

A hand holding a magnifying glass over a financial document with a grid.

Morningstar Rating™

The Morningstar Rating™ is a backward looking measure of mutual funds' performance and provides a quantitative assessment of approximately 55.000 open-ended mutual funds.

In order to receive a Morningstar Rating™, funds must have at least three continuous years (36 months) of data. Each fund is assigned a rating based on its risk adjusted historical return (the so-called Morningstar Risk-Adjusted Return) versus an assigned risk peer group category.

A fund can earn one (lowest) to five (highest) stars.

Use the Morningstar Rating™ with caution

At Danske Invest, we believe it is important to use the Morningstar Rating™ with caution, giving the following reasons:

General:

- 1. As all other rating agencies, the Morningstar Rating system is based on historical data and the system can, thus, not be used as a forward-looking measure of fundamentals**

Historical performance is not a reliable indicator of future performance, thus, we believe that the star rating should only be used as a mere incentive for further investigation.

Rating Methodology:

2. Horizons

Due to the fact that a fund achieves a weighted average if it is more than 3 years old, funds with different lifetimes are not directly comparable using the Morningstar rating (except when all funds are older than 10 years).

3. The ratings stay with the fund if the fund manager leaves

If a fund manager with good consistent performance retires or leaves the company, the fund will keep its rating despite of having a new manager assigned to it. In this respect a less skilled manager can, potentially, “hide” behind his predecessor’s performance for a number of years.

4. Strategy/style change

As each fund’s rating is based on the historical performance of the fund, the historical information is also determining the underlying category of which the fund is being compared with. If there is a style or strategy change of the fund, this information can be delayed in terms of category until Morningstar will have it amended.

Category:

5. The fund ratings depends on the categories assigned to the individual fund

As the Morningstar rating only compares funds with other funds within the same category it does not specify how well one fund has performed across categories. A fund with a higher rating in one category can, thus, have underperformed a fund with a lower rating in another category.



6. Size of category

If a category contains only a few funds, small changes can have a huge impact on the rating of the individual fund. For example, in “narrow” categories, containing a small number of funds, even small changes can make a fund move from a top 10% ranking to the below category.

7. Homogeneity of category

A fund can also be placed in too broad a category, where some of its peers is not comparable to the fund in question. For example, many Emerging markets equity funds are placed in the same category despite the fact that Emerging markets spans widely from funds with focus on Latin American equities to funds with more specific focus on i.e. Indian equities.

On basis of the above, Danske Invest advise that the investor looks beyond the Morningstar Rating, i.e., by identifying how long the current manager has managed the fund and looking at the individual year performance and not just the 1,3,5 and 10 year average.

Methodology

Morningstar Rating™ ranks funds based on their Morningstar Risk-Adjusted Return (MRAR) scores, which account for any risk adjustments, sales charges or redemption fees.

Morningstar Rating™ takes into consideration all variations in a fund's monthly performance emphasizing mostly to downward return fluctuations, while rewarding consistent performance.

In order to get the MRAR score, calculations are done on a monthly basis and then annualised.

There are five steps to calculate the Morningstar Risk-Adjusted Return:

- 1) **Total return:** Calculate monthly total returns for the funds. Do an additional adjustment for tax-advantaged dividends where appropriate
- 2) **Load- Adjusted Return:** Adjust monthly total returns for sales loads
- 3) **Morningstar Return:** Calculate or collect monthly total returns for the appropriate risk-free rate. Adjust load-adjusted returns for the risk-free rate to get Morningstar Return.
- 4) **Morningstar Risk-Adjusted Return:** Adjust Morningstar Return for risk to get MRAR.
- 5) **Morningstar risk** is then calculated as the difference between Morningstar Return and Morningstar Risk-Adjusted Return.

Morningstar then calculates the percentile ranks in category for all the above data points so that the distribution of funds across the rating levels forms an approximate bell curve.

Morningstar selects a peer category for each individual fund. A category consist of a number of funds within the same universe (selected and classified by Morningstar).

Ranking	Number of stars
Top 10% of funds in the category	5
Next 22,5% funds	4
Next 35% funds	3
Next 22,5% funds	2
Bottom 10% of funds in the category	1

*Example: If a fund achieves a percentile rank of 15 in Morningstar Risk-Adjusted Percentile Return, it means that 15 percent of the funds in this category outperformed the fund.
Given this percentile rank of 15, the fund achieves 4 stars by Morningstar.*

Weighted average if a fund is older than five years

If in order to receive a Morningstar Rating™, funds must have at least three continuous years (36 months) of data. However, if funds are more than five years or ten years old, respectively, they will receive multiple ratings based on the fund's respective performance within these two time periods, thus, a single fund can receive up to three different ratings.

If a fund has multiple ratings, the total rating is a weighted average according to the below table:

Age of fund	Weighted average formula
At least three years, but less than five years old	100% three-year rating
At least five years, but less than 10 years old	60% five-year rating, 40% three-year rating
At least ten years old	50% 10 year rating, 30% five-year rating, and 20% three-year rating

The above table assumes that the fund does not change category during the evaluation period. If a fund changes categories, the near-term rating gets a heavier weighting.

Example, weighted average, the fund is > 10 years old:

Period	Rating	Weight	Multiply
10-year	3	0.5	1.5
5-year	3	0.3	0.9
3-year	4	0.2	0.8
Total			3.2 = 3 stars

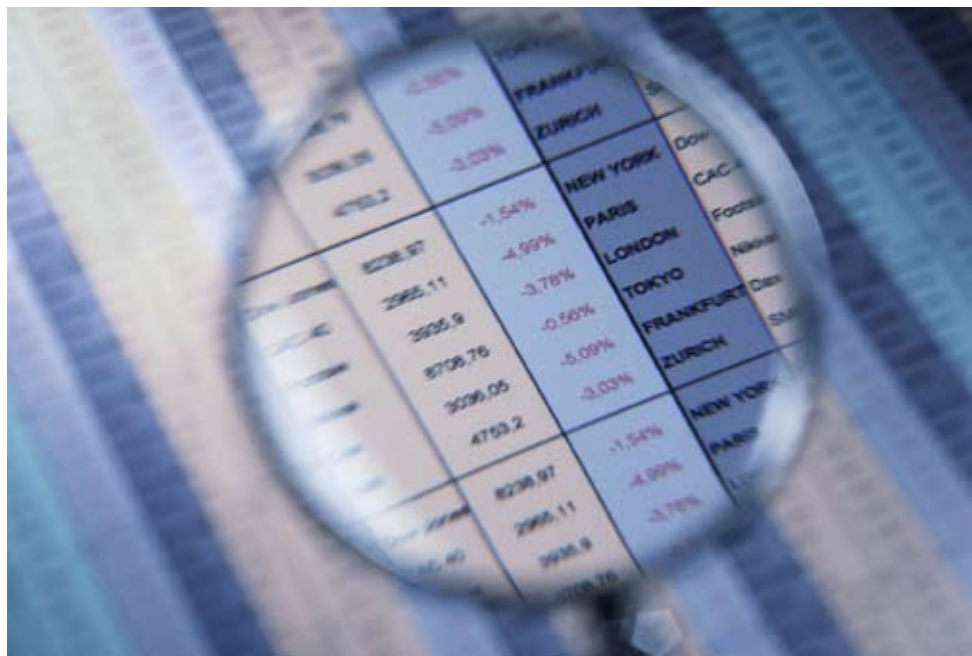
While the 10-year overall star rating formula seems to give the most weight to the 10-year period, the most recent three-year period actually has the greatest impact because it is included in all three rating periods.

Category

Morningstar takes the following into account when determining whether funds are in the same category and, thus, comparable:

- Funds are grouped by the types of investments that dominate their portfolios. If holdings data is unavailable, the fund prospectus is used to classify the fund.
- Category membership is based on the fund's long-term or "normal" style profile (assessed on three years of portfolio statistics).
- In general, a single return benchmark should form a valid basis for evaluating the returns for all funds in a single category (i.e., for performance attribution).
- In general, funds in the same category can be considered reasonable substitutes for the purposes of portfolio construction.

Equity securities are primarily classified according to their market capitalization, growth, blend and style value. Funds are then categorized according to its style/ value characteristics. This enables investors to distinguish among funds that use similar investment strategies and minimizes the threat of not being in the right markets at the right time.



Conclusion

On basis of the above, Danske Invest advise that the investor looks beyond the Morningstar Rating, i.e., by identifying how long the current manager has managed the fund and looking at the individual year performance and not just the 1,3,5 and 10 year average.

We still believe that, despite of the above warnings, it is important to emphasise that the Morningstar rating system is not of insignificant value. Past performance is indeed one indicator of a well managed fund and we therefore see the rating system as a well-suited as a “first filter” when developing an overall investment strategy.



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