



The CSE Composite Index Methodology

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Introduction

The Canadian Securities Exchange (CSE) is a modern and efficient alternative for companies looking to access the Canadian public capital markets. It was the first new stock market launched in Canada in over 75 years and was officially recognized as a stock exchange by the Ontario Securities Commission in 2004. The CSE is designed to meet the needs of small cap companies and reflects a unique segment of the Canadian capital markets.

The CSE Composite Index is a market capitalization weighted benchmark reflecting the performance of equities listed on the CSE. The index accounts for approximately 75% to 80% of the market capitalization of all CSE listed equities.

Index Construction

Approach

The CSE Composite Index is calculated using a market capitalization approach. Total shares outstanding are multiplied by price to determine each component's weight in the index. The number of issued shares of each component is fixed at each quarterly rebalancing, subject to changes which are described under Index maintenance. The weight of each constituent varies continuously as its price changes.

1.0 Eligibility Criteria

The universe of eligible securities includes all equities listed on the CSE that are traded in Canadian dollars. Limited partnerships and unit trusts are eligible for inclusion but corporate debentures are not. The index governing committee will review newly listed security types to determine eligibility.

Index Eligibility

- 1.1 Market Capitalization.** A security must have a minimum total market capitalization of \$5,000,000 to be eligible for inclusion. The price that is used to calculate the threshold is the volume weighted average price over the 30 trading days ending on the last trading day of the month preceding the rebalancing date. Securities of multi-class issuers may be combined for weighting purposes with the price of the most liquid class used to calculate the index level.
- a) **Seasoning Requirement.** A security is ineligible for the first rebalance of the index after its listing. However, a security is exempt from this minimum listing period if either of the following applies:
- i. The security was listed on a recognized exchange in Canada immediately prior to its listing on the CSE
 - ii. At the rebalance, when ranked by total market capitalization it falls within the top quartile of eligible securities listed on the CSE.
- b) **Buffer Rule.** In order to reduce turnover, an existing constituent's minimum market capitalization requirement to remain in the index is \$4 million at each quarterly rebalancing.
- c) **Changes.** All changes except those implemented by the calculation agent as a result of corporate actions or those imposed by the committee as a result of events such as a delisting will be made during the quarterly rebalancing.
- 1.2 Multi-class shares.** If a security has more than one class of common or residual equity shares listed on the CSE, the shares of each class are combined into the largest, most liquid class for the purpose of index inclusion and calculation. The price of the most liquid class is used to calculate the index level.

Additions. Additions will only occur at the rebalancing.

Deletions. Constituents that do not meet the buffer rule are deleted at each rebalancing. Constituents that did not trade in the previous period are also deemed to have not met the requirement of the buffer rule. Corporate action related deletions are described in the Index Calculation section.

2.0 Index Calculations & Maintenance

2.1 The index is calculated based on Laspeyre's Formula:

$$Index_t = \frac{\sum_{i=1}^n [s_{i,t} * p_{i,t} * f_{i,t}]}{D_t}$$

with:

$Index_t$ = Index value on business day t

n = Number of index components on business day t

$s_{i,t}$ = Number of index shares of index component i on business day t

$p_{i,t}$ = Price of index component i on business day t

$f_{i,t}$ = Foreign exchange rate to convert the price of index component i on business day t into the index currency

D_t = Divisor on business day t

For the CSE Composite Index the number of issued shares of each component is fixed at each quarterly rebalancing, subject to changes which are described under Index maintenance. The weight of each constituent varies continuously as its price changes. The foreign exchange rate factor is not applied to the CSE Composite Index because all securities in the index are traded in Canadian dollars. All prices used in the calculation of the index are prices from trading on the CSE only.

2.2 Rebalancing

The index will be rebalanced quarterly in March, June, September and December. The rebalancing occurs at the close on the third Friday of the quarterly month. At this time the number of issued shares will be updated and the index will be reconstituted based on eligibility criteria. The rebalancing is based on the total outstanding shares at the last business day of the month preceding the rebalancing and the volume weighted average price for the thirty days ending on that day. Securities that did not trade during that period are not eligible for inclusion. If the volume traded on marketplaces in Canada other than the CSE is greater than 80% of the total volume then the weight of that component will be based on all trading activity.

Securities that are deleted from the index for reasons other than the buffer rule may be required to go through another seasoning period.

2.3 a) Index adjustments

Certain events or corporate actions may lead to a change in the price of an index component that is not caused by market activity. Examples of such events include dividends and distributions of assets and stock splits.

Depending on the type of corporate action, the number of index shares s of the index component subject to a corporate action and/or the divisor D are adjusted on the respective ex date of the corporate action. The adjustment is conducted in such a way that the value of the index is unchanged. As a formula:

$$D_{t+1} = \frac{D_t * Index_t + \Delta MCap}{Index_t}$$

with:

D_{t+1} = Divisor on business day $t+1$

D_t = Divisor on business day t

$Index_t$ = Index value on business day t

$$\Delta MCap = \sum_{j=1}^m [as_{j,t+1} * ap_{j,t+1} * f_{j,t}] - \sum_{i=1}^n [s_{i,t} * p_{i,t} * f_{i,t}]$$

$as_{j,t+1}$ = Adjusted number of index shares of index component j on business day $t+1$

$s_{i,t}$ = Number of index shares of index component i on business day t

$p_{i,t}$ = Price of index component i on business day t

$ap_{j,t+1}$ = Adjusted opening price of index component j on business day $t+1$

$f_{i,t}$ = Foreign exchange rate to convert the price of index component i on business day t into the index currency

$f_{j,t}$ = Foreign exchange rate to convert the price of index component j on business day t into the index currency

n = Number of index components on business day t

m = Number of index components on business day $t+1$

I_t = Index composition on business day t

J_t = Index composition on business day $t+1$

b) Events leading to index adjustments

The following types of distributions and corporate actions are taken into account in the index calculation. It is assumed that t is the last business day prior to the ex date whereas $t+1$ is the ex date of the corporate action. If an investor has the choice between different types of distributions, such as cash or shares, the index is adjusted according to the default option. If no default option exists the index is adjusted for the cash distribution option if available. If the details (ex date, amount of distribution, terms of capital increase, etc.) of an event which may trigger an index adjustment are not known prior to the ex date, no index adjustment is carried out. The index committee may decide differently on a case-by-case basis.

c) Cash distributions

Cash distributions are not taken into account in the index with the exception of special cash dividends; the following adjustment is implemented:

$$ap_{i,t+1} = p_{i,t} - d_{i,t+1} * (1 - tax_i) * f_{i,t}$$

with:

$ap_{i,t+1}$ = Adjusted opening price of index component i on business day $t+1$

$p_{i,t}$ = Price of index component i on business day t

$d_{i,t+1}$ = Distribution of index component i on business day $t+1$

tax_i = Current withholding tax in the country of incorporation of index component

$f_{i,t}$ = Foreign exchange rate to convert the currency of the distribution into the trading currency of the affected index component on business day t

d) Stock distributions

In the case of stock distributions it is assumed that the prices change in ratio to the number of shares. The following adjustment is implemented:

$$as_{i,t+1} = s_{i,t} * (1 + N_{i,t+1})$$

$$ap_{i,t+1} = p_{i,t} * \frac{1}{1 + N_{i,t+1}}$$

$asi,t+1$ = Adjusted number of index shares of index component i on business day $t+1$

si,t = Number of index shares of index component i on business day t

$Ni,t+1$ = Shares issued for every share held

$api,t+1$ = Adjusted opening price of index component i on business day $t+1$

pi,t = Price of index component i on business day t

e) Stock distributions of another company

In the case of stock distributions of another company the following adjustment is implemented:

$$ap_{i,t+1} = p_{i,t} - p_{k,t} * f_{k,t} * U_{i,t+1}$$

$api,t+1$ = Adjusted opening price of index component i on business day $t+1$

pi,t = Price of index component i on business day t

pk,t = Price of company k on business day t

$f_{k,t}$ = Foreign exchange rate to convert the trading price of company k into the trading price of company i

$U_{i,t+1}$ = Shares of company k which shareholders of index component i receive for every share held in index component i

f) Share splits

In the case of share splits it is assumed that the prices change in ratio to the number of shares. The following adjustment is implemented:

$$asi,t+1 = si,t * R_{i,t+1}$$

$$ap_{i,t+1} = p_{i,t} * \frac{1}{R_{i,t+1}}$$

$asi,t+1$ = Adjusted number of index shares of index component i on business day $t+1$

si,t = Number of index shares of index component i on business day t

$Ri,t+1$ = Shares held after the split for every share held before the split

$api,t+1$ = Adjusted opening price of index component i on business day $t+1$

pi,t = Price of index component i on business day t

g) Capital increases

In the case of capital increases the following adjustment is implemented:

$$ap_{i,t+1} = \frac{p_{i,t} + B_{i,t+1} * SP_{i,t+1} * f_{i,t}}{1 + B_{i,t+1}}$$

$$asi,t+1 = si,t * (1 + B_{i,t+1})$$

[CSE Index]

with:

$api,t+1$ = Adjusted opening price of index component i on business day $t+1$

pi,t = Price of index component i on business day t

$Bi,t+1$ = Number of shares of index component i which can be subscribed to for every share in index component i held

$SPi,t+1$ = Subscription price for every share new share in index component i

fi,t = Foreign exchange rate to convert the currency of the subscription price into the trading currency of the affected index component i on business day t

$asi,t+1$ = Adjusted number of index shares of index component on business day $t+1$

si,t = Number of index shares of index component on business day t

In case the subscription price (converted in to the trading currency of the affected index component, if necessary) is equal to or higher than the closing price of the affected index component on business day t , no index adjustment is implemented.

h) Share Repurchases

In the case of share repurchases in the form of a tender offer to shareholders the following adjustment is implemented:

$$api,t+1 = \frac{pi,t - Ci,t+1 * TPi,t+1 * fi,t}{1 - Ci,t+1}$$

$$asi,t+1 = si,t * (1 - Ci,t+1)$$

$api,t+1$ = Adjusted opening price of index component i on business day $t+1$

pi,t = Price of index component i on business day t

$Ci,t+1$ = Number of shares which can be sold for every share held

$TPi,t+1$ = Tender price for every share which can be sold

fi,t = Foreign exchange rate to convert the currency of the tender price into the trading currency of the affected index component on business day t

$asi,t+1$ = Adjusted number of index shares of index component i on business day $t+1$

si,t = Number of index shares of index component i on business day t

i) Spin-offs

In case of a spin-off affecting an index component, the affected index is adjusted according to one of the following options based on a decision of the index committee:

- i. The spun-off company is not included in the index. The index is adjusted at the close of trading on the business day prior to the ex date for the value of the right to receive new shares in the spun-off company (based on the transaction terms and the closing price of the spun-off company on the business day prior to the ex date, if the spun-off company has already been trading before the ex date).
- ii. The spun-off company is added to the index based on the terms of the spin-off and deleted at the close of trading on the ex date.
- iii. The spun-off company is added to the index based on the terms of the spin-off and remains in the index.

In deciding which option to implement the index committee particularly takes into account the trading status of the spun-off company before, on and after the ex date, the fit of the company

in relation to the respective index concept as well as other factors which may be relevant on a case-by-case basis.

j) Mergers & Acquisitions

If an index component is subject to a merger, a takeover bid, a delisting, nationalization or insolvency the affected index is adjusted according to one of the following options based on a decision of the index committee:

- i. The affected index component is deleted from the index prior to its delisting. No other change to the index composition is implemented.
- ii. The affected index component is replaced by a different company prior to its delisting.
- iii. The weight of the affected index component is added to another index component prior to its delisting.

In deciding which option to implement the index committee particularly takes into account the trading status of the affected index component before the delisting date, the liquidity of the affected index component, the existence of suitable replacement companies as well as other factors which may be relevant on a case-by-case basis.

k) Reverse Takeovers

When an index component is a security of a company that undergoes a reverse takeover it is removed from the index and is not eligible for inclusion until the second rebalancing following its removal. For the purpose of the inclusion rules it is therefore treated as a newly listed security. Removal will occur at such time as the security is halted pending full disclosure of the pending fundamental change. A corporate transaction that is not a reverse takeover as defined for accounting purposes may nonetheless be treated in the same manner if it is deemed to be a fundamental change to the listed company as defined under exchange policies.

l) Other Adjustments

In the event a security is halted for regulatory reasons or is suspended from trading for 5 consecutive trading days, the security becomes subject to review and may be removed immediately at a price determined by the CSE.

Securities are removed from the index as soon as practical once their intention to delist has been announced.

3.0 Index Data

3.1 Tickers

Index Name	Bloomberg Ticker	Reuters RIC
CSE Composite Index	CSECOMP	.CSECOMP

3.2 a) Base Date

The CSE Composite Index's inception date is February 27, 2015. The starting level for the index is 1000 based on closing prices on February 26, 2015.

b) Index History

Back history has been calculated and is available through major data vendors or directly from the CSE. The start date of the history is March 15, 2013.

4.0 Index Governance

4.1 Index Committee

The function of the index committee is to provide policy creation and oversight of the index management.

The index policies and procedures are maintained by the index committee. The committee, in its sole discretion, determines how policies and procedures are interpreted and from time to time may update the policies and procedures of the index if deemed necessary.

The committee is comprised of staff of the exchange from departments responsible for trading services, listed company services and listings and regulation. The CEO of the exchange is an ex officio member of the committee. A quorum for committee meetings is three.

4.2 Calculation

Solactive AG serves as calculation agent for the CSE Composite Index.

4.3 Holiday Schedule

The CSE Composite Index is calculated whenever the CSE is open for trading. Closures for holidays are announced in bulletins or notices issued by the exchange. In the event of unscheduled closures, the last price of each component is used for calculation.

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