# S&P China A-Share Quality Value Index Consultation

**BEIJING, NOVEMBER 15, 2019:** S&P Dow Jones Indices ("S&P DJI") is conducting a consultation with members of the investment community on potential changes to the S&P China A-Share Quality Value Index.

In an effort to enhance the quality and value factors for purposes of index stability, as well as reduce turnover during index rebalancings, S&P DJI is seeking market feedback on the proposed changes described below and on the following pages.

<table>
<thead>
<tr>
<th>Proposed Change</th>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquidity</td>
<td>Stocks must have a minimum three-month average daily value traded of CNY 20 million (CNY 18 million for current constituents).</td>
<td>Stocks must have a minimum three-month average daily value traded of CNY 50 million (CNY 45 million for current constituents).</td>
</tr>
<tr>
<td>Return on Equity (&quot;ROE&quot;) Screening</td>
<td>--</td>
<td>Stocks must have an ROE ratio that is greater than the median of the ROE ratio of the index universe.</td>
</tr>
</tbody>
</table>
| Accruals Ratio Calculation | This is computed using the change of a company’s net operating assets ("NOA") over the last year divided by its average NOA over the last two years:  
\[
\text{Accruals Ratio} = \frac{(NOA_t - NOA_{t-1})}{(\text{abs}(NOA_t) + \text{abs}(NOA_{t-1})) / 2}
\] | This is computed using the change of a company’s NOA over the last year divided by the average of the absolute value of its NOA over the last two years:  
\[
\text{Accruals Ratio} = \frac{(NOA_t - NOA_{t-1})}{(\text{abs}(NOA_t) + \text{abs}(NOA_{t-1})) / 2}
\] |
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<td>Outlier Handling and Winsorization (Quality)</td>
<td>Outlier fundamental ratios are winsorized to ensure that the average values used to calculate the overall quality score are less distorted by extreme values.</td>
<td><strong>Return on Equity.</strong> If the earnings per share and BVPS for a given stock are both negative, leading to a positive ROE, the stock will be assigned an ROE as equal to the lowest ROE in the universe.</td>
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<td></td>
<td><strong>Return on Equity and Accruals Ratio.</strong> For a given fundamental variable, the values for all securities are first ranked in ascending order. Then, for securities that lie above the 97.5 percentile rank or below the 2.5 percentile rank, their value is set as equal to the value of the 97.5 percentile ranked or the 2.5 percentile ranked security, whichever is applicable. If the underlying data points for a given stock’s ROE are both negative, leading to a positive ROE, its ROE value will be excluded and the stock will be assigned an ROE z-score set as equal to the ROE z-score value of the 2.5 percentile ranked security.</td>
<td><strong>Financial Leverage Ratio.</strong> If the underlying data point for a given stock’s BVPS is negative, leading to a negative Leverage, the stock will be assigned a Leverage ratio as equal to the highest Leverage ratio in the universe.</td>
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<tr>
<td></td>
<td><strong>Financial Leverage Ratio.</strong> The values for all securities are first ranked in ascending order. Then, for securities that lie above the 97.5 percentile rank or below the 2.5 percentile rank, their value is set as equal to the value of the 97.5 percentile ranked or the 2.5 percentile ranked security, whichever is applicable. If the underlying data point for a given stock’s BVPS is negative, leading to a negative Leverage, its Leverage value will be excluded and the stock will be assigned a Leverage z-score set as equal to the Leverage z-score value of the 2.5 percentile ranked security.</td>
<td></td>
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<tr>
<td>Outlier Handling and Winsorization (Value)</td>
<td>Outlier fundamental ratios are winsorized to ensure that the average values used to calculate the overall value score are less distorted by extreme values. For a given fundamental variable, the values for all securities are first ranked in ascending order. Then, for securities that lie above the 97.5 percentile rank or below the 2.5 percentile rank, their value is set as equal to the value of the 97.5 percentile ranked or the 2.5 percentile ranked security, whichever is applicable.</td>
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**CONSULTATION**
Z-score Computation. Computing a z-score is a widely adopted method of standardizing a variable in order to combine it with other variables that may have a different scale or unit of measurement. After winsorizing all the three fundamental ratios, the z-score for each of the three ratios for each security is calculated using the mean and standard deviation of the relevant variable within each of the index universes.

Average Z-score Computation. For each security, the average z-score is computed by taking a simple average of the three scores. Where there is a missing value, the average z-score is computed by taking a simple average of the remaining two scores. A security must have at least one z-score for it to be included in the index.

Outlier Handling and Winsorization. Outlier average z-scores are winsorized to ensure that the overall quality scores are less distorted by extreme values. To do this, for a given average z-score, the values for all securities are first ranked in ascending order. Then, for securities that lie above 4 or below -4, their value is set as equal to 4 or -4, whichever is applicable.

Quality Score Computation. Using the winsorized average z-scores, a quality score is computed for each of the securities. For a given security, if its winsorized average z-score is above 0, then its quality score will be the addition of 1 and the average z-score. On the other hand, if its winsorized average score is below 0, then its quality score will be the result of the reciprocal of 1 subtracted by its average z-score.

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<td>Quality Score Computation</td>
<td>Z-score Computation. Computing a z-score is a widely adopted method of standardizing a variable in order to combine it with other variables that may have a different scale or unit of measurement. After winsorizing all the three fundamental ratios, the z-score for each of the three ratios for each security is calculated using the mean and standard deviation of the relevant variable within each of the index universes.</td>
<td>For each of the three fundamental ratios (ROE, Accruals, and Financial Leverage), percentile scores are calculated as follows: $P_i = \frac{R_i}{N + 1}$ where: $P_i = $ Constituent percentile score $R_i = $ Constituent fractional rank $N = $ Number of constituents Note: For the ROE Ratio, higher ranking constituents ($R_i$) are the constituents with higher underlying values. For the Accruals and Financial Leverage Ratios higher ranking constituents ($R_i$) are the constituents with lower underlying values. Each of the three percentile scores are then transformed into z-scores using the inverse of the normal cumulative distribution function with a mean of zero and a standard deviation of 1. The average z-score is computed by taking a simple average of the three underlying z-scores which have been derived from the percentile scores. Where there is a missing value, the average z-score is computed by taking a simple average of the remaining two scores. A security must have at least one z-score for it to be included in the index. Finally, the quality score is calculated as follows: If average $Z &gt; 0$, Quality Score = $1 + Z$ If average $Z &lt; 0$, Quality Score = $(1 / (1 - Z))$ If average $Z = 0$, Quality Score = 1</td>
<td></td>
</tr>
<tr>
<td>Proposed Change</td>
<td>Current Methodology</td>
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</tbody>
</table>
| Value Score Computation | **Z-score Computation.** Computing a z-score is a widely adopted method of standardizing a variable in order to combine it with other variables that may have a different scale or unit of measurement. After winsorizing all the three fundamental ratios, the z-score for each of the three ratios for each security is calculated using the mean and standard deviation of the relevant variable within each of the index universes. | For each of the three fundamental ratios (Book Value-to-Price, Earnings-to-Price, and Sales-to-Price, percentile scores are calculated as follows:  
\[ P_i = \frac{R_i}{N + 1} \]  
where:  
\( P_i \) = Constituent percentile score  
\( R_i \) = Constituent fractional rank  
\( N \) = Number of constituents.  
*Note: Higher ranking constituents \( R_i \) are the constituents with higher underlying values.*  
Each of the three percentile scores are then transformed into z-scores using the inverse of the normal cumulative distribution function with a mean of zero and a standard deviation of 1.  
The average z-score is computed by taking a simple average of the three underlying z-scores which have been derived from the percentile scores. Where there is a missing value, the average z-score is computed by taking a simple average of the remaining two scores. A security must have at least one z-score for it to be included in the index.  
Finally, the value score is calculated as follows:  
If average \( Z > 0 \), Value Score = 1 + Z  
If average \( Z < 0 \), Value Score = \( \frac{1}{1 - Z} \)  
If average \( Z = 0 \), Value Score = 1 |

**Average Z-score Computation.** For each security, the average z-score is computed by taking a simple average of the three scores. Where there is a missing value, the average z-score is computed by taking a simple average of the remaining two scores. A security must have at least one z-score for it to be included in the index.  

**Outlier Handling and Winsorization.** Outlier average z-scores are winsorized to ensure that the average values used to calculate the overall value score are less distorted by extreme values. To do this, for a given average z-score, the values for all securities are first ranked in ascending order. Then, for securities that lie above 4 or below -4, their value is set as equal to 4 or -4, whichever is applicable.  

**Value Score Computation.** Using the winsorized average z-scores for the three value factors, a value score is computed for each of the securities. For a given security, if its winsorized average z-score is above 0, then its value score will be the addition of 1 and the average z-score. On the other hand, if its winsorized average score is below 0, then its value score will be the result of the reciprocal of 1 subtracted by its average z-score.  

If average \( Z > 0 \), Value Score = 1 + Z  
If average \( Z < 0 \), Value Score = \( \frac{1}{1 - Z} \)  
If average \( Z = 0 \), Value Score = 1

For more information on the S&P China A-Share Quality Value Index, please refer to the S&P China A-Share Quality Value Index available [here](#).
For more information on the Quality Score Computation, please refer to the S&P Quality Indices Methodology available here.

For more information on the Value Score computation, please refer to the S&P Enhanced Value Indices Methodology available here.

IMPACT ANALYSIS

The table below shows the actual one-way turnover and index ROE for the last two index rebalancings, as well as the hypothetical one-way turnover and index ROE that would have resulted had all the proposed changes been applied.

<table>
<thead>
<tr>
<th>Rebalancing</th>
<th>Actual One-way Turnover</th>
<th>Actual Index ROE</th>
<th>Hypothetical One-way Turnover</th>
<th>Hypothetical Index ROE</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2019</td>
<td>71.66%</td>
<td>-0.45%</td>
<td>66.87%</td>
<td>20.54%</td>
</tr>
<tr>
<td>December 2018</td>
<td>37.76%</td>
<td>20.50%</td>
<td>28.05%</td>
<td>23.24%</td>
</tr>
</tbody>
</table>

IMPLEMENTATION TIMING

S&P DJI is proposing to implement the proposed changes, if adopted, prior to the market open on Monday, December 23, 2019, in conjunction with the December rebalancing.

QUESTIONS

Please answer the following questions and provide S&P DJI with the reasoning behind your answers:

1. Do you agree with the proposed change to the liquidity rule?
2. Do you agree with the proposed change to implement an ROE screening rule?
3. Do you agree with the proposed change to the accruals ratio calculation?
4. Do you agree with the proposed change to outlier handling and winsorization for the quality factor?
5. Do you agree with the proposed change to discontinue outlier handling and winsorization for the value factor?
6. Do you agree with the proposed change to the quality score computation?
7. Do you agree with the proposed change to the value score computation?
8. Do you have any other comments or feedback regarding the proposed changes outlined above?

Your participation in this consultation is important as we gather information from various market participants in order to properly evaluate your views and preferences. S&P DJI will make responses to consultations externally available upon request. If you do not want your response to be made available, you must clearly state that in your response. Please respond to this survey by November 29, 2019. After this date, S&P DJI will no longer accept survey responses. Prior to the Index Committee’s final review, S&P DJI will consider the issues and may request clarifications from respondents as part of that review. Alternative options to the proposed questions after the deadline require that the consultation be re-opened to the public.

1 Individual and company names as well as contact details will be redacted.
To participate in this consultation, please visit the online survey available here.

For further information about this consultation, please contact S&P Dow Jones Indices at index_services@spglobal.com.

Please be advised that all comments from this consultation will be reviewed and considered before a final decision is made; however, S&P DJI makes no guarantees or is under any obligation to comply with any of the responses. The survey may result in no changes or outcome of any kind. If S&P DJI decides to change the index methodology, an announcement will be posted on our website.

Thank you for taking the time to complete this survey.

For more information about S&P Dow Jones Indices, please visit www.spdji.com.

ABOUT S&P DOW JONES INDICES

S&P Dow Jones Indices is the largest global resource for essential index-based concepts, data and research, and home to iconic financial market indicators, such as the S&P 500® and the Dow Jones Industrial Average®. More assets are invested in products based on our indices than products based on indices from any other provider in the world. Since Charles Dow invented the first index in 1884, S&P DJI has been innovating and developing indices across the spectrum of asset classes helping to define the way investors measure and trade the markets.

S&P Dow Jones Indices is a division of S&P Global (NYSE: SPGI), which provides essential intelligence for individuals, companies and governments to make decisions with confidence. For more information, visit www.spdji.com.

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