LPX GROUP

Guide to the LPX Equity Indices

Version 2.7

Designed to represent

Alternative Asset Classes.

Contents

List of Tables

Notice and Disclaimer[1]

This document "Guide to the NMX Equity Indices", hereafter "Guide", and all the information contained in it, including all text, data, tables and all other information (collectively, the "information") may not be reproduced or redisseminated in a whole or in part without prior written permission from LPX GmbH. Any use of the NMX indices or other information requires a license from LPX. All information set out in this Guide is for informational purpose only. The information may not be used to verify or correct other data, to create indices, or in connection with offering, sponsoring, managing or marketing any securities, portfolios, financial instruments or other products.

None of the information constitutes an offer to buy or sell, or a recommendation of, any security, financial instrument and financial product or trading strategy and LPX does not endorse, approve or otherwise expresses any opinion regarding any issuer, securities, financial products or instruments or trading strategies that may be described or mentioned herein. Further, none of the information is intended to constitute investment or tax advice or a recommendation to make any kind of investment decision.

Without limiting any of the foregoing, in no event shall LPX have any liability regarding any of the information for any direct, indirect, special, punitive, consequential or any other damages.

The Guide sets out the ground rules for the construction and maintenance of the NMX index family. The objective is to design, create and maintain a series of high quality indices for the international equity markets for use as a benchmark by the global investment community and as an underlying for tailored financial products.

[1]NMX is a registered trademark of LPX GmbH. A licence agreement is required to issue financial instruments based on the NMX indices. Licences are issued for the commercial use of any aspects of the indices. These uses include selecting the indices as the basis for benchmarks, financial products and funds of any sort. Any commercial use of NMX trademarks and or NMX indices without a valid licence agreement is not permitted. Contact LPX for information on licensing the NMX indices.

1 General Index Information

LPX offers a family of indices which reflect the global infrastructure industry. Thereby, the index design ensures that only core infrastructure companies are considered. The compilation methodology is based on objective criteria and allows for the identification of infrastructure companies which are characterized by a natural monopoly. As a consequence thereof, the NMX indices adequately reflect the risk and return characteristics of the core infrastructure industry

1.1 The NMX (Natural Monopoly Index) Family

1.1.1 Abbreviations

PI: Price Index
TR: Total Return

1.1.2 Calculation

The calculation of the indices is carried out using the formulas described in 3.

1.1.3 NMX Composite Infrastructure Global

The NMX Composite Infrastructure Global will consist of the largest liquid infrastructure companies. The basis for the choice of constituents is the liquidity analysis described in section 2.4.

1.1.4 NMX30 Infrastructure Global

The NMX30 Infrastructure Global will consist of the 30 largest liquid infrastructure companies of section 1.1.3. The basis for the choice of constituents is the liquidity analysis described in section 2.4.

1.1.5 NMX Infrastructure Asia

The NMX Infrastructure Asia will consist of the largest liquid infrastructure companies companies of section 1.1.3 which are primarily listed on a stock exchange in Australasia. The basis for the choice of constituents is the liquidity analysis described in section 2.4.

1.1.6 NMX Infrastructure Europe

The NMX Infrastructure Europe will consist of the largest liquid infrastructure companies of section 1.1.3 which are primarily listed on a stock exchange in Europe. The basis for the choice of constituents is the liquidity analysis described in section 2.4.

1.1.7 NMX Infrastructure America

The NMX Infrastructure America will consist of the largest liquid infrastructure companies of section 1.1.3 which are primarily listed on a stock exchange in America. The basis for the choice of constituents is the liquidity analysis described in section 2.4.

1.1.8 NMX Infrastructure Tolls

The NMX Infrastructure Tolls will consist of the largest liquid infrastructure companies which are engaged in toll road business. The basis for the choice of constituents is the liquidity analysis described in section 2.4.

1.1.9 NMX Infrastructure Grids

The NMX Infrastructure Grids will consist of the largest liquid infrastructure companies which are engaged in the provision of transportation network facilities such as grids, pipelines, water distribution and communication network facilities. The basis for the choice of constituents is the liquidity analysis described in section 2.4.

1.2 Reference Dating, Weighting and Cap Limit of Indices

The reference date is chosen such that a minimum of 10 initial constituents is ensured. The NMX indices are generally based on the reference date of 31 December 1998. NMX indices are calculated according to the formulae described in section 3 of this Guide. In order to limit the weight of individual constituents in the indices a cap (the variable is defined as "CAP" in this Guide) is set for the market capitalisation of any single constituent of the entire index at the chaining date (see section 3 for details). If the number of constituents of an index is 15 or more a cap of 15% or less is implemented for any single constituent (see table 1 for the current cap of the respective index). If the number of constituents of an index was less than 15 in the past, a cap of 20% was implemented. An overview of some important characteristics of NMX indices is given in table 1:

Index	Reference date	Maximum Cap	Current Cap	Chaining date
NMX Composite Infrastructure Global	31.12.1998	10%	10%	14.06. and 14.12.
NMX30 Infrastructure Global	31.12.1998	10%	10%	14.06. and 14.12.
NMX Infrastructure Asia	31.12.1998	15%	10%	14.06. and 14.12.
NMX Infrastructure Europe	31.12.1998	15%	10%	14.06. and 14.12.
NMX Infrastructure America	31.12.1998	15%	10%	14.06. and 14.12.
NMX Infrastructure Tolls	31.12.1998	15%	10%	14.06. and 14.12.
NMX Infrastructure Grids	31.12.1998	15%	10%	14.06. and 14.12.

Table 1: Characteristics of the NMX Index Family

1.3 Prices and Calculation frequency

Closing prices are used for the calculation of the NMX indices. The previous day's value of all indices is calculated and published on a daily basis. The closing price is the last price traded that is allocated by an exchange to a share. If a share has not been traded for a whole day, the closing price of the previous day is used for calculating the index. In the event of a suspension during trading hours, the last price determined before such a suspension is used for subsequent calculations. If such suspension occurs before the start of trading, the closing price of the previous day is used. In the event of an exchange holiday, the closing prices from the previous day are used. LPX publishes the indices for every day except for Saturdays and Sundays.

1.4 Country Allocation

The NMX universe includes companies that are traded at exchanges worldwide. The entire universe is subdivided into three regions:

- America
- Asia-Pacific
- Europe

The base universe is continuously checked and new companies are added as appropriate (see section 2.2). If a company is traded on different stock exchanges LPX uses the data of the exchange where the highest trading volume is observed. The constituents of the NMX equity indices are listed on the following stock exchanges:

Country	Exchange	Region	Currency
Australia	ASX	Asia-Pacific	AUD
Austria	VSX	Europe	EUR
Brazil	Bovespa	America	BRL
Canada	TSX	America	CAD
China	SSE	Asia-Pacific	USD
France	Euronext Paris	Europe	EUR
Germany	Xetra	Europe	EUR
Great Britain	LSE	Europe	GBP
Hong Kong	HKX	Asia-Pacific	HKD
Italy	Borsa Italiana	Europe	EUR
Philippines	PSE	Asia-Pacific	PHP
Singapore	SGX	Asia-Pacific	SGD
South Korea	KRX	Asia-Pacific	SKW
Spain	Bolsa de Madrid	Europe	EUR
USA	NASDAQ	America	USD
USA	NYSE	America	USD

Table 2: Exchanges

LPX reserves the right to add further exchanges to the list above.

1.5 Currency Conversion

The foreign exchange rates used in the calculation of the NMX Natural Monopoly Indices are the WM/Reuters Closing Spot Rates, compiled by The WM Company. The service, which was developed in consultation with leading financial market practitioners, sets a daily standard for the foreign exchange rates required for index calculation, investment management and portfolio valuation. At short intervals before and after 16:00h London time, representative bid and offer rates against the US dollar for some 112 currencies are selected from a wide range of contributing banks and foreign exchange dealers. Anomalous data are screened out, and a median rate is selected for each currency. The choice of 16:00 London time as the reference point for the rates captures a large selection of timely quotes from Continental European contributors to the Reuters system and reflects the peak trading period for the London and New York foreign exchange markets. In the event that WM/Reuters Closing Spot Rates are not published by the WM Company, the previous day's rates will be used to calculate the NMX Indices.

1.6 Error Correction Policy

The objective is to maintain the NMX Indices to the highest standards of accuracy and integrity, using reliable data sources and following best practice in statistical and operational procedures. Where material errors occur in data or in calculation procedures, these are corrected promptly and users are notified. However, LPX GmbH is conscious of the risk of damaging the confidence of users through the frequent publication of amendments where trivial statistical errors have occurred that do not materially affect the accuracy of the published Index Series.

2 Choice of Index Constituents

2.1 Selection Process

The NMX base universe is a subset of the global equity universe and is identified through a multi-step approach that ensures the identification of basic infrastructure companies which are eligible for inclusion in the NMX base universe.

1. Identification of infrastructure, infrastructure-related and network companies on the basis of major industry classification standards (BICS, GICS, ICB, Russel, SIC). These companies form the NMX raw universe.

2. Screening of the raw universe on a single constituent basis in order to identify network operating companies. The following infrastructure networks are considered: ports, airports, pipelines, toll roads, bridges, tunnels, communication networks and grids.

3. Balance sheet analysis in order to measure the revenue contribution of network operations. Eligible companies for inclusion in the NMX base universe show a minimum network revenue contribution of at least 50%.

The companies included in the base universe are continuously monitored and reviewed.

2.2 Data basis

The selection process described in 2.1 identifies those companies that form the NMX base universe. This data base is the starting point for the construction of the NMX index family.

2.3 Deletion or Suspension

An index constituent of the NMX index family can be deleted or suspended

- if the index constituent fails to meet the criteria described in section 2.1

- if the index constituent fails to meet the criteria described in section 2.4

The deletion or suspension of an index constituent is subject to agreement on part of the index committee and becomes effective at the following rebalancing-date.

2.4 Liquidity Analysis (LA)

The current composition of the NMX indices is the result of a regularly occurring liquidity analysis. The liquidity standards ensure that the NMX index constituents are tradable and investable.

2.4.1 Historical Liquidity Analysis

For each index, LPX executed a stand-alone "historical" liquidity analysis that was the starting point for the historical reconstruction of the NMX indices. For this analysis the companies, relative to the entire duration of their listing, had to fulfil the same criteria that were needed for the current liquidity analysis (see section 2.4.2.2). The procedure of 2.4.2.3 was also applied to the historical reconstruction of the indices. Thereby, data was used from the entire listing duration. In contrast, the current analysis (see section 2.4.2) uses average annual data and is half-yearly conducted.

2.4.2 Current Liquidity Analysis

Annual averages are used for the individual criteria for liquidity (see section 2.4.2.5). These criteria ensure the ability to replicate the indices. Five ratios are calculated within the framework of this analysis.

2.4.2.1 Ratios The specific ratios are:

- a maximum average bid-ask spread (BAS)
- an average minimum market capitalisation (MV)
- an average minimum trading volume per trading day measured relative to the market capitalisation (TV)
- a minimum trade continuity (CT)
- a minimum number of price observations on the exchange (OB)

2.4.2.2 Criteria The following table summarizes the criteria that are applied to each of the indices. In the event a company does not fulfil one of the criteria, it cannot be included in one of the indices (The criteria listed here are "KO criteria").

Index	BAS	MV	TV	CT	OB	Ranking
NMX Composite Infrastructure Global	1.5%	EUR100m	0.15%	95%	150	A
NMX30 Infrastructure Global	1.5%	EUR500m	0.15%	95%	150	A
NMX Infrastructure Asia	1.5%	EUR100m	0.15%	95%	150	A
NMX Infrastructure Europe	1.5%	EUR100m	0.15%	95%	150	A
NMX Infrastructure America	1.5%	EUR100m	0.15%	95%	150	A
NMX Infrastructure Tolls	1.5%	EUR100m	0.15%	95%	150	A
NMX Infrastructure Grids	1.5%	EUR100m	0.15%	95%	150	A

Table 3: Ratios of Liquidity Analysis

Abbreviations

- A: Ranking that is oriented to the market capitalisation (at the time of the liquidity analysis)

2.4.2.3 Rankings It is determined which companies fulfil the criteria from section 2.4.2.2.

- Ranking that is oriented to market capitalisation (A): The companies that fulfil the criteria are brought into a ranking list according to their market capitalisation (at the time of the liquidity analysis).

2.4.2.4 Sector Constraint In order to ensure a high grade of sector diversification for indices with a limited number of constituents a sector constraint is implemented. Within the NMX30 Infrastructure Global the maximum number of eligible constituents from each sector may not exceed eight constituents.

2.4.2.5 Time and Frequency of the LA The liquidity analysis is carried out semi-annually. This is on 1 December and on 1 June of every year. The results of the LA go into effect on the respective chaining date (see table 1) for each index.
Underlying data history for the LA:

- for the LA on 1 December: 1 December of the previous year until 1 December of the current year
- for the LA on 1 June: 1 June of the previous year until 1 June of the current year

2.4.3 Ordinary adjustment

An ordinary adjustment of the indices takes place after each LA. More precise it takes place half-yearly on the respective chaining date (see table 1) of each index. Companies that no longer fulfil one of the "KO criteria" from section 2.4.2.2 are replaced. The successor is that company with the highest rank better than "n"[2] that was not previously included in the index (where "n" indicates the number of companies in the respective index). The rank is determined from the ranking lists mentioned in 2.4.2.3. LPX also carries out ordinary adjustments that are supported only by the ranking lists named in section 2.4.2.3 (see table 4 below).

Index	R1	R2	R3
NMX30 Infrastructure Global	$[n \times 1.2]$	n	$[\frac{n}{2}]$
NMX Infrastructure Asia	$[n \times 1.2]$	n	$[\frac{n}{2}]$
NMX Infrastructure Europe	$[n \times 1.2]$	n	$[\frac{n}{2}]$
NMX Infrastructure America	$[n \times 1.2]$	n	$[\frac{n}{2}]$
NMX Infrastructure Tolls	$[n \times 1.2]$	n	$[\frac{n}{2}]$
NMX Infrastructure Grids	$[n \times 1.2]$	n	$[\frac{n}{2}]$

Table 4: Ranking-supported Adjustments

An index constituent that is ranked in the respective ranking list at R1 or worse is replaced, assuming a more advanced constituent exists that is ranked at R2 or better in the ranking list. A non-index-constituent that is ranked at R3 or better in the respective ranking list is included in the index, if a company currently in the index has a worse rank than R2. Concerning the NMX Composite Infrastructure Global, the adjustment procedure is slightly different. All infrastructure companies that fulfil the ratios named in table 3 become constituents of the index since there is no maximal number of constituents. Consequently no ranking-supported adjustments occur in the case of the NMX Composite Infrastructure Global. At the end of the process of ordinary adaptations, there is a new constituent list for the respective index. At the same time, a new ranking list of possible successors is created. These ranking lists are created using the same method as those mentioned in section 2.4.2.3, i.e. those companies (not currently in the index) with the highest market capitalisation or with the highest trading volume get the best rank and are therefore the prime candidates for advancing in an ordinary adjustment (see section 2.4.4). The integration of extraordinary adjustments into the calculation of the indices is explained in section 4.2 of this Guide. Dealing with ordinary adjustments during the calculation of the indices is defined in section 4.1 of this Guide.

[2] [x] denotes the largest integer smaller than x.

2.4.4 Extraordinary Adjustment

Adjustments due to extraordinary events will also be carried out:

2.4.4.1 Replacement of a Constituent due to Delisting Constituents that have applied for a de-listing at an exchange or for whom bankruptcy proceedings have been adjudicated will be taken out of the index effective not later the day when the security is last traded at an exchange. In case the security is removed before that date LPX will communicate this in advance. The company with the best rank on the successor list (see section 2.4.3) will succeed onto the index.[3]

2.4.4.2 Merger of Two Index Constituents If an existing index constituent is acquired for eligible shares (or a combination of eligible shares and cash) by another index constituent, the existing constituent is deleted on the effective date of acquisition. The company with the highest rank on the successor list (see section 2.4.3) will move up.

2.4.4.3 Merger of an Index Constituent with a Non-index constituent If an existing index constituent is acquired for eligible shares (or a combination of eligible shares and cash) by a quoted non-constituent, then the merged company is continued in the index if eligible in all other respects of this Guide. If the requirements defined in section 2.2 are not fulfilled, the merged company is replaced by the company with the highest rank of the successor list.

Dealing with extraordinary adjustments within the calculation of the indices is defined in section 4.2 of this Guide. LPX reserves the right to deviate from the said rules for ordinary or extraordinary adjustment in exceptional cases.

[3] In the case of extraordinary adjustments (see also 2.4.4.2 and 2.4.4.3), LPX uses the largest liquid candidate resulting of the previous liquidity analysis (1 June and 14 December) no matter if this liquidity analysis has already become effective or not.

3 Calculation Methods

3.1 Historical Reconstruction of the Indices

The formulae in section 3.2 of this Guide describe the current calculation algorithm. For the historical reconstruction LPX used equivalent path-dependent formulas. Historically, adjusted prices and dividends in the respective currency of the indices as well as data on the market capitalisaton of the index constituents were used to take into consideration the relevant corporate actions and to calculate the indices.

3.2 Index Formulae NMX Indices (Single Stock Distribution reinvestment)

The calculation of the NMX indices follows the following formula:

$$TRIndex_t = K_t^{TR} \cdot \frac{\sum_{i=1}^{n_t} p_{i,t} \cdot w_{i,t} \cdot aa_{i,t} \cdot C_{i,t}^{TR}}{\sum_{i=1}^{n_0} p_{i,0} \cdot aa_{i,0} \cdot w_{i,0}} \cdot Basis_0^{TR} \tag{1}$$

$$PIIndex_t = K_t^{PI} \cdot \frac{\sum_{i=1}^{n_t} p_{i,t} \cdot w_{i,t} \cdot aa_{i,t} \cdot C_{i,t}^{PI}}{\sum_{i=1}^{n_0} p_{i,0} \cdot aa_{i,0} \cdot w_{i,0}} \cdot Basis_0^{PI} \tag{2}$$

With:

Index	Level of the Index
K	Index-specific chaining factor
n	Number of constituents in the index
p	Price in local currency
w	Relevant exchange rate
aa	Capped number of shares (constant between chaining dates)
C	Current adjustment factor
Basis	100
t	Daily time index
i	Index of constituents of the index

The index is calculated with the old index composition on chaining dates and with the new index composition after.

3.3 Entry Data

Essentially, data from international data providers are used for the calculation of the indices.

3.4 Monitoring the Entry Data

LPX defines a primary data source for the entry data in the calculation. A back-test with a secondary data source takes place. Should there be deviations between primary and secondary sources, LPX contacts third sources, such as exchanges or other data providers.

3.5 Adjustment of Entry Data

Errors in the entry data are corrected by the procedure described in section 3.4. In the event subsequent errors in the entry data still show up, a correction takes place as soon as possible for errors recognized within 5 days. If the error is discovered after 5 days, an adjustment is made only if the error is to be classified significant.

3.6 Cap Limit

At the time of the semi-annual chaining date, the weight of any constituent is limited to a cap of "Current CAP" (as defined in table 1). Should the weight of any stock after appropriate adjustment between two LA either rise or fall under "Current CAP"%, the weight will not be re-adjusted to "Current CAP"% until the time of the next chaining date. On each chaining date LPX calculates the capped number of shares of any constituent (denoted by *aa*). This variable is chosen such that no constituent has a weight of more than "Current CAP"% at the chaining date. Between chaining dates, *aa* is constant.

3.7 Corporate Actions

LPX indices take all the corporate actions listed in 3.7 into account. The adjustment factors are defined for both price (PI) and total return (TR) index. In general, the following formulae is applied for the adjustment factors:

$$C_{i,t}^{TR} = a_{i,t}^{TR} \cdot b_{i,t}^{TR} \cdot e_{i,t}^{TR} \cdot f_{i,t}^{TR} \tag{3}$$

$$C_{i,t}^{PI} = a_{i,t}^{PI} \cdot b_{i,t}^{PI} \cdot e_{i,t}^{PI} \cdot f_{i,t}^{PI} \tag{4}$$

$$E_{i,t} = b_{i,t}^{PI} \cdot e_{i,t}^{PI} \cdot f_{i,t}^{PI} \tag{5}$$

where the auxiliary factors a, b, e, f, for both the price (PI) and total return (TR) version are defined in 3.7.1 to 3.7.2.

3.7.1 Cash Dividends and Special Distributions

Cash dividends include regular dividends (denoted by and expressed per share on the ex date) as well as bonus and special dividends. Other special distributions include redemptions, bonus shares from another company as well as spin-offs (denoted by SD and expressed per share on the ex date). For the TR indices all cash dividends and special distributions are included in the calculation. The following formulae apply to the auxiliary factor a:

$$a_{i,t}^{TR} = \begin{cases} 1, & \text{if } t = 1 \\ a_{i,t-1}^{TR} & \text{if } t \neq k, D_{i,t} = 0, SD_{i,t} = 0 \\ (1 + \frac{(1-Q)D_{i,t}}{p_{i,t-1}-(1-Q)D_{i,t}}) \times a_{i,t-1}^{TR} \text{ or } (1 + \frac{(1-Q)SD_{i,t}}{p_{i,t-1}-(1-Q)SD_{i,t}}) \times a_{i,t-1}^{TR}, & \text{if } t \neq k, D_{i,t} \neq 0 \text{ or } SD_{i,t} \neq 0 \end{cases} \tag{6}$$

$$a_{i,t}^{PI} = \begin{cases} 1, & \text{if } t = 1 \\ a_{i,t-1}^{PI} & \text{if } t \neq k, SD_{i,t} = 0 \\ (1 + \frac{(1-Q)SD_{i,t}}{p_{i,t-1}-(1-Q)SD_{i,t}}) \times a_{i,t-1}^{PI} \text{ or } (1 + \frac{(1-Q)SD_{i,t}}{p_{i,t-1}-(1-Q)SD_{i,t}}) \times a_{i,t-1}^{TR}, & \text{if } t \neq k, SD_{i,t} \neq 0 \end{cases} \quad (7)$$

with:

k	index of chaining dates ($k = 1, 2, \cdots$)
Q	effective hypothetical withholding tax: 25%

3.7.2 Stock Splits and Reverse Splits

This section does not only include stock splits, but also reverse splits (stock consolidation). The split ratio is denoted by SPR on the ex date. The auxiliary adjustment factor b is calculated according to the following formulae:

$$b_{i,t}^{TR} = \begin{cases} 1, & \text{if } t = 1 \\ b_{i,t-1}^{TR} & \text{if } t \neq k, SPR_{i,t} = 1 \\ SPR_{i,t} \times b_{t,t-1}^{TR} & \text{if } t \neq k, SPR_{i,t} \neq 0 \end{cases} \quad (8)$$

$$b_{i,t}^{PI} = b_{i,t}^{TR} \text{ for all i,t} \quad (9)$$

3.7.3 Bonus Shares and Scrip Dividends of the same Company

Bonus shares from the same company are treated in the same ways as a stock split. B denotes the number of bonus shares per share held on the ex date. The following equations result:

$$e_{i,t}^{TR} = \begin{cases} 1, & \text{if } t = 1 \\ e_{i,t-1}^{TR} & \text{if } t \neq k, B_{i,t} = 0 \\ (1 + B_{i,t}) \times e_{i,t-1}^{TR} & \text{if } t \neq k, B_{i,t} \neq 0 \end{cases} \quad (10)$$

$$e_{i,t}^{PI} = e_{i,t}^{TR} \text{ for all i,t} \quad (11)$$

3.7.4 Subscription Rights

Subscription rights are not taken into account by LPX until the exercise date. At the exercise date the value of the subscription rights is reinvested in the company according to the subscription rate ratio SRR leading to the same amount of invested capital than before the transaction.

$$f_{i,t}^{TR} = \begin{cases} 1, & \text{if } t = 1 \\ f_{i,t-1}^{TR} & \text{if } t \neq k, SPR_{i,t} = 1 \\ SPR_{i,t} \times f_{i,t-1}^{TR} & \text{if } t \neq k, SPR_{i,t} \neq 0 \end{cases} \quad (12)$$

$$f_{i,t}^{PI} = f_{i,t}^{TR} \text{ for all i,t} \quad (13)$$

An analogous procedure is chosen for subscription rights to shares of another company. An exemplification is below-mentioned.

	Formulae	Constituent A
Shares to be issued	(1)	1000
Old number of shares	(2)	3000
Share price$_{t-1}$	(3)	100
Issue price of new shares	(4)	80
Subscription ratio	(5)	3
Expected share price after the issue	(6) = [(1) × (4) + (2) × (3)] ÷ [(1) + (2)]	95
Value of subscription right (share price dilution)	(7) = [(3) − (7)]	5
Number of shares in the index	(8)	3000
Value of subscription rights	(9) = [(7) × (8)]	15000
Number of additional shares	(10) = [(9) ÷ (6)]	157.8947368
Correction factor	(11) = [[(10) + (8)] ÷ (8)	1.052631579

Table 5: Example: Subscription Rights

4 Chaining

4.1 Ordinary chaining

On every calculation day, LPX determines a chaining factor. The index-specific chaining factor K is calculated as follows:

$$K_t^{TR} = \begin{cases} 1, & \text{if } t = 0 \\ \frac{TRIndex}{ZW_{t=j}} & \text{if } t = j+1 \\ K_{t-1}^{TR} & \text{if } t \neq j+1, t \neq 0 \end{cases} \tag{14}$$

$$K_t^{PI} = \begin{cases} 1, & \text{if } t = 0 \\ \frac{PIIndex}{ZW_{t=j}} & \text{if } t = j+1 \\ K_{t-1}^{PI} & \text{if } t \neq j+1, t \neq 0 \end{cases} \tag{15}$$

Thereby, the index is calculated with the old index composition at a chaining date, while the intermediate value ZW is calculated with the new index composition. The intermediate value is calculated as follows:

$$ZW_{t=j}^{TR} = \frac{\sum_{i=1}^{n_t} p_{i,t} \cdot w_{i,t} \cdot aa_{i,t}}{\sum_{i=1}^{n_t} p_{i,0} \cdot w_{i,0} \cdot aa_{i,0}} \cdot Basis_0^{TR} \tag{16}$$

$$ZW_{t=j}^{PI} = \frac{\sum_{i=1}^{n_t} p_{i,t} \cdot w_{i,t} \cdot aa_{i,t}}{\sum_{i=1}^{n_t} p_{i,0} \cdot w_{i,0} \cdot aa_{i,0}} \cdot Basis_0^{PI} \tag{17}$$

4.2 Extraordinary Chaining

Should it come to an extraordinary event defined in section 2.4.4, LPX applies the following procedure:

4.2.1 Constituent is replaced due to a Delisting

The amount currently invested in the index of company i being replaced is completely shifted to successor j. In this general case no chaining takes place since only a simple transfer of invested capital occurs. Should a constituent with a high weight be replaced by a successor with a high potential weight, there can be a deviation from this practice whereby an adjustment of the weights of all index constituents takes place, meaning an analogous procedure to an ordinary chaining. En extraordinary chaining is implemented in the same way as an ordinary one, i.e. formulae (14) and (15) do apply in this case as well. Before each replacement LPX will communicate which of the two procedures take place.

4.2.2 Merger of two Index Constituents

A new company (successor) must be included in the index due to the merger of two index constituents. This new inclusion requires an adjustment of the weights of all index constituents or an extraordinary chaining.

4.2.3 Merger of an Index Constituent with a Non-index Constituent

The capital invested in the index from the acquiring company remains unchanged. At the next regular chaining date, the number of shares will be adjusted. If the stock is not created by the retainment of the listing of one of the old companies, the new company will be included in the index, whereby the invested capital of the company already represented in the index will be transferred. The number of shares will not be adjusted until the next regular chaining date. In the event the business purpose of a company after the merger no longer represents the definition of a Natural Monopoly vehicle (described in section 2.2), a replacement and an extraordinary chaining will take place.

5 Index Board

The rules defined in the Guide are frequently revised, in order to assure the highest industry standards and to audit the index calculation process. For this purpose, LPX established an index committee. The committee consists of well-known institutions and industry experts.

The index committee meets on a semi-annual basis, prior to each liquidity analysis. The meeting is announced in advance and the decisions made are published on LPX's webpage, shortly after the meeting.

6 Amendments

The Guideline will be checked on a regularly basis by LPX. Moreover the Index calculations is monitored by an index committee, which ensures that the composition and calculation of the NMX index family are objective and transparent.

7 Data Distributors

Data Distributor

Total Return TR

	CCY	Base Date	Valor CH	ISIN	Bloomberg	Reuters
NMX Composite TR	EUR	31.12.98	3221286	CH0032212869	NMXICGTR	.NMXICGT
NMX Composite TR (CHF)	CHF	31.12.98	3221359	CH0032213594	NMXICGTC	
NMX30 TR	EUR	31.12.98	3221370	CH0032213701	NMXI30TR	.NMXI30T
NMX30 TR (CHF)	CHF	31.12.98	3221377	CH0032213776	NMXI30TC	
NMX Asia TR	EUR	31.12.98	3221385	CH0032213859	NMXIASTR	.NMXIAST
NMX Asia TR (CHF)	CHF	31.12.98	3221392	CH0032213925	NMXIASTC	
NMX Europe TR	EUR	31.12.98	3221394	CH0032213941	NMXIEUTR	.NMXEUT
NMX Europe TR (CHF)	CHF	31.12.98	3221401	CH0032214014	NMXIEUTC	
NMX Tolls TR	EUR	31.12.98	3221405	CH0032214055	NMXITOTR	.NMXITOT
NMX Tolls TR (CHF)	CHF	31.12.98	3221414	CH0032214147	NMXITOTC	
NMX Grids TR	EUR	31.12.98	3221418	CH0032214188	NMXIGRTR	.NMXIGRT
NMX Grids TR (CHF)	CHF	31.12.98	3221422	CH0032214220	NMXIGRTC	
NMX America TR	EUR	31.12.98	3221424	CH0032214246	NMXIAMTR	.NMXIAMT
NMX America TR (CHF)	CHF	31.12.98	3221428	CH0032214287	NMXIAMTC	

Price Index PI

	CCY	Base Date	Valor CH	ISIN	Bloomberg	Reuters
NMX Composite PI	EUR	31.12.98	3221433	CH0032214337	NMXICGPI	.NMXICGP
NMX Composite PI (CHF)	CHF	31.12.98	3221438	CH0032214386	NMXICGPC	
NMX30 PI	EUR	31.12.98	3221444	CH0032214444	NMXI30PI	.NMXI30P
NMX30 PI (CHF)	CHF	31.12.98	3221446	CH0032214469	NMXI30PC	
NMX Asia PI	EUR	31.12.98	3221450	CH0032214501	NMXIASPI	.NMXIASP
NMX Asia PI (CHF)	CHF	31.12.98	3221453	CH0032214535	NMXIASPC	
NMX Europe PI	EUR	31.12.98	3221457	CH0032214576	NMXIEUPI	.NMXIEUP
NMX Europe PI (CHF)	CHF	31.12.98	3221460	CH0032214600	NMXIEUPC	
NMX Tolls PI	EUR	31.12.98	3221474	CH0032214741	NMXITOPI	.NMXITOP
NMX Tolls PI (CHF)	CHF	31.12.98	3221476	CH0032214766	NMXITOPC	
NMX Grids PI	EUR	31.12.98	3221481	CH0032214816	NMXIGRPI	.NMXIGRP
NMX Grids PI (CHF)	CHF	31.12.98	3221485	CH0032214857	NMXIGRPC	
NMX America PI	EUR	31.12.98	3221491	CH0032214915	NMXIAMPI	.NMXIAMP
NMX America PI (CHF)	CHF	31.12.98	3221493	CH0032214931	NMXIAMPC	

LPX GROUP

Florastrasse 17
8008 Zürich
Switzerland

T: +41 (0) 44 38 290 20
F: +41 (0) 44 38 290 21

M: info@lpx.ch

W: www.lpx.ch
W: www.nmx-infra.ch