CONVENTIONS AND CALCULATION METHODOLOGY FOR THE BSE PRICE INDICES
1. **STOCK SELECTION AND ELIGIBILITY**

1.1. The BSE’s price indices, Domestic Company Index (DCI) and Foreign Company Index (FCI) are equity indices computed using market capitalization as the weighting methodology.

1.2. The indices are computed to capture price appreciation only.

1.3. The DCI comprises all the domestic stocks listed on the domestic main board and on the domestic venture capital board.

1.4. The FCI comprises all the foreign stocks listed on the foreign main board and on the foreign venture capital board.

1.5. The indices include stocks right from the date of listing and exclude stocks from the date of the delisting (the morning after).

1.6. The base date for DCI and FCI is 19 June 1989.

1.7. The base index level for both DCI and FCI is 100.00 points.

2. **COMPUTATION OF INDEX WEIGHTS**

2.1. The DCI and FCI are computed to capture the daily changes in the price levels estimated by the daily changes in the total market capitalization.

2.2. Market capitalization is defined as the daily closing price multiplied by the number of securities outstanding on a daily basis.

2.3. The closing price is computed as stated in section 10.1 of the BSE Equity Trading Rules.

2.4. Where a stock is listed but is not traded the closing price is defined as the issue price in the case of an IPO or the reference price in the case of a secondary listing of a foreign stock.

2.5. In the case of a secondary listing the price in the primary market is converted to a Pula price using the exchange rate from Bank of Botswana (for USD, GBP, EURO, ZAR) or from Bloomberg for other currencies.

3. **COMPUTATION OF THE BASE MARKET CAP**

3.1. The base is computed as at the base date.
3.2. Once computed the base is held constant and it only changes when there is a corporate action that results in a change in the number of securities.

3.3. The rationale for re-basing is to separate the impact of the change in price on the market cap from the impact of the change in the number of securities on the market capitalization.

3.4. The base market capitalization on the base date is computed as the closing prices multiplied by the total number of shares for each stock on the base date, and divided by the index from the previous day.

3.5. The base market capitalization computed as at the base date is therefore the same as the current market capitalization as at the base date divided by the index from the previous day.

4. COMPUTATION OF THE BASE DURING CORPORATE ACTIONS

4.1. Corporate actions referred to in here include rights issues, scrip dividend, bonus issues, share option schemes, new listings and delistings.

4.2. These are actions that result in the increase or decrease in the outstanding number of shares.

4.3. In the event of a corporate action, the new base will be computed following the procedure below.

4.4. Firstly, the total market capitalization (of all the stocks in the index, excluding the stock involved in the corporate action) of the day prior to the corporate action is determined.

4.5. Secondly, the total number of shares arising from the corporate action is determined.

4.6. The resultant number of shares is then multiplied by the closing price of the day prior to the corporate action.

4.7. The two market capitalizations (4.4 and 4.6) are added together to arrive at the total market capitalization at the beginning of the day of the corporate action.
4.8. The total market capitalization at the beginning of the day of the corporate action is then divided by the price index the day prior to the corporate action.
4.9. This gives the new base market capitalization at the beginning of the day of the corporate action.
4.10. This figure will become the new base market capitalization as from the day of the corporate action until the next corporate action.
4.11. Where there is more than one corporate action on the day, the beginning of day market capitalizations for the stocks, computed as indicated above, are added together before dividing by the price index the day prior to the corporate actions.
4.12. The same methodology applies when there is delisting.
4.13. With a delisting the change in the number of securities is negative and this results in a deduction of the proportionate market capitalization of the delisted entity from the total market capitalization of the day prior to the corporate action.
4.14. And then the division by the price index the day prior to the corporate action to arrive at the new base market capitalization at the beginning of the day of the corporate action.
4.15. The treatment of corporate actions is as detailed in Table 1 below:

4.15.1. On Day T, Security A undertakes a rights issue resulting in an increase in the total number of shares in issue

### TABLE 1: REBASING DURING A RIGHTS ISSUE – AN ILLUSTRATION WITH SECURITY A Day -1 (Evening)
<table>
<thead>
<tr>
<th>Security</th>
<th>Price Current</th>
<th>Total Number of Shares</th>
<th>Total Mkt. Cap. Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>14</td>
<td>100</td>
<td>1400</td>
</tr>
<tr>
<td>B</td>
<td>12</td>
<td>200</td>
<td>2880</td>
</tr>
<tr>
<td>C</td>
<td>8</td>
<td>150</td>
<td>960</td>
</tr>
</tbody>
</table>

| Index on Day t-1 (Evening) | 1082.60 |

**Day t Adjustment for Security A Rights Issue (Morning)**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>14</td>
<td>280</td>
<td>5240</td>
<td>1082.60</td>
<td>5520</td>
<td>(5520/1082.60)*1000 = 5098.84</td>
</tr>
</tbody>
</table>

Note: This market capitalization is kept constant until the next corporate action.

5. **COMPUTATION OF PRICE INDEX**

5.1. The inputs required to compute the index are current market capitalization and the base market capitalization.

5.2. The base market capitalization is computed using the methodology described in Section 3 above.

5.3. The market capitalization for each stock on the base date, and for every day thereafter, is computed the number of shares outstanding daily multiplied by the closing price each day.

5.4. Note that the market capitalization for each stock will change each day as a result of the change in closing prices, if any. However, the number of shares remains constant each day, unless there are any corporate actions.

5.5. The result from this computation becomes the numerator in the index computation formula shown below – being the current total market capitalization or daily total market capitalization.
5.6. The denominator is the base market capitalization.

5.7. So on the base date, the base market capitalization is same as the current market cap and the price index on this date is 100.00 points.

5.8. The computations of the price index is detailed in Table 2 below.

**TABLE 2: COMPUTATION OF PRICE INDICES: DAY₁ (EVENING)**

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>10</td>
<td>18 Note</td>
<td>120</td>
<td></td>
<td>2160</td>
</tr>
<tr>
<td>B</td>
<td>12</td>
<td>12</td>
<td>200</td>
<td></td>
<td>2400</td>
</tr>
<tr>
<td>C</td>
<td>8</td>
<td>8</td>
<td>150</td>
<td></td>
<td>1200</td>
</tr>
</tbody>
</table>

Note: Assumes the price of Security A increased from P14.00 to P18.00 at EOD

\[
\text{Price Index} = \frac{\text{Total Market Capitalization}_{\text{current}}}{\text{Total Market Capitalization}_{\text{base}}} \times \text{Base Index}
\]

Or

\[
\text{PI} = \frac{\text{MC}_t}{\text{MC}_b} \times N
\]

Where:

\[
\begin{align*}
\text{PI} &= \text{Price index} \\
\text{MC}_t &= \text{Current market capitalization} \\
\text{MC}_b &= \text{Base market capitalization} \\
N &= \text{Base index}
\end{align*}
\]

\[
\text{Price Index} = \frac{5760}{5098.94} \times 1000 = 1129.65 \text{ points}
\]

6. **IMPORTANT HINTS WHEN REBASING AFTER CORPORATE ACTIONS**

6.1. The need to rebase arises from corporate actions as indicated.
6.2. Corporate actions such as rights issues or an ESOP can be undertaken as a price – and/or at a price different the prevailing market price.

6.3. If the issue is made at a price of zero (bonus issue) the closing price the day prior is taken as the issue price.

6.4. If the issue is made at a price different the prior closing price, the computation of the base market capitalization has to assume that the new shares were issued at the prior day’s closing price.