# CALCULATION OF OMX VILNIUS

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# 1. OMX Vilnius index

The OMX Vilnius Stock Index (hereinafter: Index) is a capitalization weighted chain-linked total-return index. It is calculated on a continuous basis using the most recent prices of all shares that are listed on the Vilnius Stock Exchange (hereinafter: Exchange) Main and I-list list, comparing the compound market capitalization to the corresponding data (compound market capitalization minus dividends paid) of previous trading day.

No weight limits are applied to the index constituents, and thus influence of each security to the Index corresponds to its weight in compound market capitalization.

The index base value was set at 100.00 points on January 1, 2000. The index is calculated using prices in trading currency (LTL).

The short name of the OMX Vilnius is OMXV.
In the trading system SAXESS™ and in the market data feed system TARGIN® ticker code OMXVGI is used. "GI" stands for gross (yield) index.

# 2. Terms in use

*Cum-date* – last trading day when Exchange traded security contains the rights to participate in the corporate action (three trading days before closing of the list of shareholders).

*Ex-date* – first trading day when Exchange traded security does not contain the rights to participate in the corporate action (two trading days before closing the list of shareholders).

*Dividend adjustment factor* – factor (d) used for adjusting the share price to eliminate the influence of a dividend on share price development.

*Corporate action adjustment factor* – factor (a) used for adjusting the share price to eliminate the influence of a corporate action on share price development.

# 3. Computation rules of OMX Vilnius

## 3.1. Opening, real-time and closing value of the Index

The index is chain-linked every day. The real-time index value is calculated during continuous trading, dividing the current market capitalization by the opening market capitalization of the trading day. The opening index value of the day is multiplied by this ratio. The closing index value of the previous trading day' continuous trading will be the next day's opening value.

## 3.2. Index formula

The OMX Vilnius index is calculated with the Paasche formula, which measures the change of market capitalization, resulting from changes in share prices.

$$V_{(t)} = \frac{\sum_{i=1}^{n}(q_{i,t} \times p_{i,t})}{\sum_{i=1}^{n}[q_{i,t} \times (p_{i,t-1} - d_{i,t}) \times a_{i,t}]} \times V_{(t-1)}$$

Parameters used in the formula:

V = OMX Vilnius value
$q_i$ = number of shares *i*
$p_i$ = price of share *i* (NOREX price algorithm)
t = time of calculation
n = amount of shares in the Index
$d_i$ = dividend for share *i*
$a_i$ = corporate action adjustment factor for share *i*

## 3.3. Share prices used for Index calculation

To represent the price of a share in the index formula, the NOREX Exchanges apply the following rule:

- If an officially registered trading price for an index stock has not been quoted on the relevant trading day, the last quoted trading price shall be used in the calculation.
- If a bid has been quoted that is higher than the last quoted trading price, the bid shall be applied in the calculation.
- If an offer has been quoted that is lower than the last quoted trading price, the offer shall be applied in the calculation.
- If either the closing bid or offer is used as the closing value, this price will be viewed as the last traded price in the calculation of the index on the following day, until a new official trade price is registered.

# 4. Index administration

A new share series will be included in the Index calculation on its second day of trading. If a corporate action causes a change in the number of shares, then such change is accounted for starting from the ex-date. If share series are consolidated (e.g. merger of issuers, share conversion), the discontinued shares will be removed from the Index after the continuous trading phase on the last day of trading with this share, increasing at the same time the number of shares whose trading will continue.

A share to be delisted will be removed from the Index after continuous trading phase on the last trading day of the respective share.

# 5. Index adjustments

The purpose of the adjustments is to eliminate factors affecting share price development that do not have an impact on the market capitalization of a company. Adjustment factors are used in index calculation on the ex-date after the first transaction through the ex-date. If the share is not traded on the ex-date, the factors will be used on the first trading day after ex-date.

Exchange reserves the right to make adjustments other than those presented herein and reserves the right to deviate from the adjustments described here after relevant announcements.

## 5.1. Dividend

Dividend adjustment factor d = dividend rate payable per share (in trading currency)

## 5.2. Share split and changes in nominal value

### *Split*

When a share is split, each old share is divided into new shares. In such a case, the company's market capitalization is expected to remain unchanged while the number of shares changes.

The corporate action adjustment factor should be such that $P_{t-1}$ corresponds to theoretical $P_t$, in other words:

$$p_{i,t} = a_{i,t} \times p_{i,t-1}$$

where

$$a_{i,t} = \frac{q_{i,t-1}}{q_{i,t}}$$

The corporate action adjustment factor *a* is the previous number of shares divided by the new number of shares. The corporate action adjustment factor can also be viewed as a split ratio. The adjustment in index calculation will come into force the moment the split share is being traded for the first time and the first transaction is completed.

For reverse split, which involves the reducing of shares while the company's market capitalization remains unchanged, the corporate action adjustment is calculated with the same formula as for the share split.

### *Change in nominal value*

If the nominal value of a share is changed without changing the number of shares, no adjustments will be made to index calculation.

### *Company spin-offs*

In a spin-off, a listed company is divided into two or more companies, one or more of which will be publicly listed. This section does not apply in cases where subsidiaries are purchased or sold.

If a listed company is divided into new companies and the subscription rights in the new companies cease at the same time, the new companies will be included in index calculation in the same way as any other new companies. The old listed share will be removed from index calculation on the ex-date.

If subscription rights of a listed company cease on different days, the share will be removed from index calculation on the first ex-date. If there is a significant time lag between the ex-dates, the company can be re-included in the index for this period. In such a case, the old company will be removed from index calculation for the last time once all rights have ceased. The new companies will be included in index calculation the same way as any other new companies.

If a listed company pursues activities and a major part of it is spin-off to form a new company, the old company can be removed from index calculation for the duration of the ex-date. The new company will be included in index calculation in accordance with section 4.

To avoid exclusion from the index, the value of the share/right can alternatively be calculated with the following three methods:

1. When the share/right is listed on another exchange.
2. When the company informs the public about the value.
3. The median value of valuations from members (minimum 5 valuations).

## 5.3. Bonus issue

In a bonus issue a company issues new shares to its existing shareholders. The New shares are issued free of charge as an accounting exercise by the company. Corporate action adjustment factor is calculated as follows.

$$p_{i,t} = a_{i,t} \times p_{i,t-1}$$

where

$$a_{i,t} = \frac{q_{i,t-1}}{q_{i,t}}$$

The corporate action adjustment factor is the previous number of shares divided by the new number of shares. The corrected number of shares shall be taken into consideration as of that point in time when the stock becomes subject to trading for the first time ex-subscription rights and when the first deal of at least a lot in size is concluded on the stock class during the index calculation period.

## 5.4. Rights offering

In a rights offering, the company offers existing shareholders the right to subscribe new shares based on their existing ownership. If the issue price is lower than the market capitalization, a corporate action adjustment is calculated.

The calculation of a corporate action adjustment factor proceeds through three stages:

value of the subscription right is

$$p_{i,SR} = \frac{[p_{i,t-1} - p_{i,subscr.}]}{subscription_ratio + 1}$$

theoretical price of the share after detachment of subscription rights is

$$p_{i,adj} = p_{i,t-1} - p_{i,SR}$$

corporate action adjustment factor is

$$a_{i,t} = \frac{p_{i,adj}}{p_{i,t-1}}$$

$p_{i,\ subscr.}$ is the subscription price of the share and $p_{i,\ adj.}$ is the theoretical ex-rights price of the share. Subscription ratio here is the old number of shares divided by the number of new shares to be subscribed. If the new shares have a different dividend from the old ones, the difference between the dividends will be subtracted from the first stage indicator.

If the share's issue price is higher than its market price, no index adjustment will be made on the ex-date. In this case, the change in the number of shares listed will be accounted for when the subscription period has ended and the number of shares subscribed has been disclosed. The new shares will be included in index calculation in

accordance with section 4. once the company has disclosed the number of shares subscribed in the issue.

## 5.5. Private offerings

In a private offering, a company offers the right to subscribe its share to parties other than its existing shareholders. New shares issued in a private offering will be included in index calculation in accordance with section 4. once the company has disclosed the number of shares subscribed in the issue.

## 5.6. Assimilation or division of share series

When assimilating share series, multiple series are assimilated into one existing share series or into a new share series.

If the shares are assimilated into one existing share series, the closing price used for the calculation of the company's market capitalization is, as a rule, the price for the share series that will continue to be traded. If the latest trading price for the share series whose trading will continue is significantly different from the latest trading price of the shares in the series to be assimilated, a corporate action adjustment factor $a$ can be calculated for the share series whose trading will continue to ensure the stability of market capitalization.

$$a_{i,t} = \frac{p_{latest}}{p_{continuing}}$$

where $p_{(latest)}$ is the latest price available for the discontinued share series and $p_{(continuing)}$ is the latest price available for the share series whose trading will continue. If the shares are assimilated into one new share series, the latest closing price for the share series to be assimilated will, as a rule, be entered as the new share's opening price.

Divided share series will be included in index calculation as new shares.

## 5.7. Cancellation of shares

Number of shares to be decreased equals the number of cancelled shares.

Corporate action adjustment factor is calculated as follows:

$$p_{i,t} = a_{i,t} \times p_{i,t-1}$$

where

$$a_{i,t} = \frac{q_{i,t-1}}{q_{i,t}}$$

The corporate action adjustment factor is the previous number of shares divided by the new number of shares. The corrected number of shares shall be taken into consideration as of that point in time when the stock becomes subject to trading for the first time ex-rights and when the first deal is concluded on the share series.

## 5.8. Suspension of trading

During suspension of trading, the latest trading price will be used for index calculation. If trading is suspended for one week then the Exchange can remove the share from index calculation.

## 5.9. Mergers / takeovers

In case of merger or takeover the share in question will be excluded from the index effective on the day the acquiring company controls at least 90% of the outstanding shares in the acquired company.
The term "control" is here defined as when either, (a) the acquiring company notifies the Exchanges of their control or receiving accepts of at least 90 per cent, (b) the transaction is registered in the Exchanges trading system or (c) the shares are registered with the CSD.

## 5.10. Undefined corporate actions

Similarly to the aforementioned adjustments, also the influence of undefined corporate actions will be adjusted on the ex-date. Adjustment details will be decided by the Exchange case by case. No adjustments will be made to Index calculation, if the corporate action does not directly cause any changes in share price (e.g. directed issue at market price, or change of nominal value of a share without changing the number of shares).

# 6. Disclaimer

The Exchange takes every effort to maintain the accuracy and reliability of the Index. However, the Exchange does not guarantee the accurateness of the Index value at any given moment nor take any liabilities for possible damage caused by errors or miscalculations of the Index.