquidity

To maintain optimization stability the liquidity of a given stock is capped as follows:

$$l'_i = \text{MIN} (l_i , 20 \times \text{MinLB})$$

where:

l_i = stock liquidity

MinLB = minimum liquidity of selected stocks

Appendix D

Methodology Changes

Methodology changes since January 1, 2015 are as follows:

Change	Effective Date (After Close)	Previous	Methodology Updated
Corporate Actions: Spin-offs	09/30/2015	Spin-offs are ineligible for inclusion in the indices. Any price adjustments that occur due to a spin-off are accompanied by a AWF increase on the parent stock in the index to neutralize the event.	Spin-offs are ineligible for inclusion in the indices. When the price of the spin-off is not known, the spun-off company is added to the index at a zero price. Once it trades, it is dropped from the index. <i>For further information, please refer to the Treatment of Spin-offs in S&P Dow Jones Indices' Equity Indices Policies & Practices document.</i>

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