



Pakistan Stock Exchange



NBP PAKISTAN GROWTH INDEX

NBPPGI INDEX

TABLE OF CONTENTS

NBP Pakistan Growth Index (NBPPGI Index)	2
1. Free - Float Methodology	2
1.1 Objective and Description	2
1.2 Free-Float Calculation Methodology	2
2. Selection and weight of Constituents	3
2.1 selection Criteria	3
2.2 weight assignment of Constituents	3
3. Base Period	3
4. Maintenance of NBPPGI Index	4
5. Re-composition/ Rebalancing	4
6. On-Line computation of Index	4
7. Adjustment in the NBPPGI Index for corporate actions	4
7.1 Adjustment for Cash Dividend	5
7.2 Adjustment for Bonus Shares	6
7.3 Adjustment for Right Shares	7
7.4 Bonus and Right Issue Adjustment (Simultaneously)	8

NBP PAKISTAN GROWTH INDEX (NBPPGI INDEX)

The Index aims to track the performance of top 15 companies with highest free float market capitalization of KSE-100 index.

Universe: Constituents of KSE-100 Index (For details, please refer to the KSE- 100 Criteria that is available on the PSX Website).

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
Free Float		xxx

2. SELECTION AND WEIGHT OF CONSTITUENTS

2.1 SELECTION CRITERIA

- **First Filter:** The stock should be a part of the KSE-100 Index.
- **Second Filter:** Top 30 companies based on Free Float Market Capitalization.
- **Third Filter:** Average daily turnover of above shares during the trading sessions falling in the previous one-year period at the time of creation of the Index/ re-composition should be at least 100,000 shares.
- **Fourth Filter:** Not traded below 10,000 shares on any single day during last 12 months or total trading days from the listing of such stock if the period of listing is less than 12 months.
- **Fifth Filter:** Top 15 stocks based on free float market capitalization meeting the above criteria will be selected.

At least 15 stocks should be the part of index, in case where the stocks filtered are below 15, the free float market cap list may be extended beyond 30 stocks till the portfolio has minimum 15 stocks. Even after this, if 15 stocks are not available, the stocks meeting the criteria will be part of the index

2.2 WEIGHT ASSIGNMENT OF CONSTITUENTS

The stocks selected based on the above criteria are assigned weights based on the free-float market capitalization and average daily traded value of each such stock as a percentage of total free-float market capitalization and average daily traded value of the Index respectively.

- A weight of 50% is based on Market Capitalization.
- A weight of 50% is based on Average Traded Value.
 - i) Each stock in the index shall be assigned weight in a way that it remains in a range of 3% to 10%, i.e. minimum 3% and maximum 10%.
 - ii) In case where weight of a stock is less than 3%, then the weight from the stock which are above 10% would be reallocated, thereby increasing the weight of the pertinent stock to 3%.
 - iii) If the weight of stock does not meet minimum threshold and no stock is greater than 10%, weight from those barring the ones falling below 3% would be proportionally distributed to ones falling below 3% until a minimum weight is achieved.
 - iv) If, even after redistribution of weight to those falling below the minimum threshold, the weight of a certain stock remains higher than 10% then the excess weight shall be distributed proportionally to the original allocation to the remaining stock, to the stocks which are lower than the 10%.

3. BASE PERIOD

The base period of NBPPGI Index is 30 Sep 2020 and the base value is 10,000 index points. This is indicated by the notation 2020 = 10,000. The calculation of NBPPGI Index involves dividing the free-float market capitalization of 15 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 NBPPGI Index. It will keep the Index comparable over a period of time and there will also be the adjustment point for all future corporate actions, replacement of scrips etc.

4. MAINTENANCE OF NBPPGI 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 NBP Fund Management Limited. The Management of PSX will ensure that NBPPGI Index and all the other PSX indices maintain their benchmark properties by striking a balance between frequent replacements in indices and maintaining their historical continuity.

5. RE-COMPOSITION/ REBALANCING

Index shall be recomposed/rebalanced semi-annually/quarterly and Index constituents' weight shall be subjected to cap and floor of 10% and 3% respectively.

- *Free float shares of companies shall be updated semiannually at the time of Index re-composition.*
- *Free float of index shall not be updated at the time of rebalancing.*
- *No rebalancing of weight of the Index constituents if the weight of constituents is within the range of 3% to 10%.*

Basis/Review period	Notice	Implementation	Actions
Last working day of July	4 th working day basis after the market hour	5 working days Basis	Re-composition/Rebalancing
Last working day of October			Rebalancing
Last working day of January			Re-composition/Rebalancing
Last working day of April			Rebalancing

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 NBPPGI Index and continuously make updations on all trading workstations connected to the PSX trading computers on real time basis.

7. ADJUSTMENT IN THE NBPPGI INDEX FOR CORPORATE ACTIONS

NBPPGI 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 gap 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 NBPPGI 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

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

If company declared a 10% cash dividend:

NBPPGI Index = 1,120 points

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

Divisor = 12,455,357

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

New Divisor = Revised Market Cap. / Index points

$$13,900,000,000 / 1120 = 12,410,714$$

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

NBPPGI Index = 1,120 points
 Free-float market capitalization = Rs. 13,950,000,000
 Divisor = 12,455,357

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: $100 + (100 \times 10\%) = 110$ shares
- Cost of stock-lot size 100 shares x closing price of stock A: $100 \times 22.50 = \text{Rs. } 2,250$

Ex-Bonus Price: $2250/110 = \text{RS } 20.45$

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

$13,949,750,000 / 1120 = 12,455,134$

**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

NBPPGI Index	= 1,120 Points
NBPPGI Index Market Capitalization	= Rs 13,950,000,000
Divisor	= 12,455,357

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

$$100 \text{ shares} + (100 \text{ shares} \times 10 \% \text{ Right}) = 110 \text{ shares}$$

ii. Cost of a lot (100 shares)

$$100 \text{ shares} \times \text{Closing price of stock A} + 10 \text{ right shares} \times \text{par value}$$

$$= (100 \times 22.50) + (10 \times 10)$$

$$= \text{Rs } 2,350$$

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

$$= \text{Rs } 21.36$$

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 = 13,999,800,000/1,120= 12,499,821

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

NBPPGI Index = 1120 points

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

Divisor = 12,454,357

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/ 1,120 = 12,544,821