Convertible Bond Indices
An Overview

SPDR EMEA ETF Strategy Team

When investing in convertible bond indices, it is important to understand the composition. Inclusion criteria can lead to major differences in exposure across indices.

The following table provides a summary of the key security inclusion criteria for each of the Thomson Reuters indices.

The main differences between the three indices, in terms of inclusion criteria, are the minimum issue size, concentration level cap, and price/premium testing. The Global Focus Index has a larger minimum amount outstanding compared to the other two indices, particularly around US bonds where issues have to be greater than $500 million in size. Both the Global Focus and Qualified Global Index have concentration level caps of 4%, whilst the Global Index has 2%. This difference leads to there being a greater number of constituents in the Global Index as more securities meet the concentration level cap (see Figure 1). The price/premium test, which is applied to the Global Focus Index but not the Global Qualified Index, is also an important differentiator. The test ensures that the delta of the index remains within a defined range. Later in this document we comment on delta and its contribution to performance.

Figure 1
Thomson Reuters
Global Convertible Index
Methodology Comparison

<table>
<thead>
<tr>
<th>Index Criteria</th>
<th>Global Qualified Index (Benchmark for SPDR ETF)</th>
<th>Global Index</th>
<th>Global Focus Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Amount Outstanding</td>
<td>Higher and all in local currency</td>
<td>Higher and all in USD</td>
<td>Higher and all in local currency</td>
</tr>
<tr>
<td>US</td>
<td>$350mn</td>
<td>$300mn</td>
<td>$500mn</td>
</tr>
<tr>
<td>Europe</td>
<td>€375mn</td>
<td>$200mn</td>
<td>€375mn</td>
</tr>
<tr>
<td>Asia</td>
<td>$275mn</td>
<td>$100mn</td>
<td>$275mn</td>
</tr>
<tr>
<td>Japan</td>
<td>¥22bn</td>
<td>$100mn</td>
<td>¥22bn</td>
</tr>
<tr>
<td>Other</td>
<td>$275mn</td>
<td>$200mn</td>
<td>$275mn</td>
</tr>
<tr>
<td>Eligible Securities</td>
<td>No mandatory, perpetual, or 144A issues</td>
<td>Mandatory and perpetual issues included</td>
<td>No mandatory or perpetual issues</td>
</tr>
<tr>
<td>Reselection</td>
<td>Quarterly from Global</td>
<td>Quarterly from Total Universe</td>
<td>Quarterly from Global</td>
</tr>
<tr>
<td>Add/Drop Process</td>
<td>Adds at monthly rebalance only Immediate drops for events</td>
<td>Immediate new issue adds Immediate drops for event Quarterly reselection adds/drops</td>
<td>Adds/drops at monthly rebalance Immediate drops for events Quarterly reselection adds/drops</td>
</tr>
<tr>
<td>Concentration Level Cap (%)</td>
<td>4</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Price &amp; Premium Test</td>
<td>No price limits</td>
<td>No price limits</td>
<td>Dropped if too deeply in the money Dropped if too deeply out of the money</td>
</tr>
</tbody>
</table>

Source: Thomson Reuters, as of 31 December 2019.

* Concentration factors are calculated based on market capitalisation of issues from a single issuer and market capitalisation of issues with underlying assets from a single issuer.
In the following sections we highlight the key characteristics of each index.

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>TR Qualified Convertibles Index (%)</th>
<th>TR Global Convertibles Index (%)</th>
<th>TR Global Focus Convertibles Index (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>47.7</td>
<td>57.8</td>
<td>76.6</td>
</tr>
<tr>
<td>2010</td>
<td>34.1</td>
<td>39.5</td>
<td>72.1</td>
</tr>
<tr>
<td>2011</td>
<td>46.3</td>
<td>40.4</td>
<td>81.9</td>
</tr>
<tr>
<td>2012</td>
<td>31.2</td>
<td>34.3</td>
<td>64.7</td>
</tr>
<tr>
<td>2013</td>
<td>56.7</td>
<td>55.9</td>
<td>113.7</td>
</tr>
<tr>
<td>2014</td>
<td>59.5</td>
<td>49.8</td>
<td>88.4</td>
</tr>
<tr>
<td>2015</td>
<td>66.5</td>
<td>56.1</td>
<td>86.7</td>
</tr>
<tr>
<td>2016</td>
<td>39.9</td>
<td>44.6</td>
<td>70.9</td>
</tr>
<tr>
<td>2017</td>
<td>46.3</td>
<td>46.1</td>
<td>69.0</td>
</tr>
<tr>
<td>2018</td>
<td>55.2</td>
<td>52.4</td>
<td>84.1</td>
</tr>
<tr>
<td>2019</td>
<td>57.7</td>
<td>57.8</td>
<td>81.2</td>
</tr>
</tbody>
</table>

Source: Thomson Reuters, as of 31 December 2019. Turnover is measured by the total value of all adds and drops as a percentage of that day’s market cap and then summated for each calendar year. Turnover statistics are as of the date indicated, are subject to change, and should not be relied upon as current thereafter.

On a market capitalisation basis, the Focus Index encompasses $143 billion of the total global convertible bond universe, whilst the Qualified Index captures a more representative $190 billion. The Global Convertible Index has the largest market cap at $298 billion. In terms of yield, the average running yield is 91bps for the Qualified Global Index and 80bps for the Global Focus Index. The Global Index yield is higher at 161bps due to the lower minimum outstanding requirement; this results in the inclusion of bonds from smaller issuers that tend to require larger coupons in order to attract investors.

Delta measures the sensitivity of a convertible bond price to changes in the price of the underlying stock. The historical average delta of each index is plotted in Figure 3. The Qualified Global Index (delta 48.9) is slightly more sensitive to equity price movements compared to the Global Focus Index (46.5). The Global Convertible Index delta is 52.8, which is in part due to its including bonds with mandatory conversion clauses. These bonds tend be issued with conversion prices closer to ‘at the money’, which in turn affects the overall delta of the index.

Source: Thomson Reuters, as of 31 December 2019 in USD. Delta shown above is subject to change. The Thomson Reuters Qualified Global Convertible Index was incepted on 10 December 2008. Results prior to this date were calculated by using available data at the time in accordance with the Index’s current methodology. Thomson Reuters Qualified Global Convertible Bond Index (TR) includes back-tested returns supplied by Thomson Reuters.
Implied Volatility

The implied volatility of a convertible bond is a measure used to value the worth of the bond's option component. Volatility picked up into the end of 2019 and hit above-average levels, enhancing the value of the optionality of the bond. Figure 4 shows the historical average implied volatility of the three indices.

![Average Implied Volatility](image)

Source: Thomson Reuters, as of 31 December 2019. Measured in USD. Implied Volatility shown above are subject to change. The Thomson Reuters Qualified Global Convertible Index was incepted on December 10, 2008. Results prior to this date were calculated by using available data at the time in accordance with the Index's current methodology. Thomson Reuters Qualified Global Convertible Bond Index (TR) includes back-tested returns supplied by Thomson Reuters.

Regional, Currency and Sector Breakdown

All three indices are global in terms of exposures. Figure 5a shows the regional breakdown of each index. Of note, the Global Focus index has a lower exposure to the US compared to the other two indices, with the difference spread over other regions.

The regional breakdown bias is also evident in the currency breakdown (see Figure 5b), and there are also sector differences between the three indices (Figure 5c).

![Regional Breakdown](image)

Source: Thomson Reuters, as of 31 December 2019. Regional breakdowns are as of the date indicated, are subject to change, and should not be relied upon as current thereafter. The ‘Other Markets’ category includes: United Arab Emirates, Russia, Israel and South Africa and will vary with issuance.
Figure 5b
Currency Breakdown

Source: Thomson Reuters, as of 31 December 2019. Currency breakdowns are as of the date indicated, are subject to change, and should not be relied upon as current thereafter. The ‘Other Currencies’ category includes: SGD, CNH, HKD, TWD, CHF, KRW, ZAR, THB.

Figure 5c
Sector Breakdown

Source: Thomson Reuters, as of 31 December 2019. Sector weights are as of date indicated, are subject to change, and should not be relied upon as current thereafter. This information should not be considered a recommendation to invest in a particular sector or to buy or sell any security shown. It is not known whether the sectors or securities shown will be profitable in the future. It is not possible to directly invest in an index.
Finally, when looking at the overall performance of the three indices we can see that, historically, 
the Qualified Global Index, which the SPDR ETF tracks, has performed well compared to its peers 
since the ETF’s inception in October 2014 (see Figure 6). A salient point to note is that the five-
year performance of the Qualified Index, at an annual average 5.4%, is in line with the Global Index 
despite the fact that equity sensitivity ‘delta’ and implied volatility (or ‘cost of optionality’) have 
been lower.

Understanding the characteristics of different global convertible bond indices is important, given 
that the portfolio benchmark becomes the basis for an investor’s beta. Though at first glance 
these three indices may appear similar, there are material differences in their inclusion criteria. 
These differences mean that each index will have different risk and return characteristics, and 
investors should consider these factors carefully when choosing their benchmark.

Experience matters. Having managed convertible bond indexed strategies since 2009, 
State Street Global Advisors has a proven track record. This experience is reflected in the 
SPDR Thomson Reuters Global Convertible Bond UCITS ETF, which tracks the Thomson 
Reuters Qualified Global Convertible Index and offers flexible, straightforward access to 
the global convertible bond market.

Source: Thomson Reuters, as of 31 December 2019. Total Returns in USD.  
Global Index, Global Focus Index and Qualified Indices (TR) includes back-tested returns supplied by Thomson Reuters. It is not possible to invest directly in an index. 
Index performance does not reflect charges and expenses associated with the fund or brokerage commissions associated with buying and selling a fund. 
Index performance is not meant to represent that of any particular fund. Past performance is not an indicator of future performance. 
The Thomson Reuters Qualified Global Convertible Index was incepted on 11 December 2008. Results prior to this date were calculated by using available data at the 
time in accordance with the Index’s current methodology.
Figure 7

Annualised Performance
(%, Unhedged, in USD)

<table>
<thead>
<tr>
<th></th>
<th>1 Month (%)</th>
<th>3 Months (%)</th>
<th>YTD (%)</th>
<th>1 Year (%)</th>
<th>3 Years (%)</th>
<th>5 Years (%)</th>
<th>Inception (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPDR Thomson Reuters Global Convertible Bond UCITS ETF</td>
<td>2.89</td>
<td>7.09</td>
<td>13.52</td>
<td>13.52</td>
<td>6.51</td>
<td>4.8</td>
<td>5.18</td>
</tr>
<tr>
<td>Thomson Reuters Qualified Global Convertible Index</td>
<td>2.91</td>
<td>7.04</td>
<td>13.69</td>
<td>13.69</td>
<td>6.89</td>
<td>5.17</td>
<td>5.56</td>
</tr>
<tr>
<td>Difference</td>
<td>-0.02</td>
<td>0.04</td>
<td>-0.17</td>
<td>-0.17</td>
<td>-0.38</td>
<td>-0.36</td>
<td>-0.38</td>
</tr>
</tbody>
</table>

Source: State Street Global Advisors, as at 31 December 2019. Fund Inception was 14 October 2014.

Performance quoted represents past performance, which is no guarantee of future results. Investment return and principal value will fluctuate, so you may have a gain or loss when shares are sold. Current performance may be higher or lower than that quoted. The contained performance data do not take account of the commissions and costs incurred on the issue and redemption, or purchases and sale, of units. Visit spdrs.com for most recent month-end performance. The performance figures contained herein are provided on a net of fees basis. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Performance returns for periods of less than one year are not annualised.

**Endnotes**

5. Source: Thomson Reuters, as of 31 December 2019.
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- Build from breadth
- Invest as stewards
- Invent the future

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* AUM reflects approximately $43.72 billion USD (as of 31 December 2019), with respect to which State Street Global Advisors Funds Distributors, LLC (SSGA FD) serves as marketing agent; SSGA FD and State Street Global Advisors are affiliated.
An Overview

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