

# Dorsey Wright Fixed Income Allocation Index Methodology

## Index Description

The Dorsey Wright Fixed Income Allocation Index selects four exchange-traded funds from the State Street SPDR ETF product line with powerful Relative Strength characteristics.

## Index Calculation

The Dorsey Wright Fixed Income Allocation Index is an equal weighted index. The value of the Index equals the aggregate value of the Index share weights, also known as the Index Shares, of each of the Index Securities multiplied by each such security's Last Sale Price<sup>1</sup>, and divided by the divisor of the Index. The divisor serves the purpose of scaling such aggregate value to a lower order of magnitude which is more desirable for reporting purposes. If trading in an Index Security is halted on its primary listing market, the most recent Last Sale Price for that security is used for all index computations until trading on such market resumes. Likewise, the most recent Last Sale Price is used if trading in a security is halted on its primary listing market before the market is open. The Index began on February 22, 2016 with a base value of 1000.

The formula for index value is as follows:

Aggregate Adjusted Market Value/Divisor

The formula for the divisor is as follows:

(Market Value after Adjustments/Market Value before Adjustments) X Divisor before Adjustments

Two versions of the Index will be calculated by Nasdaq Inc.

- The price return Index (Nasdaq: DWAFIR) is ordinarily calculated without regard to cash dividends on Index Securities.
- The total return Index (Nasdaq: DWAFIRT) reinvests cash dividends on the ex-date.

All Indexes reflect extraordinary cash distributions.

The Indexes are calculated and disseminated once per second from 9:30:01 to 17:16:00 Eastern Time (ET) in USD. The closing value of the Indexes may change up until 17:15:00 ET due to corrections to the Last Sale Price of the Index Securities.

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<sup>1</sup> For purposes of this document, Last Sale Price refers to the last regular way trade reported on such security's Index Market. The Index Market is the listing market for which prices are received and used by Nasdaq in the Index calculation and generally will represent the most liquid trading market of the Index Security. If a security does not trade on its Index Market on a given day or the Index Market has not opened for trading, the most recent last sale price from the Index Market (adjusted for corporate actions, if any) is used. For securities where Nasdaq is Index Market, the Last Sale Price may be the Nasdaq Official Closing Price (NOCP) when Nasdaq is closed.

## Eligibility Criteria

The potential inventory for the Index consists of State Street SPDR ETFs that are designed to target various segments of the Fixed Income asset class (See Appendix A), and the potential inventory's members are chosen at the sole discretion of the Index Provider. The Index is designed to provide targeted exposure to the four ETFs that the Index Provider believes offer the greatest potential to outperform the other ETFs in the selection universe. The Index Provider believes that the most adaptive tool to achieve the goal of discerning the strongest trends from the weakest trends is through Point & Figure Relative Strength analysis.

## Index Evaluation

**Point & Figure Charting:** Point & Figure charting is a logical, organized way of recording supply and demand within a security, focusing on the price movements of that security. Point & Figure charts filter out insignificant price movements by ignoring small price fluctuations, trading volume, and time.

**Point & Figure Relative Strength Chart:** Relative Strength is another technical analysis tool that measures a security's performance relative to other securities in the same industry, competitive industries, benchmarks, or broad market indices. Relative Strength is a momentum technique that relies on unbiased, unemotional, objective data, rather than biased forecasting and subjective research. Relative Strength is a way of recording historic performance patterns, and Dorsey, Wright & Associates (DWA) uses Relative Strength signals as an indicator for current momentum trends of a security versus other securities.

For the purpose of conducting the Dorsey Wright Fixed Income Allocation Index methodology, DWA has selected the Index's potential inventory, which is composed of roughly 20 Fixed Income related State Street SPDR ETFs. The price data of these selected ETFs (or applicable indexes) is used to perform Relative Strength analysis.

DWA builds Relative Strength charts for each of the ETFs or indexes using the following process:

- (i) On a daily basis, DWA computes the ratio of the closing price of each ETF or index to the closing price of each other ETF or index.

Example:

$$\text{Relative Strength Reading} = (\text{ETF 1 Closing Price} \div \text{ETF 2 Closing Price}) \times 100$$

- (ii) As a result of on-going calculations, a Point & Figure Relative Strength chart is created for each relationship within the inventory. A Point & Figure Relative Strength chart is a variation of a Point & Figure chart but its input value is computed in the previous step, instead of individual security prices.

**Relative Strength Matrix:** DWA has implemented a systematic way of analyzing many Point & Figure Relative Strength charts by aggregating Buy Signals and Sell Signals within a "matrix" format. When a column of X's exceeds a previous column of X's, the chart indicates

a "Buy Signal" (also referred to as positive Relative Strength). Conversely, "Sell Signals" are given when a column of O's falls below a previous column of O's (also referred to as negative Relative Strength).

DWA created the Relative Strength Matrix (the "Matrix") to analyze large numbers of charts and to easily display an equally large data set of signals. Each box of the Matrix represents a Relative Strength comparison between one State Street SPDR ETF or index and another, where the numerator is the ETF or index running down the left hand side of the matrix and the denominator is the ETF or index from the top of the Matrix.

For each State Street SPDR ETF or index, the total number of Relative Strength charts that are on a Buy Signal are noted in the column "Buys" of the Matrix. The Matrix is ranked such that the ETF with the highest number of Buy Signals is ranked #1, and appears at the top of the Matrix. The ETF with the lowest number is ranked last and appears on the bottom of the Matrix.

The Index is composed of the top four ranked State Street SPDR ETFs in the inventory and the ETFs are only sold when they fall sufficiently out of favor versus the other members of the inventory on a Relative Strength basis. A new ETF is only added to the Index when an ETF in the Index is sold. When an addition or deletion is made, the Index is rebalanced so that each position is equally weighted. The inventory's Relative Strength matrix is evaluated once a week on the Market Reference Date for potential changes to the Index. Security additions and deletions are made periodically and will be effected over three consecutive trading days beginning on the announced effective date of the changes (see Index Rebalancing section below for additional details).

Additionally, if at any time during the year other than the Evaluation, an Index Security no longer meets the Index Eligibility Criteria, or is otherwise determined to have become ineligible for continued inclusion in the Index, the security is removed from the Index and may not be replaced. In all cases, a security is removed from the Index at its Last Sale Price. If, however, at the time of its removal the Index Security is halted from trading on its primary listing market and an official closing price cannot readily be determined, the Index Security may, in Nasdaq's discretion, be removed at a zero price. The zero price will be applied to the Index Security after the close of the market but prior to the time the official closing value of the Index is disseminated, which is ordinarily 17:16:00 ET.

## **Index Maintenance**

Index Share changes are not made outside of the evaluation and rebalancing; however changes arising from stock dividends and stock splits are made to the Index on the evening prior to the effective date of such corporate action. In the case of certain spin-offs or rights issuances, the price of the Index Security is adjusted and a corresponding adjustment is made to the Index Shares such that the weight of the Index Security does not change as a result of the action.

A special cash dividend announced by the listing exchange, will result in an adjustment to the Last Sale Price for the special amount distributed and a corresponding adjustment to the Index Shares of an Index Security prior to market open on the ex-date such that the weight of the Index Security will not change as a result of the action. A special dividend may also be referred to as extra, extraordinary, non-recurring, one-time, unusual, etc.

Ordinarily, whenever there is a change in an Index Security or a change to the price of an Index Security due to spin-offs, rights issuances or special cash dividends as mentioned above, the divisor is adjusted to ensure that there is no discontinuity in the value of the Index which might otherwise be caused by any such change. All changes are announced in advance and are reflected in the Index prior to market open on the Index effective date.

### **Index Rebalancing**

The Index employs an equal-dollar weighting methodology with each security's Index market value rebalanced upon any change to the holdings of the Index. In conjunction with the Index Evaluation, the Index Rebalancing is effected over a period of three (3) business days ("Rebalancing Period"), targeting an equal-dollar market value for each Index holding on the third, and final, day of the rebalance period.

Any changes to the Index will be announced on the Market Reference Date. The effective date for the Index changes will be stated (typically two business days after the Market Reference Date), and last sale prices on the Market Reference Date will be used to calculate new Index Shares (calculated by dividing the equal-dollar value of each Index Security by the corresponding last sale price of the Index Security).

The Rebalancing Period will begin on the stated effective date with Index Shares of all Index Securities incrementally added or removed from the Index in a generally proportional manner over a three day period, using the share values calculated using last sale prices on the Market Reference Date.

In instances where the market may be closed during the three-day period outlined above, the process will resume on the next available trading day.

Nasdaq may, from time to time, exercise reasonable discretion as it deems appropriate in order to ensure Index integrity.

## Appendix A

The potential inventory is limited to the following, which is subject to change if deemed necessary and approved by DWA's Index Committee.

TLO	SPDR Barclays Long Term Treasury ETF
ITE	SPDR Barclays Intermediate Term Treasury ETF
BND	SPDR Barclays Aggregate Bond ETF
IPE	SPDR Barclays TIPS ETF
BWX	SPDR Barclays International Treasury Bond ETF
WIP	SPDR Citi International Government Inflation-Protected Bond ETF
TFI	SPDR Nuveen Barclays Municipal Bond ETF
SHM	SPDR Nuveen Barclays Short Term Municipal Bond ETF
SRLN	SPDR Blackstone / GSO Senior Loan ETF
PSK	SPDR Wells Fargo Preferred Stock ETF
BIL	SPDR Barclays 1-3 Month T-Bill ETF
CWB	SPDR Barclays Convertible Bond ETF
LWC	SPDR Barclays Long Term Corporate Bond ETF
JNK	SPDR Barclays High Yield Bond ETF
ITR	SPDR Barclays Intermediate Term Credit Bond ETF
IBND	SPDR Barclays International Corporate Bond ETF
BWZ	SPDR Barclays Short Term International Treasury Bond ETF
SCP	SPDR Barclays Short Term Corporate Bond ETF
FLRN	SPDR Barclays Investment Grade Floating Rate ETF
MBG	SPDR Barclays Mortgage Backed Bond ETF
EBND	SPDR Barclays Emerging Markets Local Bond ETF

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