Pakistan Stock Exchange

NIT PAKISTAN GATEWAY INDEX

NITPG INDEX (VERSION.1)

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NIT PAKISTAN GATEWAY INDEX (NITPG INDEX)

The index aims to track the performance of stocks that represent top 50% free float market capitalization of KSE-100 index.

Universe: constituents of KSE-100 (Please refer to the KSE – 100 Criteria available on PSX Website for further information). https://www.psx.com.pk/psx/themes/psx/documents/BrochureKSE100_Idx.pdf

1. FREE - FLOAT METHODOLOGY

Free-Float means proportion of total shares issued by a company that are readily available for trading at the Stock Exchange. It generally excludes the shares held by controlling directors / sponsors / promoters, government and other locked-in shares not available for trading in the normal course.

1.1 OBJECTIVE AND DESCRIPTION

- Free-Float calculation can be used to construct stock indices for better market representation than those constructed on the basis of total market capitalization of companies.
- It gives weight for constituent companies as per their actual liquidity in the market and is not unduly influenced by tightly held large-cap companies.
- Free-Float can be used by the Exchange for regulatory purposes such as risk management and market surveillance.

1.2 FREE-FLOAT CALCULATION METHODOLOGY

Total Outstanding Shares			xxx
Less	Government Holdings	xxx	
	Shares held by Directors / Sponsors / Senior Management Officers and their Associates	xxx	
	Shares in Physical Form	xxx	
	Shares held by Associate Companies / Group Companies (Cross Holdings)	xxx	
	Shares issued under Employees Stock Option Scheme that cannot be sold in the Open market in normal course	xxx	
	Treasury Shares	xxx	
	Any other category that are barred from Selling at the review date	xxx	xxx
Free Float			**xxx**

The scrip should include the top Companies, ranked on the basis of highest free-float market capitalization based on the latest free float submitted by the companies. The free-float market capitalization for each company is calculated by multiplying its free-float shares with the closing market price on the day of re-composition.

2. IMPACT COST

The scrip included in the index should also meet the adequate liquidity gauged by the Impact Cost (IC) of each stock as available at PSX. It is defined as the cost of executing a transaction in a given stock for a specific predefined order size of fixed rupee amount (currently set to Rs. 500,000). The transaction cost referred here is not the fixed cost typically incurred in terms of transaction charges or cost arising through CDC, rather it is the cost attributable to the market liquidity, which comes from buyers and sellers in the market.

Under impact cost analysis high liquidity is represented by low impact cost. A stock with high market capitalization cannot be assumed to be liquid just because of its sheer size. Some large market capitalization stocks may in reality be very illiquid. Similarly, high trading volumes, in themselves, are not enough to confirm consistent liquidity of a stock.

The Impact Cost (IC) computation methodology is described hereunder:

- Basic IC of a stock is calculated separately for the BUY and SELL side at each MBP (Market by price) update.
- Basic IC is only computed in case order size of Rs. 500,000 is available on both sides of the MBP.
- The formula used for computation of Basic IC is given as follows:

ABS (Execution Price – Ideal Price)/Ideal Price

where ideal price is average of best bid and offer

- The process of computation of basic impact cost for each side of the MBP continues till day end. At day end average of all Basic BUY and basic SELL impact costs calculated at each MBP update is computed.
- Penal cost may be added in the Basic BUY IC and SELL IC to arrive at the Final BUY IC and Final SELL IC.
- Day end single value of Final IC is arrived by taking average of Final Buy IC and Final Sell IC.
- Six monthly average of impact cost is computed by taking average of daily Final IC.

3. ELIGIBILITY AND SELECTION OF CONSTITUENTS OF NITPG INDEX

3.1 ELIGIBILITY CRITERIA

- The stocks shall have minimum average Impact Cost of less than or equal to 1.5% in last 6 months from the date of re-composition
- Average daily traded turnover of the company should be at least 100,000 shares in last 6 months from the date of re-composition
- The Company must have at least 5% of free-float shares of its total outstanding shares
- The stock must be traded 100% of the trading days in the last one year from the date of re-composition.

3.2 SELECTION OF CONSTITUENTS

The KSE – 100 constituents which passes eligibility criteria shall be ranked from highest to lowest free float market capitalization. The stocks that comprises 50% of the free float market capitalization of KSE – 100 index shall be selected.

3.3 ADDITION/DELETION OF SECURITIES

Stock already included in the NITPG Index meeting the mentioned liquidity criteria but fails to meet the criteria of 50% Free float market capitalization of KSE-100 shall not be excluded from the index upon re-composition.

However, the subject stock shall be excluded if it fails to meet the 50% free float market capitalization for subsequent re-composition. Stock shall be excluded if it not constituent of KSE-100 index upon re-composition.

3. BASE PERIOD

The base period of NITPG Index is 31-January-2020 and the base value is 10,000 index points. The calculation of NITPG Index involves dividing the free-float market capitalization of selected companies in the Index by a number called the Index Divisor. The Divisor is the only link to the original base period value of the NITPG Index. It will keep the Index comparable over a period of time and will also be the adjustment point for all future corporate actions, replacement of scrips etc.

4. MAINTENANCE OF NITPG INDEX

The day-to-day maintenance of the Index will be carried out within the Index Policy Framework set by the Pakistan Stock Exchange (PSX) and National Investment Trust. The Management of PSX will ensure that NITPG Index maintains its benchmark properties by striking a balance between frequent replacements in index and maintaining its historical continuity.

5. RE-COMPOSITION/ REBALANCING

Index shall be recomposed/rebalanced on semi-annually basis

Review period	Implementation
01-April to 30-September	15 working days from 30-September
01-October to 31-March	15 working days from 31-March

6. ON -LINE COMPUTATION OF INDEX

During market hours, prices of the Index constituents at which trades are executed, are automatically used by the trading computer to calculate the NITPG Index and continuously make updations on all trading workstations connected to the PSX trading computers on real time basis.

7. ADJUSTMENT IN THE NITPG INDEXX FOR CORPORATE ACTIONS

NITPG Index shall be calculated on total return basis and corporate actions (Cash dividend, Bonus and Right issue) adjustments shall be made in order to maintain the index continuity. If no adjustments were made, a discontinuity would arise between the current value of the index and its previous value despite the non-occurrence of any economic activity of substance. At the Exchange, the base value will be adjusted, which is used to alter market capitalization of the component stocks to arrive at the NITPG Index value.

The determination of Ex price of a security is mentioned in Rule 10.6 of PSX Rule Book that: "*If the Books of a Security are closed for determining any entitlement for its shareholders by the Company, the Exchange shall determine the ex-price based on the mechanism prescribed by the Exchange, as an opening price for the Trading Day falling on two Settlement Day before its Books Closure starting date*".

New Divisor shall be calculated due to corporate action at the end of T-3 days of its Book Closure starting date. E.g. Starting day of Book Closure = Friday, new divisor shall be calculated at day end of Tuesday.

The adjustment for corporate actions will be made as given under:

7.1 ADJUSTMENT FOR CASH DIVIDEND

NITPG Index is a total return index; therefore, adjustment of cash dividend will be made.

If company declared a 10% cash dividend:

NITPG Index = 11,200 points

NITPG Index market capitalization = Rs. 13,950,000,000

Divisor = 1,245,536

Constituents	Share Price	Free Float Shares	Free Float Market Capitalization (RS)
Stock A	22.50	50,000,000	1,125,000,000
Stock B	41.00	150,000,000	6,150,000,000
Stock C	44.50	150,000,000	6,675,000,000
Total Free Float Market Capitalization			**13,950,000,000**

Step-1

Determine the ex-dividend price of the stock A to calculate the revised market capitalization and a new divisor for the next day

Stock A

Par value: Rs.10 per share

Closing Price: Rs. 22.50 per share

Cash Dividend 10 % of par value

i) Cash dividend amount per share = par value x dividend% = Rs 10 x 10% = Rs.1

ii) Ex-dividend price = closing price – cash dividend amount = Rs.22.50 – Rs.1 = Rs.21.50

Step-2

Illustration, Revision in the Market Capitalization and Divisor

Share price of stock A shall be adjusted after the close of day to calculate the New Divisor for the next day

Constituents	Share Price	Free Float Shares	Free Float Market Capitalization (Rs)
Stock A	21.50	50,000,000	1,075,000,000
Stock B	41.00	150,000,000	6,150,000,000
Stock C	44.50	150,000,000	6,675,000,000
Revised Free Float Market Capitalization			**13,900,000,000**

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New Divisor = Revised Market Cap. / Index points

13,900,000,000 / 11,200 = 1,241,071

7.2 ADJUSTMENT FOR BONUS SHARES

Declaration of Bonus requires adjustment in the free float capitalization and within the Index Divisor itself. The following process illustrates the process for a situation whereby a stock A has declared 10% bonus in terms of shares. Following steps are recommended to be followed in order to determine the price of Ex-Bonus of Stock A to calculate the revised free-float market capitalizations and new divisor for the next day.

Step-1

NITPG Index = 11,200 points

Free-float market capitalization = Rs. 13,950,000,000

Divisor = 1,245,536

Closing Price of Stock A: Rs. 22.50

Bonus: 10 %

Stock lot size= 100 Shares

Given below example, calculates the Ex-bonus price on the basis of a stock lot size of 100 shares by observing following steps.

- Total free-float shares after the Bonus issue: 100 + (100 X 10 %) = 110 shares
- Cost of stock-lot size 100 shares x closing price of stock A: 100 x 22.50= Rs. 2,250

  Ex-Bonus Price: 2250/110 = RS 20.45

Step-2

Illustration, Revision in the Market Capitalization and Divisor

Share price and free-float shares of stock A shall be adjusted after the close of day to calculate the New Divisor for the next day

Stock A		
Free Float shares	**Bonus**	**Total free float shares**
50,000,000	10%	55,000,000

Constituents	Share Price	Free Float Shares	Free Float Market Capitalization
Stock A	20.45	55,000,000	1,124,750,000
Stock B	41.00	150,000,000	6,150,000,000
Stock C	44.50	150,000,000	6,675,000,000
Revised Free Float Market Capitalization			**13,949,750,000**

*New Divisor = Revised Market Cap. / Index points

13,949,750,000 / 11,200 = 1,245,513

**Divisor changed as stock prices are reported in two decimal places*

7.3 ADJUSTMENT FOR RIGHT SHARES

Closing price of stock is adjusted with right issue (Face Value / Premium/ Discount) and free float of stock will be increased as per the Right Ratio.

Right issue at Par
If Stock A has issued 10 % right shares at par value

NITPG Index = 11,200 Points
NITPG Index Market Capitalization = Rs 13,950,000,000
Divisor = 1,245,536

Step:1

Determine the Ex-Right price of the stock A to calculate the revised free-float market capitalization and a new divisor

Closing price of Stock A: Rs 22.50

Right: 10 %

For simplicity in working, we will calculate the Ex-Right price on the basis of a lot of 100 shares.

i. Total free-float shares after the Right issue

100 shares + (100 shares x 10 % Right) = 110 shares

ii. Cost of a lot (100 shares)

100 shares x Closing price of stock A + 10 right shares x par value

= (100 x 22.50) + (10 x 10)

= Rs 2,350

iii. Ex- Right price per share = 2,350/110

= Rs 21.36

Step 2

Share price and free-float shares of Stock A shall be adjusted after the close of Day to calculate the New Divisor for the next day.

Stock A		
Free Float shares	**Right Issue**	**Total Free Float shares**
50,000,000	10%	55,000,000

Constituents	Share Price	Free Float Shares	Free Float Market Capitalization
Stock A	21.36	55,000,000	1,174,800,000
Stock B	41.00	150,000,000	6,150,000,000
Stock C	44.50	150,000,000	6,675,000,000
Revised Free Float Market Capitalization			**13,999,800,000**

New Divisor = Revised Market Cap/ Index points

New Divisor = 13,999,800,000/11,200= 1,249,982

7.4 BONUS AND RIGHT ISSUE ADJUSTMENT (SIMULTANEOUSLY)

If Stock A has announced;

Bonus: 10%

Right: 10%

At a Premium of Rs 10 per share

Closing price: Rs 22.5

NITPG Index = 11,200 points

NITPG Index Market Capitalization = 13,950,000,000

Divisor = 1,245,536

Step 1

Calculate the Ex-Bonus and Ex- Right price of the stock A:

For simplicity we will calculate its price on the basis of a lot of 100 shares.

I. **Total shares after the Right issue and Bonus**

100 shares + (100 shares x 10 % Right) + (100 shares x 10% Bonus)

100+ 10 +10 = 120 shares

II. **Cost of a lot (100 shares)**

100 shares x closing price of stock A + {10 right shares x (par value + premium)}

= 100 x 22.50+ 10 x (10+10) = Rs 2,450

III. **Ex-Bonus and Ex- Right price per share = 2,450/120 = Rs 20.42**

Step 2

Share price and free-float shares of stock A shall be adjusted after the close of Day to calculate the New Divisor for the next day

Stock A			
Free Float shares	**Right Issue**	**Bonus**	**Total Free Float shares**
50,000,000	10%	10%	60,000,000

Constituents	Share Price	Free Float Shares	Free Float Market Capitalization
Stock A	20.42	60,000,000	1,225,200,000
Stock B	41.00	150,000,000	6,150,000,000
Stock C	44.50	150,000,000	6,675,000,000
Revised Free Float Market Capitalization			**14,050,200,000**

New Divisor = Revised Market Cap/ Index points

New Divisor = 14,050,200,000/ 11,200 = 1,254,482