

S&P Equity Futures and Currency Futures Indices *Methodology*

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Introduction

Index Objective

The S&P Equity Futures and Currency Futures Indices is a family of indices that measures the performance of the nearest maturing equity and currency futures contract.

Index Family

The S&P Equity Futures and Currency Futures Indices consist of the following:

Equity Futures Indices	Currency Futures Indices
S&P 500 Futures Index Dow Jones Industrial Average Futures Index	S&P U.S. Dollar Futures Index S&P Japanese Yen Futures Index S&P Australian Dollar Futures Index S&P Euro Futures Index

For each of the indices, both excess return (ER) and total return (TR) versions are calculated.

The indices are calculated on a real-time basis.

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' Commodities Indices Policies & Practices Methodology	Commodities Indices Policies & Practices
S&P Dow Jones Indices' Index Mathematics Methodology	Index Mathematics 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.

Index Construction

The S&P Equity Futures and Currency Futures Indices are constructed from the front month futures contract traded on global futures exchanges. The table below lists the contracts, corresponding exchanges and index base dates.

Index	Underlying Futures Contract	Symbol	Exchange	Base Date
S&P 500 Futures Index	E-mini S&P 500 Futures	ES	CME	09/09/1997
Dow Jones Industrial Average Futures Index	E-mini Dow (\$5) Futures	YM	CME	06/14/2002
S&P U.S. Dollar Futures Index	U.S. Dollar Index Futures	DX	ICE	09/09/1997
S&P Japanese Yen Futures Index	Japanese Yen Futures	JY	CME	09/09/1997
S&P Australian Dollar Futures Index	Australian Dollar Futures	AD	CME	09/09/1997
S&P Euro Futures Index	Euro Futures	EC	CME	06/08/1999

Exchange abbreviations:

CME – Chicago Mercantile, Inc. or its successor.

ICE – Intercontinental Exchange, Inc. or its successor.

Futures Roll

Each index is constructed from futures contracts and includes a provision for the replacement of the index futures contracts as they approach maturity (also referred to as “rolling” or “the roll”).

This replacement occurs over a one-day rolling period every quarter, which is five days prior to the last trade date of the futures contract.

Market Disruptions during the Roll Period

Market disruptions are situations where an exchange has failed to open so that no trading is possible due to unforeseen events, such as computer or electric power failures, weather conditions or other events. If any such event happens on the roll date, the roll will take place on the next business day on which no market disruptions exist.

Calculation of Excess Return Index

The excess return of each of the indices is calculated from the price change of the underlying futures contract. On any trading date, t , the level of each of the sub-indices is calculated as follows:

$$ERIndex_t = ERIndex_{t-1} * (1 + CDR_{t,t-1}) \quad (1)$$

where:

$ERIndex_{t-1}$ = The Excess Return Index level on the preceding business day, defined as any date on which the index is calculated.

$CDR_{t,t-1}$ = The Contract Daily return, defined as:

$$CDR_{t,t-1} = \frac{DCRP_t}{DCRP_{t-1}} - 1$$

where:

$DCRP$ = The Daily Contract Reference Price of the futures contract.¹

¹ The official close, as designated by the relevant exchange, is used.

Calculation of Total Return Index

Total return index levels are calculated as follows:

$$TRIndex_t = TRIndex_{t-1} * IndexTotalReturn_t \quad (2)$$

where:

$TRIndex_{t-1}$ = The Total Return Index level on the preceding business day.

Calculation of Index Total Return

For a funded investment, the total return between dates $t-1$ and t includes the risk free return for the initial cash outlay is calculated as follows:

$$IndexTotalReturn_t = (1 + CDR_{t,t-1} + CashRate_t) \quad (3)$$

where the $CashRate_t$ can be TBR_t or FFR_t :

TBR_t = The daily-compounding Treasury Bill rate, as determined by the following formula:

$$TBR_t = \left[\frac{1}{1 - \frac{91}{360} * TBAR_{t-1}} \right]^{\frac{Delta_t}{91}} - 1 \quad (4)$$

where:

$Delta_t$ = The number of calendar days between the current and previous business days.

$TBAR_{t-1}$ = The most recent weekly high discount rate for 91-day U.S. Treasury bills, effective on the preceding business day.²

FFR_t = The simple Fed Funds rate, as determined by the following formula:

$$FFR_t = FedFunds_{t-1} * \frac{ACT(t,t-1)}{N} - 1 \quad (5)$$

where:

$ACT(t, t-1)$ = The actual calendar days between day t (exclusive) and day $t-1$ (inclusive)

$N = 360$, the number of days in a year

² Generally, the rates are announced by the U.S. Treasury each Monday. On Mondays that are bank holidays, Friday's rates will apply. The day count convention used is ACT/360.

The table below lists the total return indices and their corresponding cash rate.

Index	Cash Rate
S&P 500 Futures Total Return Index	TBR
S&P 500 Futures (Fed Funds) Total Return Index	FFR
Dow Jones Industrial Average Futures Total Return Index	TBR
S&P U.S. Dollar Futures Total Return Index	TBR
S&P Japanese Yen Futures Total Return Index	TBR
S&P Australian Dollar Futures Total Return Index	TBR
S&P Euro Futures Total Return Index	TBR

Currency of Calculation and Additional Index Return Series

S&P 500 Futures KRW Hedged (Fed Funds) (3PM KST Rate) Index. The index is calculated in Korean won and hedged using the 3:00 PM Korean standard rate.

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 [S&P DJI's All Indices by Methodology Report](#).

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.

Index Governance

Index Committee

An S&P Dow Jones Indices' Index Committee maintains the indices. The Index Committee may revise index policy covering rules for including currencies, the timing of rebalancing 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' Commodities Indices Policies & Practices Methodology.

Index Policy

Announcements

Rebalancing announcements, if needed, are made two days prior to the rebalancing date.

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

Holiday Schedule

The indices are calculated daily, throughout the calendar year. The indices follow the NYSE holiday schedule.

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

For information on Calculations and Pricing Disruptions, Market Disruption Events and Holidays During Roll Period, Expert Judgment, Data Hierarchy, Unexpected Exchange Closures and Error Corrections, please refer to S&P Dow Jones Indices' Commodities 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 [S&P DJI's All Indices by Methodology Report](#) for a complete list of indices covered by this document.

Index	Bloomberg
S&P 500 Futures Excess Return Index	SPXFP
S&P 500 Futures Total Return Index	SPXFTR
S&P 500 Futures (Fed Funds) Index (USD) TR	SPXFFFUT
Dow Jones Industrial Average Futures Excess Return Index	DJIAFP
Dow Jones Industrial Average Futures Total Return Index	DJIAFTR
S&P U.S. Dollar Futures Excess Return Index	SPUSDP
S&P U.S. Dollar Futures Total Return Index	SPUSDTR
S&P Japanese Yen Futures Excess Return Index	SPJPYFP
S&P Japanese Yen Futures Total Return Index	SPJPYFTR
S&P Australian Dollar Futures Excess Return Index	SPAUDFP
S&P Australian Dollar Futures Total Return Index	SPAUDFTR
S&P Euro Futures Excess Return Index	SPEUFP
S&P Euro Futures Total Return Index	SPEUFTR
S&P 500 Futures KRW Hedged (Fed Funds) (3PM KST Rate) Index	SPXFFKHT

Index Data

Daily index level data is 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.

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