



# **Fidelity Canada U.S. Low Volatility Currency Neutral Index**

## **Index Methodology Document**

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# Section 1: Introduction

## Index Definitions and Rationale

1. **Fidelity Canada U.S. Low Volatility Currency Neutral Index** is designed to reflect the performance of stocks of large and mid-capitalization stocks with lower volatility than the broader U.S. equity market
  - **Rationale:** Low volatility stocks have demonstrated the potential to generate similar returns as the broader market over time with less volatility

## Index Methodology Summary

Parameter	Fidelity Canada U.S. Low Volatility Currency Neutral Index
Investment Universe*	Largest 1000 U.S. stocks based on float-adjusted market cap
Sector Weights	40% reallocation to lowest volatility sectors
Portfolio Construction	<ol style="list-style-type: none"> <li>1. Calculate composite score based on targeted factors</li> <li>2. Adjust using modified cap scoring approach</li> <li>3. Select highest-ranked stocks within each sector by score</li> <li>4. Assign equal active weights (i.e., all stocks overweighted by the same amount)</li> </ol>
Rebalancing	Semi-annual

\* Based on full list of stocks that meets liquidity and investability constraints; process detailed in Section 2.

# Section 2: Investment Universe

## U.S. Investment Universe

Constructing the Fidelity Canada U.S. Low Volatility Currency Neutral Index begins with selecting the largest 1,000 U.S. stocks based on market cap and certain liquidity and investability requirements. These largest 1,000 securities are the eligible investment universe for Fidelity Canada U.S. Low Volatility Currency Neutral Index and are utilized to determine the weights of the broader U.S. equity market (U.S. Equity market).

### Securities Excluded:

1. Remove any stocks whose Country is not defined by S&P as the United States
2. Remove any stocks whose security type is not set to common stock. Also remove any stocks that are not the parent entity where there is a parent entity listed in the country/region of domicile. Should there be no parent entity, but multiple child entities listed in the country/region of domicile, the child entity with the highest ADV will be included.
3. Remove any remaining securities that are:
  - a. Limited Partnerships
  - b. BDCs
  - c. ADRs
  - d. Closed End Funds
  - e. UITs
  - f. Mutual Funds

### Data Availability Screens:

1. Include only stocks with prices, market caps, and trading volumes greater than zero
2. Exclude any stock without pricing six months prior

### Liquidity / Investability Screens:

1. Exclude all stocks in the bottom quintile of securities based on days to trade \$10 million
2. Exclude all stocks with less than 15% free float market cap

### Sanctions

1. Fidelity Product Services LLC will exclude, as necessary, any security currently under sanction/with broad based government-imposed trading restrictions. These securities will be evaluated on a case-by-case basis by the Index Committee.

**Top 1000 Selection:** Sort the remaining stocks by free-float market cap. The market cap of all share classes is combined into a single value for the stock. The largest 1000 stocks comprise the eligible starting universe. Weights for constituents and sectors in the U.S. Equity market are also determined using combined free-float market cap.

## Section 3: Index Construction

### Fidelity Canada U.S. Low Volatility Currency Neutral Index

To determine the level of exposure each stock has to the targeted low volatility factor, a composite score is calculated. The composite score is a weighted-average z-score based on three measures of low volatility. Composite scores are calculated separately within each sector. Stocks are identified for inclusion in the index based on their composite factor score.

### Characteristics of Fidelity Canada U.S. Low Volatility Currency Neutral Index

Fidelity Canada U.S. Low Volatility Currency Neutral Index screens for stocks with low historical volatility of prices and earnings based on:

Factor	Weight	Definition
5-yr Standard Deviation of Price Returns	33%	Accounts explicitly for the trailing long-term price volatility of each stock, putting more weight on companies with more stable returns (favor stocks with lower standard deviation of returns)
5-yr Beta	33%	Measures a stock's sensitivity to market movements, placing more emphasis on stocks that perform better when the market declines (favor stocks with lower beta)
5-yr Standard Deviation of EPS	33%	Adds a measure of financial stability by accounting for the volatility of a company's earnings, instead of evaluating only price volatility (favor stocks with lower standard deviation of EPS)

### Calculating Composite Factor Score

This list of securities is used to compute the weighted-average composite score. Composite scores are calculated separately within each sector.

### Constructing the Index

Index construction is an iterative process of combining the composite factor score, size adjustment, security selection and security weighting.

The process targets the selection of 100 stocks, but the final constituent count of the index may be more or less than 100.

### Computing Size-Adjusted Composite Scores

Composite scores are size-adjusted so as to remove size bias in the index by blending the composite score with a size factor until no size bias remains. This iterative process begins with 100% weight allocated to the composite score and entails moving incremental weight to the size factor until the portfolio's overall exposure to size is at a minimum.

### Security Selection

Within each sector order securities based on the size adjusted composite score. Select top securities in new investment universe depending on the number of stocks within the sector.

## Weighting Methodology

Assign an equal, active weight to the securities selected within each sector (i.e., each security has the same overweight relative to its weight in the U.S. investment universe). This weighted sub-set of securities from the new investment universe is the index portfolio. Intra-rebalance the weights float with the market (i.e. no capping).

In order to emphasize low volatility stocks, the sectors are weighted relative to the broader U.S. Equity market depending on the volatility characteristics of the sector. Sectors with lower volatility characteristics are overweighted, while those with higher volatility characteristics are underweighted.

Begin with the sector neutral portfolio, as noted above. Compute the sector-level weighted average return volatility score for each portfolio sector. Sort all sectors by their return volatility scores (low scores to high scores) and divide them into the top half and bottom half groups (if there is an uneven number of sectors, the extra one is included in the bottom half).

Add up to 40% weight to the top half sectors by taking weight from the bottom half sectors (if there is an uneven number of sectors, the extra one is included in the bottom half). For sectors in the bottom half, begin by subtracting an equal amount of weight from each sector. This bottom half sector underweight (BHSU) is 40% divided by number of sectors in bottom half. If BHSU is more than the market weight of any bottom half sector, its weight is reduced to zero. Thus, weight will either be sector weight less BHSU or zero.

For sectors in the top half, add an equal amount of weight to each sector. Within each sector in the top half, the additional weight should be added equally to each stock within that sector. As an example, if 800bps is to be added to a sector that has ten stocks, then each stock will have its portfolio weight increase by 80bps.

## Section 4: Index Maintenance

### Frequency of Rebalance

The Fidelity Canada U.S. Low Volatility Currency Neutral Index is rebalanced semi-annually on the 3rd Friday of February and August.

Proformas will be generated starting 8 days prior to the rebalance date, based on data from 10 U.S. business days prior to the scheduled rebalance.

REBALANCE SCHEDULE DETAILS	
Fundamental Data Captured	10 U.S. business days prior to the rebalance date
Pro Forma Begins	8 days prior to the rebalance date
Rebalance Effective Date	Third Friday of the rebalance month effective at next day market open

### Ongoing Maintenance

The index is also reviewed on an ongoing basis to account for corporate events such as mergers, takeovers, delistings, group changes, suspensions, spin-offs/demergers or bankruptcies. Changes to index composition and related weight adjustments are made as soon as they are effective. Corporate actions will be treated as follows:

STOCK EVENT TYPE	SPDJI CORPORATE ACTION TREATMENT	DIVISOR CHANGE
Stock Forward/Reverse Split	Market cap neutral event. Shares change offset by price adjustment in the morning.	No
Investible Weight Factor (IWF) Change	IWF increase/decrease has no impact on index shares as the Additional Weight Factor (AWF) will adjust to offset the IWF change.	No
Share Issuance	Shares outstanding increase/decrease has no impact on index shares as the AWF will adjust to offset the shares outstanding change.	No
Standard rights treatment (market cap neutral) - default	If the rights are in the money, the spot price of the underlying security will be adjusted after market close of the day prior to the exDate and the index shares of the underlying security will adjust to offset the price adjustment thus making the event a market cap neutral event.	No
Special cash dividend (standard treatment)	The spot price of the underlying security will be adjusted after market close of the day prior to the exDate.	Yes
Delisting (due to bankruptcy or cancellation of listing)	The delisted security will be deleted from the index (at either the last traded price or a zero price).	Yes
Spin-off (Price Adjustment)	In the event that SPDJI applies the event as a non-ZPSO event, the spun-off company is added to the index with respect to spinoff ratio. The spot price of the underlying security is adjusted after market close of the day prior to the exDate by the closing spot price of the spunoff company multiplied by the spinoff ratio, thus making it a market cap neutral event. The divisor will not be adjusted.	No
M&A (Cash acquisition)	The acquired company is deleted from the index.	Yes
M&A (Stock acquisition, cash and/or stock acquisition)	The acquired company is deleted from the index. The index shares of the acquirer will not be adjusted.	Yes
Sanctions	S&P DJI reviews sanctions on a case-by-case basis. The sanctioned company will be removed as necessary from the index with approval from the Fidelity Product Services LLC Index Committee	Yes



## Section 5: Index Calculations

The index is calculated by means of the divisor methodology. The index value is simply the index market value divided by the index divisor:

$$\text{Index Value} = \frac{\text{Index Market Value}}{\text{Index Divisor}}$$

$$\text{Index Market Value} = \sum_{i=1}^N (\text{Index Shares})_i * (\text{Price})_i$$

In order to maintain basket series continuity, it is also necessary to adjust the divisor at the rebalancing.

$$(\text{Index Value})_{\text{before rebalancing}} = (\text{Index Value})_{\text{after rebalancing}}$$

Therefore,

$$(\text{Divisor})_{\text{after rebalancing}} = \frac{(\text{Index Market Value})_{\text{after rebalancing}}}{(\text{Index Value})_{\text{before rebalancing}}}$$

The index hedges currency risk on a daily basis. Currency hedging is calculated by hedging beginning-of-period balances using rolling one-month forward contracts. The amount hedged is adjusted on a daily basis according to the performance of the underlying index. Daily hedging further reduces the currency risk from under-hedging or over-hedging resulting from index movement between two monthly rolling periods.

$$\text{Hedged Index Return} = \text{Local Total Return} + \text{Currency Return} * (1 + \text{Local Total Return}) + \text{Hedge Return}$$

Where

$$\text{Hedge Return} = \text{HedgeRatio} * (\text{Forward Return} - \text{Currency Return})$$

This index will have a hedge ratio of 100%.

### Index History

Index history will be calculated for daily values and month end holdings going back to 01/31/1997. Base value will be 100.00 starting as of 01/31/1997. The 4 PM New York EST WM fix rate will be used for foreign exchange valuation. For historical values, the 4 PM London WM fix rate will be used for foreign exchange valuation prior to 09/13/2018. The base currency of the index is the Canadian Dollar. The index is hedged.

## Section 6: Index Governance

### Index Sponsor and Index Calculation Agent

The index sponsor is Fidelity Product Services LLC (FPS). FPS has appointed S&P Dow Jones as Index Calculation Agent to calculate and publish the indexes in accordance with this methodology document. The index sponsor may appoint an alternative Index Calculation Agent at any time.

### Index Committee

The index is maintained by Fidelity Product Services LLC Index Committee. The Index Committee is responsible for reviewing the design and composition of the indexes. The Committee meets periodically to review market conditions and index performance, or on an as-needed basis to address major market developments. In addition, the Committee reserves the right to exercise its discretion in making decisions with respect to Index Policies or actions.

Fidelity Investments considers information about changes to its indexes and related matters to be potentially market moving and material. Therefore, all Index Committee discussions are confidential.

### Index Policy

**Announcements:** Announcements regarding changes to any of the indexes will be made publicly available prior to the effective date of the change. All announcements will be published on <https://research2.fidelity.com/pi/FidelityIndex/RebalanceSchedules>.

**Index Holiday Schedule:** Index schedule will follow the TSX holiday schedule

**U.S. Business Days:** Each day on which the New York Stock Exchange (NYSE) is open for general business.

**Market Disruption:** In situations where calculation of an index may not be possible under certain circumstances, including market disruptions, systems failures, weather conditions, acts of terrorism or any other event that is beyond the reasonable control of the Index Sponsor and/or Index Calculation Agent, the Index Calculation Agent will calculate the closing price of the indexes based on:

- (1) The closing prices published by the exchange, or
- (2) If no closing price is available, the last regular trade reported for each security before the exchange closed

If an exchange fails to open due to unforeseen circumstances, the Index Calculation Agent will treat the closures as a standard market holiday. The index will use the prior day's closing prices and shift any corporate actions to the following business day. If all exchanges fail to open or in other extreme circumstances, the Index Calculation Agent may determine not to publish the indexes for that day.

## Disclaimers

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