

**S&P Dow Jones  
Indices**

A Division of **S&P Global**

# **S&P/TSX Global Mining Index** *Methodology*

April 2019

# Table of Contents

Introduction	3
<b>Index Objective</b>	<b>3</b>
<b>Partnership</b>	<b>3</b>
<b>Supporting Documents</b>	<b>4</b>
Eligibility Criteria	5
<b>Additions to the S&amp;P/TSX Global Mining Index</b>	<b>5</b>
<b>Eligibility Factors</b>	<b>5</b>
Index Construction	6
<b>Approaches</b>	<b>6</b>
<b>Index Calculations</b>	<b>6</b>
<b>Capping</b>	<b>6</b>
<b>Multiple Classes of Stock</b>	<b>6</b>
Index Maintenance	7
<b>Rebalancing</b>	<b>7</b>
<b>Share and IWF Updates</b>	<b>7</b>
<b>Corporate Actions</b>	<b>8</b>
<b>Other Adjustments</b>	<b>8</b>
<b>Currency, Currency Hedged, and Risk Control Indices</b>	<b>8</b>
<b>Base Dates and History Availability</b>	<b>8</b>
Index Data	9
<b>Calculation Return Types</b>	<b>9</b>
Index Governance	10
<b>Index Committee</b>	<b>10</b>
Index Policy	11
<b>Announcements</b>	<b>11</b>
<b>Holiday Schedule</b>	<b>11</b>
<b>Rebalancing</b>	<b>11</b>
<b>Unexpected Exchange Closures</b>	<b>11</b>
<b>Recalculation Policy</b>	<b>11</b>
<b>Real-Time Calculation</b>	<b>11</b>
<b>Contact Information</b>	<b>12</b>

Index Dissemination	13
<b>Tickers</b>	<b>13</b>
<b>Index Data</b>	<b>13</b>
<b>Web site</b>	<b>13</b>
Appendix I	14
<b>S&amp;P/TSX Global Base Metals Index Methodology</b>	<b>14</b>
<b>S&amp;P/TSX Global Gold Index Methodology</b>	<b>15</b>
Appendix II	16
<b>Defined Terms</b>	<b>16</b>
Appendix III	17
<b>Methodology Changes</b>	<b>17</b>
Disclaimer	19

# Introduction

## Index Objective

The S&P/TSX Global Mining Index® is designed to provide an investable index of global mining securities. Eligible Securities are classified under six Global Industry Classification Standard (GICS®) Sub-Industries as follows:

- 15104010 – Aluminum – Producers of aluminum and related products including companies that mine or process bauxite and companies that recycle aluminum to produce finished or semi-finished products.
- 15104020 – Diversified Metals & Mining – Companies engaged in diversified production or extraction of metals and minerals, including, but not limited to:
  - Non-ferrous metal mining (except Bauxite)
  - Salt & borate mining
  - Phosphate rock mining
- 15104025 – Copper – Companies involved primarily in copper ore mining.
- 15104030 – Gold – Producers of gold and related products, including companies that mine or process gold and the South African finance houses which primarily invest in, but do not operate, gold mines.
- 15104040 – Precious Metals & Minerals – Companies mining precious metals & minerals, excluding gold mining companies. Includes companies primarily mining platinum, diamonds and palladium.
- 15104045 – Silver – Companies primarily mining silver.
- 10102050 – Coal & Consumable Fuels – Companies primarily involved in the production and mining of coal, related products and other consumable fuels related to the generation of energy. Excludes companies primarily producing gases classified in the Industrial Gases sub-industry and companies primarily mining for metallurgical (coking) coal used for steel production.

The S&P/TSX Global Base Metals Index and S&P/TSX Global Gold Index are subsets of the S&P/TSX Global Mining Index and are designed respectively to provide an investable index of global securities involved in the production or extraction of base metals and exploration and production of gold. For additional information refer to Appendix I.

*For additional information regarding GICS®, see Appendix I.*

*For a list of defined terms used throughout this document, please refer to Appendix II.*

## 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.

## 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	<a href="#">Equity Indices Policies &amp; Practices</a>
S&P Dow Jones Indices' Index Mathematics Methodology	<a href="#">Index Mathematics Methodology</a>
S&P Dow Jones Indices' Float Adjustment Methodology	<a href="#">Float Adjustment Methodology</a>
S&P Dow Jones Indices' Global Industry Classification Standard (GICS) Methodology	<a href="#">GICS Methodology</a>

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

## Additions to the S&P/TSX Global Mining Index

Additions to the S&P/TSX Global Mining Index are generally only made as part of the Quarterly Review. The Index Committee may, nevertheless, choose to review and add securities to the index between quarterly review periods.

## Eligibility Factors

**Market Capitalization.** In order to be eligible for inclusion in the index, a security's float-adjusted market capitalization must be at least US\$ 300 million, based on the volume-weighted-average price (VWAP) of the security on its Primary Market, over the last 10 days of the month-end prior to the Quarterly Review.

*For details regarding float methodology, please refer to S&P Dow Jones Indices' Float Adjustment Methodology.*

*For details regarding a security's Primary Market, please refer to Defined Terms in Appendix II.*

**Liquidity.** Liquidity is measured by float turnover (total number of shares traded in the previous 12 months divided by float-adjusted shares outstanding at the end of the period). The liquidity ratio must be at least 0.30 when using the Canadian and U.S. volume for eligibility.

Canadian and U.S. trading volume is determined using the composite volume. Canadian trading volume includes trading on the TSX, Aequitas (Lit and Neo), Alpha, CSE (Pure Trading), Instinet Canada, Liquidnet Canada, Lynx, Nasdaq CXC, Nasdaq CXD, Nasdaq CX2, Omega and TriAct Match Now.

**Listing.** Securities must be listed on the TSX, NYSE (including NYSE ARCA and NYSE MKT LLC) or NASDAQ exchange.

**Eligible Securities.** Securities listed on the TSX, NYSE (including NYSE ARCA and NYSE AMEX) or NASDAQ, and classified under GICS Codes 10102050, 15104010, 15104020, 15104025, 15104030, 15104040 and 15104045 are considered Eligible Securities. ADR's and income trusts are eligible for inclusion in the index. In addition, a security must be listed on the TSX, NYSE, or NASDAQ for at least six full calendar months as of the month-end prior to the applicable Quarterly Review.

**Shares Outstanding.** The shares counted for index calculation are issued and outstanding shares of a security (rounded to the nearest thousand). This count is float-adjusted to reflect only shares available to investors.

*For details regarding float methodology, please refer to S&P Dow Jones Indices' Float Adjustment Methodology.*

**Buffer Rules.** For Quarterly Review deletions the following buffer rules apply.

1. A security is removed from the index, at the Quarterly Review, if its market capitalization is less than or equal to US\$ 240 million, based on the VWAP of the security on its Primary Market, over the last 10 days of the month end prior to the Quarterly Review.
2. Liquidity is measured by float turnover (total number of shares traded in the previous 12 months divided by float-adjusted shares outstanding at the end of the period). The liquidity ratio must be at least 0.25 when using Canadian and U.S. volume for continued eligibility of existing index constituents.

# Index Construction

## Approaches

S&P Dow Jones Indices' equity indices are designed to be liquid, to support investment products such as index mutual funds, exchange traded funds, index portfolios, index futures and options.

## Index Calculations

On any given day, the index value is the quotient of the total float-adjusted market capitalization of index's constituents and its divisor. Continuity in index values is maintained by adjusting the divisor for all changes in the constituents' share capital after the base date. This includes additions and deletions to the index, rights issues, share buyback and issuances, and spin-offs. The divisor's time series is, in effect a chronological summary of all changes affecting the base capital of the index. The divisor is adjusted such that the index value at an instant just prior to a change in base capital equals the index value at an instant immediately following that change. The S&P/TSX Global Mining Index is calculated based on a modified market capitalization approach.

*For more information on the Index calculation methodology, please refer to S&P Dow Jones Indices' Index Mathematics Methodology.*

A security's Primary Market determines which market price is used for purposes of index calculation.

*For details regarding a security's Primary Market, please refer to Defined Terms in Appendix II.*

## Capping

The S&P/TSX Global Mining Index is calculated based on a modified market capitalization approach. The modified market capitalization approach is evaluated and applied, as follows, at each Quarterly Review:

- Any security with a relative weight above 25% is capped at 25%. The weights of all other index constituents are adjusted automatically. This step is repeated iteratively until no securities have a relative weight above 25%. Relative weights are based on float-adjusted Quoted Market Value (QMV).

## Multiple Classes of Stock

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 document.

Unlisted share class lines are not combined with any listed share class lines, but these unlisted share class lines are included when computing company total market capitalization.

In the case of securities which have constrained shares (foreign ownership constraints on a particular class of shares), the calculation of float shares is based on the total issued and outstanding shares of all classes, not on each class separately.

# Index Maintenance

## Rebalancing

1. The indices are reviewed quarterly and all Index Securities that, in the opinion of the Index Committee, do not meet the Buffer Rules are removed. Added securities, if any, are selected using the Eligibility Criteria.
2. Securities under consideration for addition to or deletion from the index are assessed by the Index Committee on the basis of the 12-month data ending the month prior to the Quarterly Review, with respect to trading on the Primary Market. The Quarterly Review months are March, June, September and December. Publicly available information up to and including the month end preceding the Quarterly Review month are considered in the Quarterly Review. Investable Weight Factor (IWF) updates are only made annually at the September Quarterly Review. All additions, deletions and share changes are effective after the close of trading on the third Friday of the quarterly month.
3. For details regarding float methodology, please refer to S&P Dow Jones Indices' Float Adjustment Methodology.
4. Securities that the Index Committee determines meet the Eligibility Criteria are added to the index after the close on the third Friday of the Quarterly Review month.
5. Securities removed from the index, as a result of the Quarterly Review, are not eligible for re-inclusion for a period of 12 full calendar months following removal. The Index Committee may, nevertheless, add a security at an earlier date if, in the opinion of the Index Committee, the issuer's business has been substantially restructured.

Index Securities that the Index Committee determines fail to meet Buffer Rules are removed from the index after the close on the third Friday of the Quarterly Review month. A press release are issued to the market at the same time as the S&P/TSX Composite Quarterly Review results, announcing the additions and deletions as well as the new float shares for index calculation.

**Additions.** Additions to the S&P/TSX Global Mining Index are generally only made as part of the Quarterly Review.

**Deletions.** A security is removed from the index at the first practical date following the Committee's determination that a corporate action has been successful. The target announcement period is two-to-five business days, but exceptions may apply due to unexpected corporate activity.

## Share and IWF Updates

*For details on Share and IWF Updates, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document.*

*For details regarding float methodology, please refer to S&P Dow Jones Indices' Float Adjustment Methodology.*



## Corporate Actions

**Spin-offs.** The 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). If a spun-off company is determined to be ineligible for continued index inclusion, it is removed after at least one day of regular way trading (with a divisor adjustment).

*For further information, please refer to the Treatment of Spin-offs in S&P Dow Jones Indices' Equity Indices Policies & Practices document.*

*For more information on Corporate Actions, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document.*

## Other Adjustments

1. If the GICS® code of an Index Security changes, it is deleted at the first practical date following the change in the GICS® classification. A non-index security whose GICS code changes to 15104010, 15104020, 15104025, 15104030, 15104040, 15104045 or 10102050 and which meets all other Eligibility Criteria is eligible for inclusion at the next Quarterly Review.
2. An Index Security that is halted or suspended from trading for five consecutive trading days is subject to review by the Index Committee.
3. A security is removed from the index at the first practical date following the Index Committee's determination that such security has been de-listed, become defunct or failed to meet the Eligibility Criteria regarding Listing and Eligible Securities.

## Currency, Currency Hedged, and Risk Control Indices

The S&P/TSX Global Mining Index is calculated in Canadian dollars. End of day index and total return values are also available in U.S. dollars.

Real-time exchange rates are applied to the index intra-day and Reuters WM London Exchange Rates are used to convert closing prices to Canadian dollars for purposes of index calculation.

Additional Currency, currency hedged, and risk control versions of the indices may be available. For a list of available currency, currency hedged, and risk control indices, please contact Client Services at [index\\_services@spglobal.com](mailto:index_services@spglobal.com).

*For more information on currency, currency hedged, and risk control indices, please refer to S&P Dow Jones Indices' Index Mathematics Methodology.*

## 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/TSX Global Mining Index (CA\$)	06/12/2007	06/21/2002	06/11/2007	100
S&P/TSX Global Mining Index (US\$)	06/12/2007	06/21/2002	06/11/2007	100
S&P/TSX Global Gold Index (CA\$)	10/02/2000	12/31/1997	09/29/2000	100
S&P/TSX Global Base Metals Index (CA\$)	06/25/2009	06/25/2009	06/24/2009	100
S&P/TSX Equal Weight Global Base Metals Index	10/19/2009	08/31/2004	08/31/2004	100
S&P/TSX Global Base Metals Index (US\$)	06/25/2009	06/25/2009	06/24/2009	100

# 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 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.

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.

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 document.*

# 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](mailto:marketdata@tmx.com).

*For more information on S&P Dow Jones Indices' announcements, please refer to the Announcement Policy.*

## **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](http://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.

## **Recalculation Policy**

For information on the recalculation policy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document.

## **Real-Time Calculation**

Real-time indices are not restated.

*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.*

**Contact Information**

For any questions regarding an index, please contact: [index\\_services@spglobal.com](mailto:index_services@spglobal.com).

# Index Dissemination

The TMX Group (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](http://www.spdji.com), through major quote vendors (see codes below), through numerous investment oriented web sites and various print and electronic media.

## Tickers

The table below lists headline indices covered by this document. All currency, currency hedged, risk control, and return type versions of the below indices that may exist are also covered by this document. Please contact [index\\_services@spglobal.com](mailto:index_services@spglobal.com) for a complete list of indices covered by this document.

Index	Bloomberg	Reuters
S&P/TSX Global Mining Index (CA\$)	TXGM	.GSPTXGM
S&P/TSX Global Mining Index (US\$)	TXGMU	.GPSTXGMU
S&P/TSX Global Gold Index (CA\$)	SPTSGD	.SPTTGD
S&P/TSX Global Base Metals Index (CA\$)	TXBM	.GSPTXBM
S&P/TSX Equal Weight Global Base Metals Index	TXBE	.GSPTXBE
S&P/TSX Global Base Metals Index (US\$)	TXBMU	.GSPTXBMU

## Index Data

Daily constituent and index level data are available from the Toronto Stock Exchange on subscription. Please contact Market Data at 416-947-4778 or, by email, at [marketdata@tmx.com](mailto:marketdata@tmx.com).

*For further information, please refer to the TMX Web site at [www.tmx.com](http://www.tmx.com).*

## Web site

*For further information, please refer to S&P Dow Jones Indices' Web site at [www.spdji.com](http://www.spdji.com).*

# Appendix I

## S&P/TSX Global Base Metals Index Methodology

The S&P/TSX Global Base Metals Index is a subset of the S&P/TSX Global Mining Index. The S&P/TSX Global Base Metals Index is designed to provide an investable index of global securities involved in the production or extraction of base metals.

**Eligible Securities.** Eligible securities are classified under two Global Industry Classification Standard (GICS®) Sub-Industries as follows:

- 15104010 – Aluminum – Producers of aluminum and related products including companies that mine or process bauxite and companies that recycle aluminum to produce finished or semi-finished products.
- 15104020 – Diversified Metals & Mining – Companies engaged in diversified production or extraction of metals and minerals, including, but not limited to:
  - Non-ferrous metal mining (except Bauxite)
  - Salt & borate mining
  - Phosphate rock mining
- 15104025 – Copper – Companies involved primarily in copper ore mining.

A security's Primary Market determines which market price is used for purposes of index calculation.

**Additions.** The index follows the same rebalancing schedule as the S&P/TSX Global Mining Index. Additions to the S&P/TSX Global Mining Index are generally only made as part of the Quarterly Review.

**Deletions.** A security is removed from the index at the first practical date following the Index Committee's determination that a corporate action has been successful. The target announcement period is two-to-five business days, but exceptions may apply due to unexpected corporate action activity.

**Capping.** The S&P/TSX Global Base Metals Index is calculated based on a modified market capitalization approach. The modified market capitalization approach is evaluated and applied as follows, at each Quarterly Review:

- Any security with a relative weight above 10% is capped at 10%, through a reduction in the stock's Investable Weight Factor (IWF). The weights of all other index constituents are adjusted automatically. This step is repeated iteratively until no securities have a relative weight above 10%. Relative weights are based on float-adjusted Quoted Market Value (QMV).

**Share Updates.** All share or float capitalization changes, or series of share or float capitalization changes occurring in the S&P/TSX Global Mining Index are also implemented in the S&P/TSX Global Base Metals Index.

## **S&P/TSX Global Gold Index Methodology**

The S&P/TSX Global Gold Index is a subset of the S&P/TSX Global Mining Index. The S&P/TSX Global Gold Index is designed to provide an investable index of global securities involved in the exploration and production of Gold.

**Eligible Securities.** Securities listed on the TSX, NYSE, AMEX or NASDAQ, and classified under GICS Code 15104030 are considered Eligible Securities. ADR's and income trusts are eligible for inclusion in the index.

A security's Primary Market determines which market price is used for purposes of index calculation.

**Additions.** The index follows the same rebalancing schedule as the S&P/TSX Global Mining Index. Additions to the S&P/TSX Global Mining Index are generally only made as part of the Quarterly Review.

**Deletions.** A security is removed from the index at the first practical date following the Index Committee's determination that a corporate action has been successful. The target announcement period is two-to-five business days, but exceptions may apply due to unexpected corporate action activity.

**Capping.** The S&P/TSX Global Gold Index is calculated based on a modified market capitalization approach. The modified market capitalization approach is evaluated and applied as follows, at each Quarterly Review:

- Any security with a relative weight greater than or equal to 25% is capped at 25%, through a reduction in the stock's Investable Weight Factor (IWF). The weights of all other index constituents are adjusted automatically. This step is repeated iteratively until no securities have a relative weight above 25%. Relative weights are based on float-adjusted Quoted Market Value (QMV).

**Share updates.** All share or float capitalization changes, or series of share or float capitalization changes occurring in the S&P/TSX Global Mining Index are also implemented in the S&P/TSX Global Gold Index.



# Appendix II

## Defined Terms

1. “Eligible Securities” are securities that meet the Eligibility Criteria and are, therefore, eligible for consideration by the Index Committee for inclusion in the S&P/TSX Global Mining Index.
2. “Global Industry Classification Standard (GICS®)” is a set of global sector and industry definitions that is jointly owned and managed by S&P and MSCI.
3. “Index Securities” means those securities comprising the Index.
4. “Primary Market”. Where a security is listed in multiple eligible markets (NYSE, NASDAQ, or TSX), the Primary Market is the market, (1) which meets the liquidity thresholds of the index and, in cases where multiple markets meet the liquidity thresholds, (2) where the security is incorporated. If the security is not incorporated in North America, the Primary Market is the more liquid market. Assessment of changes to liquidity is made on an annual basis.
5. “Relative Weight” of an Index Security is that constituent’s percentage of the total index QMV;  
Relative Weight =  $100 * (\text{Constituent QMV} / \text{Index QMV})$ .
6. “QMV” means quoted market value, being the value determined by multiplying the number of float shares of a security by the price for one such float share.
7. “Quarterly Review” refers to a quarterly rebalancing of the index, which occurs in the months of March, June, September and December. Share updates, additions to and deletions from the index are made at this time. Investable Weight Factor (IWF) updates are only made annually at the September Quarterly Review.

# Appendix III

## Methodology Changes

Methodology changes since January 1, 2015 are as follows:

Change	Effective Date (After Close)	Previous Methodology	Updated Methodology
Trading Volume for Liquidity Calculation	31-Jul-18	Canadian trading volume includes trading volume at the TSX, Aequitas (Lit and Neo), Alpha, CSE (Pure Trading), Lynx, Nasdaq CXC, Nasdaq CX2 and Omega. U.S. trading volume is determined using the composite volume.	Canadian and U.S. trading volume is determined using the composite volume. Canadian trading volume includes trading on the TSX, Aequitas (Lit and Neo), Alpha, CSE (Pure Trading), Instinet Canada, Liquidnet Canada, Lynx, Nasdaq CXC, Nasdaq CXD, Nasdaq CX2, Omega and TriAct Match Now.
Share Updates	15-Dec-17	Share updates are made at the first practicable date when the relative weight impact is estimated to be at least 0.25% of the index. At the Quarterly Review in March, June, September, and December, there is a complete share update for the index. This update includes all cumulative changes to shares outstanding, during the quarter, that have affected the capitalization of Index Securities by less than a relative index weight of 0.25%.	Shares outstanding are updated on a weekly basis if the changes are 5% or more of the total share count. Share changes are announced on Fridays for implementation after the close of trading the following Friday. If a change in shares outstanding of at least 5% causes a company's IWF to change by at least 5%, the IWF is updated at the same time as the share change. Changes of less than 5% of the total shares are accumulated and made quarterly on the third Friday of March, June, September and December.
Volume Weighted Average Price (VWAP) Period	30-Oct-17	Market capitalization is calculated based on the VWAP of the security on its Primary Market over the last three trading days of the month-end prior to the Quarterly Review.	Market capitalization is calculated based on the VWAP of the security on its Primary Market over the last 10 trading days of the month-end prior to the Quarterly Review.
Trading Volume for Liquidity Calculation	04-Aug-2017	The liquidity ratio must be at least 0.30 for eligibility (0.25 for existing constituents). Each security is assessed based on trading data from its Primary Market or ADR listing, where no other listing exists on the TSX, NYSE (including NYSE ARCA and NYSE AMEX) or NASDAQ. When the primary market is the TSX, Canadian ATS (Aequitas [Lit and Neo], Alpha, Chi-X, CSE [Pure Trading], CX2, Lynx, TMX Select [Excluded after September 2016 review] and Omega) volumes are included. For U.S. Primary Markets, only trading volumes from the Primary Market are included.	The liquidity ratio must be at least 0.30 when using the Canadian and U.S. volume for eligibility (0.25 for existing constituents). Canadian trading volume is determined by trading on the TSX, Aequitas (Lit and Neo), Alpha, CSE (Pure Trading), Lynx, Nasdaq CXC, Nasdaq CX2 and Omega. U.S. trading volume is determined using the composite volume.
Index Composition - S&P/TSX Global Mining Index	16-Sep-2016	GICS sub-industries: <ul style="list-style-type: none"> <li>Aluminum (15104010)</li> <li>Diversified Metals &amp; Mining (15104020)</li> <li>Gold (15104030)</li> <li>Precious Metals &amp; Minerals (15104040)</li> <li>Silver (15104045)</li> <li>Coal &amp; Consumable Fuels (10102050)</li> </ul>	GICS sub-industries: <ul style="list-style-type: none"> <li>Aluminum (15104010)</li> <li>Diversified Metals &amp; Mining (15104020)</li> <li>Copper (15104025)</li> <li>Gold (15104030)</li> <li>Precious Metals &amp; Minerals (15104040)</li> <li>Silver (15104045)</li> <li>Coal &amp; Consumable Fuels (10102050)</li> </ul>
Index Composition - S&P/TSX Global Base Metals Index	16-Sep-2016	GICS sub-industries: <ul style="list-style-type: none"> <li>Aluminum (15104010)</li> <li>Diversified Metals &amp; Mining (15104020)</li> </ul>	GICS sub-industries: <ul style="list-style-type: none"> <li>Aluminum (15104010)</li> <li>Diversified Metals &amp; Mining (15104020)</li> <li>Copper (15104025)</li> </ul>

<b>Change</b>	<b>Effective Date (After Close)</b>	<b>Previous</b>	<b>Methodology Updated</b>
Multiple Share Class Lines	20-Aug-2015	Companies that have more than one class of common stock outstanding were represented only once in an index. The stock price was based on one class, and the share count was based on the total shares outstanding of all classes.	There will no longer be consolidated lines in the S&P Float Market Cap (FMC) indices. Instead, all multiple share class companies that have listed share class lines are adjusted for shares and float such that each share class line only represents that line's shares and float. All multiple share class companies that have an unlisted class line are also adjusted.
Trading Volume Marketplaces	20-Aug-2015	Canadian ATS	TSX, Aequitas (Lit and Neo), Alpha, Chi-X, CSE (Pure Trading), CX2, Lynx, TMX Select (Excluded after September 2016 review) and Omega.

# Disclaimer

Copyright © 2019 S&P Dow Jones Indices LLC. All rights reserved. STANDARD & POOR'S, S&P, S&P 500, S&P 500 LOW VOLATILITY INDEX, S&P 100, S&P COMPOSITE 1500, S&P MIDCAP 400, S&P SMALLCAP 600, S&P GIVI, GLOBAL TITANS, DIVIDEND ARISTOCRATS, S&P TARGET DATE INDICES, GICS, SPIVA, SPDR and INDEXOLOGY are registered trademarks of Standard & Poor's Financial Services LLC ("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 or reproduction in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. This document does not constitute an offer of services in jurisdictions where S&P Dow Jones Indices LLC, S&P, Dow Jones or their respective affiliates (collectively "S&P Dow Jones Indices") do not have the necessary licenses. Except for certain custom index calculation services, 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 and providing custom calculation services. Past performance of an index is not an indication or guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index may be 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.

The Global Industry Classification Standard (GICS®) was developed by and is the exclusive property and a trademark of S&P and MSCI. Neither MSCI, S&P nor any other party involved in making or compiling any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

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