Fee Level for Funds: Europe Asia and Africa
Methodology

Introduction
The Morningstar Fee Level for funds in Europe Asia and Africa was developed to help investors compare a fund share class’ fees with those of other classes within the same category. The methodology applies to Open end and exchange traded funds in Morningstar's Europe, Asia and Africa category system.

There are two different Morningstar Fee Levels
1. Morningstar Fee Level - Broad
2. Morningstar Fee Level - Distribution

Both the broad and distribution Morningstar fee levels place funds in their category groupings.

Morningstar Fee level - Broad ranks funds using only the category as the comparison group and all share classes are included, except for: - share classes that are fee negotiable, where the management fee is taken from fund assets but charged separately; those that are restricted in some way (e.g. can only be sold to professional investors or are private or internal funds); and "virtual classes" because they duplicate records of existing classes that spot-rate convert all values into a different base currency.

Morningstar Fee Level - Distribution compare the retail share focused share classes of funds to create a smaller comparison group within each category grouping.
Determining the Distribution grouping

Fund share classes are first grouped together by Morningstar category.

For the distribution group certain share classes are excluded from this grouping and subsequent ranking process. These exclusions are listed, and explained, below:

A. "Virtual Class" share classes (see above in Morningstar Fee Level - Broad for explanation)
B. Funds where "Institutional" = Yes. Institutional share classes are excluded to allow investors to compare non-institutional share classes with each other more accurately. This is also relevant because the Morningstar Analyst Ratings in Europe are issued based primarily on an evaluation of each fund's most retail class.
C. Funds that have a high enough minimum investment to be considered institutional. These minimums vary for different base currencies (below). Excluding share classes with a high minimum investment over a particular threshold is a second measure to exclude classes whose primary audience is institutional. Note this exclusion does not apply for ETFs or closed-end funds as these are generally available to retail investors in single share lots on the secondary market.
   a. For share classes with a base currency of EUR, CHF, GBP, USD, HKD, TWD, SGD, AUD or NZD, we exclude share classes where the minimum investment is greater than 50,000 in the fund's base currency.
   b. For share classes with a base currency of SEK, NOK or DKK, we exclude share classes where the minimum investment is greater than 50,000,000 in the fund's base currency.
   c. For share classes with a base currency of ZAR, we exclude share classes where the minimum investment is greater than 1,000,000 in the fund's base currency.
   d. For share classes with a base currency of JPY, we exclude share classes where the minimum investment is greater than 5,000,000 in the fund's base currency.
   e. For share classes in all other base currencies, we exclude share classes where the minimum investment is greater than 100,000 in the fund's base currency.
   f. In cases where the minimum investment is reported as a number of shares instead of a monetary amount, we exclude share classes where the minimum investment is greater than 1,000 shares.
Ranking
Within each fee level grouping, a fund share class' most recent ongoing charge plus performance fee, or
if the fund does not calculate ongoing charges the annual report net expense ratio, will be ranked
against its peers, using five quintiles. Each share class is assigned a quintile score (1 to 5) and
corresponding fee grade/level (High, Above Average, Average, Below Average and Low).

Morningstar uses the following formula to determine the percentile ranks of the share classes' fees.
Percentile ranks range from 1 (best) to 100 (worst) with all intermediate values spread evenly over that
range.

\[
PctRank (v[i]) = Roundup \left\{ 100 \times \left( \frac{C[i] - 1}{n - 1} \right)\right\}
\]

With a special case whereby any PctRank=0 is transformed to PctRank=1. Roundup is a function to
round the result up to the next integer. Variables are as follows:

\[
PctRank(v[i]) = \text{Percentile rank for fund i}
\]
\[
v[i] = \text{Value being ranked for fund i}
\]
\[
C[i] = \text{Absolute rank of fund i}
\]
\[
n = \text{Total number of observations}
\]

Morningstar does not require a minimum number of items in order to percentile rank a set of data. For
example, if there are only three fund share classes in a distribution class for a comparison group, we will
percentile rank those three (1, 50, 100).

Percentile ranks are then mapping into quintiles in the following manner:

<table>
<thead>
<tr>
<th>Percentile Rank</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 &lt; Percentile Rank &lt;= 20</td>
<td>1 Low</td>
</tr>
<tr>
<td>20 &lt; Percentile Rank &lt;= 40</td>
<td>2 Below Average or +Avg</td>
</tr>
<tr>
<td>40 &lt; Percentile Rank &lt;= 60</td>
<td>3 Average or Avg</td>
</tr>
<tr>
<td>60 &lt; Percentile Rank &lt;= 80</td>
<td>4 Above Average or -Avg</td>
</tr>
<tr>
<td>80 &lt; Percentile Rank &lt;= 100</td>
<td>5 High</td>
</tr>
</tbody>
</table>

Methodology History
Version: 1.0 06 June 2014 Original publication
Version: 1.1 31 August 2017 Revision amending percentile ranking formula
Version 1.3 28 February 2019 Addition of broad fee level peer groups.