

**S&P Dow Jones
Indices**

A Division of **S&P Global**

S&P/TSX Composite Low Volatility Index *Methodology*

November 2017

Table of Contents

Introduction	2
Partnership	2
Highlights	2
Eligibility Criteria	3
Index Eligibility	3
Multiple Share Classes and Dual Listed Companies	3
Index Construction	4
Approaches	4
Constituent Selection	4
Constituent Weightings	4
Index Calculations	4
Index Maintenance	5
Rebalancing	5
Additions and Deletions	5
Corporate Actions	5
Index Governance	6
Index Committee	6
Advisory Panel	6
Index Policy	7
Announcements	7
Holiday Schedule	7
Rebalancing	7
Unexpected Exchange Closures	7
Recalculation Policy	7
Contact Information	7
Index Dissemination	8
Tickers	8
FTP	8
Web site	8
Appendix	9
Methodology Changes	9
Disclaimer	10

Introduction

The S&P/TSX Composite Low Volatility Index[®] is designed to measure the performance of the 50 least volatile stocks within the S&P/TSX Composite (the underlying universe index). Volatility is defined as the standard deviation of a security's daily price returns over the prior one year trading period.

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.

Partnership

The S&P/TSX indices are calculated and managed by S&P Dow Jones Indices. The TMX Group Inc. (TMX) is the owner and distributor of all S&P/TSX equity index data.

Highlights

Constituent are weighted relative to the inverse of their corresponding volatility, with the least volatile stocks receiving the highest weights.

The index is designed to serve as a benchmark for low volatility or low variance strategies based on the S&P/TSX Composite, which is the headline index and the principal broad market measure for the Canadian equity markets.

For more information on the S&P/TSX Composite, please refer to the S&P/TSX Canadian Indices Methodology available at www.spdji.com.

Eligibility Criteria

Index Eligibility

To be included in the index, a stock must be a member of the S&P/TSX Composite and must have traded on all trading days in the prior 12 months leading up to the rebalancing reference date.

For information on stock eligibility criteria and index management rules of the S&P/TSX Composite, please refer to the S&P/TSX Canadian Indices Methodology at www.spdji.com.

Multiple Share Classes and Dual Listed Companies

Some companies may have more than one share class line in the S&P/TSX Composite. In the S&P/TSX Composite Low Volatility Index, each company is represented once by the primary listing, which is generally the most liquid share line.

Index Construction

Approaches

There are two steps in the creation of the indices. The first is the selection of the companies; the second is the weighting of the index constituents.

Constituent Selection

To be eligible for inclusion in the index, stocks must first be constituents of the S&P/TSX Composite. The selection of index constituents is done as follows:

1. Using available price return data for the trailing 12 months leading up to each index rebalancing reference date, the volatilities of the constituents are calculated.
2. Constituents are then ranked based on the inverse of the realized volatility. The top 50 securities with the least volatility form the index.

Constituent Weightings

The index employs a volatility-driven weighting scheme. At each rebalancing, the weight, w , for each index constituent, i , is set inversely proportional to its volatility.

$$w_i = \frac{\frac{1}{Volatility_i}}{\sum_{i=1}^{50} \frac{1}{Volatility}}$$

Volatility is defined as the standard deviation of the security's daily price returns over the prior 12 months of trading days. It can be mathematically expressed as:

$$\sqrt{\frac{\sum_{i=1}^{50} (X_i - \bar{X})^2}{N-1}}$$

where:

$$X_i = \text{Price change} = \frac{P_t}{P_{t-1}} - 1$$

P_t = Closing price of the stock on day t

P_{t-1} = Closing price of the stock on day $t-1$

t = 1 to 50

\bar{X} = Average price change

Index Calculations

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

Please refer to S&P Dow Jones Indices' Mathematics Methodology for further details on the index calculation methodology.

Index Maintenance

Rebalancing

The index is rebalanced quarterly, effective after the close on the third Friday of March, June, September and December. The rebalancing reference dates are the last business day of February, May, August and November, respectively. Weights calculated as a result of the reference date data are implemented in the index using closing prices as of the Thursday prior to the second Friday of March, June, September and December.

Additions and Deletions

Additions. With the exception of qualifying spin-offs, no additions are made to the index between quarterly rebalancings.

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

Corporate Actions

All index adjustments and corporate action treatments follow the S&P/TSX Composite.

Spin-Offs. Spin-offs are added to the index on the ex-date. Spin-off treatment follows the underlying universe index. If the spin-off remains in the underlying universe index, it will remain in the index and is evaluated for continued index inclusion at the subsequent rebalancing.

For general information on corporate actions, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document located on our Web site, www.spdji.com.

Index Governance

Index Committee

The S&P/TSX Canadian indices are maintained by the S&P/TSX Canadian Index Committee. The Index Committee is comprised of four members representing S&P Dow Jones Indices and three members representing the Toronto Stock Exchange ("TSX"). The Index Committee is chaired by a member designated by S&P Dow Jones Indices. Meetings are held monthly, and from time to time, as needed.

The Index Committee is responsible for setting rules and policies for the S&P/TSX Canadian Indices, determining the composition of the Indices and administering the methodology. In fulfilling its responsibilities, the Index Committee has full and complete discretion to amend, apply or exempt the application of the methodology and other index policies as circumstances may require, and add, remove or by-pass any security in determining the composition of any of the indices.

The Index Committee may rely on any information or documentation submitted to or gathered by it that the Index Committee believes to be accurate. Where a public document used by the Index Committee is available in both official languages, the Index Committee shall assume that the contents of both versions are identical. The Index Committee reserves the right to reinterpret publicly available information and to make changes to the index based on a new interpretation of that information at its sole and absolute discretion.

Index corrections and changes to index composition are implemented at such time and in such manner, as the Index Committee deems appropriate. The timing of any index change made in response to a correction shall be at the sole and absolute discretion of the Index Committee.

Stock prices, VWAPs, and prices used to calculate QMV shall be prices determined by trading on the TSX. Trading volume shall be determined by trading on the TSX, Aequitas (Lit and Neo), Alpha, CSE (Pure Trading), Lynx, Nasdaq CXC, Nasdaq CX2 and Omega.

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

Advisory Panel

S&P Dow Jones Indices maintains an Index Advisory Panel to provide advice to the Index Committee, to S&P Dow Jones Indices and to the TSX on index related matters. The Advisory Panel meets at the request of the Index Committee to discuss matters related to the use of equity indices in Canada; typically the Advisory Panel meets annually. The Index Committee designates members of the Advisory Panel to provide representation of major financial market entities including leading institutional investors, investment banks, brokerage firms and others with an interest in the development of the equity markets in Canada. Meetings of the Advisory Panel are not open to the public or the press; however, the proceedings are not confidential and members are free to discuss them publicly.

For information on Quality Assurance and Internal Reviews of Methodology, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document located on our Web site, www.spdji.com.

Index Policy

Announcements

Whenever possible, announcements of additions or deletions of stocks or other index adjustments are made five trading days before the adjustments are implemented. In those cases when it is not possible to trade a stock five days after an announcement, the announcement period may be shortened. However, the implementation of an index adjustment is never earlier than the market close of the day following the announcement.

Announcements of additions and deletions for the S&P/TSX Canadian indices are generally made at 05:15 PM Eastern Time. Press releases are released to major news services.

In addition, TMX Datalinx offers a fee-based subscription to Index Notices. The Index Notices provide the most detailed and comprehensive coverage of index changes. Complete data for index replication (including share counts, tickers and data on index levels and returns) are also available through TMX Datalinx. In order to subscribe, contact TMX Datalinx by phone at +1.416.947.4778 or by email at marketdata@tmx.com.

Holiday Schedule

The S&P/TSX Canadian indices are calculated when the Canadian equity market is open.

A complete holiday schedule for the year is available on the TMX Web site at www.tmx.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 document located on our Web site, www.spdji.com.

Recalculation Policy

For information on the recalculation policy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document located on our Web site, www.spdji.com.

For information on Calculations and Pricing Disruptions, Expert Judgment and Data Hierarchy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document located on our Web site, www.spdji.com.

Contact Information

For any questions regarding an index, please contact: index_services@spglobal.com.

Index Dissemination

The TMX Group Inc. (TMX) serves as the distributor of both real-time and historical index data. In addition, index levels are available on S&P Dow Jones Indices Web site at www.spdji.com, through major quote vendors (see codes below), through numerous investment oriented Web sites and various print and electronic media.

Tickers

Index	Bloomberg	Reuters	Thomson
S&P/TSX Composite Low Volatility Index	SPTXLVPR	.GSPTXLV	T.XLV
S&P/TSX Composite Low Volatility TR Index	SPTXLVTR	.TRGSPTXLV	TR.XLV
S&P/TSX Composite Low Volatility Index (USD)	TXLVU	.GSPTXLVU	
S&P/TSX Composite Low Volatility Index (USD) TR	TXLVUT	.TRGSPTXLVU	

FTP

Daily stock level and index data is available from the Toronto Stock Exchange on subscription. Please contact Market Data at 416-947-4778 or, by email, at marketdata@tmx.com.

For further information, please refer to the TMX Web site at www.tmx.com.

Web site

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

Appendix

Methodology Changes

Methodology changes since January 1, 2015 are as follows:

Change	Effective Date (After Close)	Previous	Methodology Updated
Multiple Share Class Lines	20-Aug-15	Companies that have more than one class of common stock outstanding were represented only once in the index. The stock price was based on one class, and the share count was based on the total shares outstanding of all classes.	Each company is represented once by the primary listing, which is generally the most liquid share line.
Trading Volume Marketplaces	20-Aug-15	TSX and other Canadian trading venues which make the data available in a timely fashion.	TSX, Aequitas (Lit and Neo), Alpha, Chi-X, CSE (Pure Trading), CX2, Lynx, TMX Select (Excluded after September 2016 review) and Omega.

Disclaimer

Copyright © 2017 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. STANDARD & POOR'S, S&P, SPDR, S&P 500, S&P EUROPE 350, S&P 100, S&P 1000, S&P COMPOSITE 1500, S&P MIDCAP 400, S&P SMALLCAP 600, GIVI, GLOBAL TITANS, S&P RISK CONTROL INDICES, S&P GLOBAL THEMATIC INDICES, S&P TARGET DATE INDICES, S&P TARGET RISK INDICES, DIVIDEND ARISTOCRATS, STARS, GICS, HOUSINGVIEWS, INDEX ALERT, INDEXOLOGY, MARKET ATTRIBUTES, PRACTICE ESSENTIALS, S&P HEALTHCARE MONITOR, SPICE, and SPIVA are registered trademarks of Standard & Poor's Financial Services LLC, a division of S&P Global ("S&P"). DOW JONES, DJ, DJIA and DOW JONES INDUSTRIAL AVERAGE are registered trademarks of Dow Jones Trademark Holdings LLC ("Dow Jones"). These trademarks together with others have been licensed to S&P Dow Jones Indices LLC. Redistribution, reproduction and/or photocopying in whole or in part are prohibited without written permission. This document does not constitute an offer of services in jurisdictions where S&P Dow Jones Indices LLC, Dow Jones, S&P or their respective affiliates (collectively "S&P Dow Jones Indices") do not have the necessary licenses. All information provided by S&P Dow Jones Indices is impersonal and not tailored to the needs of any person, entity or group of persons. S&P Dow Jones Indices receives compensation in connection with licensing its indices to third parties. Past performance of an index is not a guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index is available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor, and S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. Prospective investors are advised to make an investment in any such fund or other vehicle only after carefully considering the risks associated with investing in such funds, as detailed in an offering memorandum or similar document that is prepared by or on behalf of the issuer of the investment fund or other investment product or vehicle. S&P Dow Jones Indices LLC is not a tax advisor. A tax advisor should be consulted to evaluate the impact of any tax-exempt securities on portfolios and the tax consequences of making any particular investment decision. Inclusion of a security within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, nor is it considered to be investment advice.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof ("Content") may be modified, reverse-engineered, reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively "S&P Dow Jones Indices Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN "AS IS" BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY

SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

S&P Global keeps certain activities of its various divisions and business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions and business units of S&P Global may have information that is not available to other business units. S&P Global has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.

TSX is a trademark of TSX, Inc. and has been licensed for use by S&P Dow Jones Indices.