Morningstar Ratings 2.0
Methodology

Morningstar Research
October 31, 2019

Contents

Christopher Traulsen
Director of Ratings
Global Manager Research
+ 44 203 107-0061
christopher.traulsen@morningstar.com

Jeffrey Ptak
Global Director
Manager Research
+1 312 384-4928
jeffrey.ptak@morningstar.com

Overview

Morningstar's manager research team has conducted qualitative, analyst-driven research on active and passive investment strategies and their associated vehicles since 1986. From November 2011, this research has been expressed globally through the Morningstar Analyst Rating™ for funds in addition to an in-depth written report. An essential complement to our database of investment information and our suite of quantitative research tools, such as the Morningstar Rating™ and the Morningstar Style Box™, the Morningstar Analyst Rating for funds and accompanying report:

- Identify active strategies that we believe should be able to outperform their Morningstar Category index (for example, Russell 1000 for U.S. large-cap blend equity strategies) on a risk-adjusted basis over time;
- Identify passive strategies that we believe should be able to outperform the majority of their Morningstar Category peers on a risk-adjusted basis over time;
- Call out strategies that we expect to underperform their Morningstar Category index on a risk-adjusted basis over time;
- Help investors and fund selectors understand the suitability of strategies for an intended purpose and give clear expectations for the likely behavior of strategies in different market environments;
- Place a strategy and its vehicles in comparative and historical context in terms of criteria such as expenses, manager tenure, investment style, and asset size; and
- Monitor strategies for changes that could materially affect the suitability and investment opinion.

Independent Research

Morningstar is committed to the principle of independence. We do not charge asset managers to rate their strategies and associated vehicles, nor do we permit asset managers to commission ratings from us. Morningstar commercializes its manager research by including ratings and reports in various products and services and through licensing its intellectual property.

Morningstar manager research analysts produce their analysis for the benefit of investors, advisors, and institutions, not asset managers. Morningstar separates its analyst team from any commercial relationships the company may have with asset managers in order to avoid any real or perceived conflicts of interest. Analysts are focused on providing in-depth, accurate, and useful analysis that will help investors select strategies that will outperform and avoid those that will underperform. This means that Morningstar analysts will deliver their genuine opinion of a strategy and associated vehicles and will not hesitate to give a negative view when warranted.

How We Decide What to Cover

Morningstar's goal is to ensure that our clients have access to its qualitative analysts' opinions on a broad spectrum of strategies that are important to them and meet their needs for portfolio construction. Hence, coverage is not determined by quantitative screens on performance or limited only to a "best of breed" universe (although we do endeavor to cover and closely monitor what we believe are the best offerings in each relevant peer group), and analyst teams have ample discretion in determining their coverage universe. In determining coverage, analysts focus on investment merit and client demand. Although these criteria tilt coverage toward larger strategies, analysts will cover new and/or small strategies if they have merit. In addition, Morningstar frequently canvases its analyst team, internal consulting units, and external users of our research to identify offerings that might merit coverage. Regional coverage committees internal to the manager research team must approve all coverage decisions.

The Morningstar Analyst Rating for Funds

The Morningstar Analyst Rating for funds is the summary expression of our forward-looking analysis of investment strategies as offered via the specific vehicles under coverage. Vehicles can include but are not limited to open-end funds, closed-end funds, exchange-traded funds, and separately managed accounts domiciled throughout the world. We assign Morningstar Analyst Ratings at the share-class level for the vehicles that we cover in order to accurately capture the impact of fee differences on expected net-of-fee alpha between different classes of the same vehicle. Our own research and academic studies have repeatedly shown that the ability of a strategy to outperform is eroded as fees become higher. We therefore believe it is essential that our analysis include as precise an evaluation as possible of the fees of each specific vehicle under coverage. For open-end funds, for example, this means that share classes of the same fund that charge different amounts may receive different Morningstar Analyst Ratings.

The Morningstar Analyst Rating for funds is expressed on a five-tier scale running from Gold to Negative. For actively managed funds, the top three ratings of Gold, Silver, and Bronze all indicate that our analysts expect the rated investment vehicle to produce positive alpha relative to its Morningstar Category index over the long term, meaning a period of at least five years. For passive strategies, the same ratings indicate that we expect the fund to deliver alpha relative to its Morningstar Category index that is above the lesser of the category median or zero over the long term. The Analyst Rating does not express a view on a given asset class or peer group; rather, it seeks to evaluate each strategy and associated vehicle within the context of an appropriate benchmark and peer group.

Ratings for active strategies should be interpreted as follows, where performance expectations refer to performance over a holding period of at least five years, and where alpha is calculated relative to the standard Morningstar category index:

Gold

These are our top recommendations within their Morningstar Categories. Our evaluation of their key pillars in the context of the fees charged at the share-class level ranks them in the top 15% of all investments with expected positive net-of-fee alpha in their category.

Silver

These sit just below Gold but are also among our strongest investment ideas within their Morningstar Categories. Our evaluation of their key pillars in the context of the fees charged at the share-class level ranks them in the next 35% of all vehicles with expected positive net-of-fee alpha in their category.

Bronze

We do not expect these investments to perform as well as Gold or Silver offerings, but we still expect them to deliver positive net-of-fee alpha. Our evaluation of their key pillars in the context of the fees charged at the share-class level ranks them in the bottom 50% of all vehicles with expected positive net-of-fee alpha in their category.

Neutral

We expect these investments to deliver net-of-fee alpha that is less than or equal to zero. Our evaluation of their key pillars in the context of the fees charged at the share-class level ranks them in the top 70% of all vehicles with net-of-fee alpha less than or equal to zero in their category.

Negative

These are the worst investments within their Morningstar Categories in terms of our expected net-of-fee alpha. Our evaluation of their key pillars at the price level for the rated vehicle and associated share class(es) ranks them in the bottom 30% of all vehicles with expected net-of-fee alpha that is less than or equal to zero in their category.

Morningstar may also use one other designation in place of a rating:

Under Review

This designation means that a change at a rated strategy requires further review to determine the impact on the rating.

Methodology

In more than two decades of manager research, Morningstar's global analyst team has identified five key areas that we believe are crucial to predicting the future success of strategies and their associated vehicles: People, Parent, Process, Performance, and Price. These five pillars form the spine of our research approach, and we evaluate each of them when assessing a fund. In so doing, we not only evaluate each pillar but also the interaction between them, which we believe is crucial to understanding a strategy's overall merit.

To provide a consistent repeatable framework for our ratings, reflective of the opportunity set within their Morningstar Category, we derive the ratings from our pillar evaluations as follows:
Assess the relevant alpha opportunity:

Different peer groups offer more or fewer opportunities to derive alpha from active management. U.S. large-cap blend equity strategies, for example, have typically had a very difficult time differentiating themselves from a relevant index such as the S&P 500 or Russell 1000 on an alpha basis—alphas in the category have a relatively low dispersion. On the other hand, global small-cap strategies have typically displayed a wide dispersion of alphas, indicative of a broader opportunity set.

To systematically assess the opportunity set for a given strategy to deliver alpha, we need to first define relevant peer groups. To do this, we aggregate Morningstar Categories using the same or highly similar standard category indexes in all our markets around the world. For example, we roll up all U.S. large-cap blend equity categories from strategy universes in Europe, Asia, Australia, and the United States into a single unit. This ensures similar strategies are treated consistently worldwide and makes the peer groups more robust. These aggregate peer groups are used solely to assess the alpha opportunity for categories following the same/highly similar indexes—the remainder of the rating setting occurs within a strategy's Morningstar Category.

To assess the alpha opportunity set for the aggregated peer group, we run rolling three-year regressions using the gross-of-fee returns of constituent vehicles, regressed against the peer group index. We then calculate the interquartile range of the alphas (the difference between the alpha at the peer group's 25th percentile and the alpha at the 75th percentile), then divide by two to give the semi-IQR. The semi-IQR is used to scale the impact of analyst pillar scores on a strategy vehicle's rating such that pillar scores will "push" a rating up or down the ratings scale further in a category with a high semi-IQR and less in a category with a low semi-IQR. In this way, we ensure the impact of the analyst pillar scores on a vehicle's rating is proportionate to the size of the opportunity set in the peer group.

Scoring Pillars

Morningstar analysts score the People, Process, and Parent Pillars on a -2 to +2 basis (the scores must be approved by the relevant Morningstar ratings committee). The scores are expressed verbally in Morningstar products as Low, Below Average, Average, Above Average, and High.

Deriving the Rating (Active Strategies)

We start with the assumption that a strategy vehicle will deliver a gross-of-fee alpha of 0. The pillar scores are then used in conjunction with set weights and the semi-IQR to derive a gross-of-fee expected alpha that reflects our analysts' views. We weight the pillar scores as follows:

People:	45%
Process:	45%
Parent:	10%
Performance:	0%
Price	(factored in by subtracting the price of each vehicle from its expected gross-of-fee alpha)

The equation to derive expected gross-of-fee alpha is thus:
Age = (0.45*People Score*SIQR) + (0.45*Process Score*SIQR) + (0.10*Parent Score*SIQR)
Age = Expected gross-of-fee alpha, SIQR = Semi-IQR

To obtain expected net-of-fee alpha, subtract the relevant cost ratio from expected gross-of-fee alpha.

To determine a vehicle's rating, we:
Derive expected net-of-fee alpha for all actively managed strategy vehicles in the category, using analyst pillar scores for strategies with analyst coverage and Morningstar Quantitative Rating pillar scores for strategies not covered by analysts. The latter are used only to help fill out the ranking of net-of-fee alphas but are not assigned Analyst Ratings.

Rank all share classes in the Morningstar Category by their expected net-of-fee alphas. To be eligible for a Gold, Silver, or Bronze rating (Morningstar Medalist rating), a share class or other vehicle must have an expected net-of-fee alpha above 0. Assign ratings to analyst-rated vehicles only according to the following splits:

Gold	= top 15% of classes with positive net-of-fee alpha
Silver	= next 35% of classes with positive net-of-fee alpha
Bronze	= bottom 50% of classes with positive net-of-fee alpha
Neutral	= top 70% of classes where net-of-fee alpha is less than or equal to 0
Negative	= bottom 30% of classes where net-of-fee alpha is less than or equal to 0

Deriving the Rating (Passive Strategies)

We start with the assumption that a passive investment will deliver a gross-of-fee alpha of 0. The pillar scores are then used in conjunction with set weights and the semi-IQR of passives within the relevant peer group to derive a gross-of-fee expected alpha that reflects our analysts' views and is appropriately scaled to the opportunity set for passives. In the case of passives, the pillar scores used to move an investment through the alpha distribution contain information on both the merits of the investment relative to other passives and relative to the broader category as a whole. We weight the pillar scores as follows, to reflect the lower importance of the management team in the case of passives relative to actives and the accompanying primacy of process as represented by index construction:

People:	10%
Process:	80%
Parent:	10%
Performance:	0%
Price	(factored in by subtracting the price of each vehicle from its expected gross-of-fee alpha)

The equation to derive expected gross-of-fee alpha is thus:

Age = (0.10*People Score*SIQR) + (0.80*Process Score*SIQR) + (0.10*Parent Score*SIQR)

Age = Expected gross-of-fee alpha, SIQRp = Semi-IQR of passive alphas in the peer group

To obtain net-of-fee alpha, subtract the relevant cost ratio from expected gross-of-fee alpha.

To determine a vehicle's rating, we:

Derive net-of-fee alpha for all passively managed strategy vehicles in the category, using analyst pillar scores for strategies with analyst coverage and Morningstar Quantitative Rating pillar scores for strategies not covered by analysts. The latter are used only to help fill out the ranking of net-of-fee alphas but are not assigned Analyst Ratings.

Rank all share classes of passives in the Morningstar Category by their expected net-of-fee alphas. To be eligible for a Gold, Silver, or Bronze rating, a share class or other vehicle must have an expected net-of-fee alpha above the lesser of the category median or zero. Assign ratings to analyst-rated vehicles only according to the below process.

Assign Rating

Gold = top 15% of classes with positive net-of-fee alpha relative to category median.

Silver = next 35% of classes with positive net-of-fee alpha relative to category median.

Bronze = 50% of remaining classes with positive net-of-fee alpha relative to category median.

Neutral = top 70% of classes with zero or negative net-of-fee alpha relative to category median.

Negative = bottom 30% of classes with negative net-of-fee alpha relative to category median.

Apply passives fee buffer and modify ratings as required

- For every People-Process-Parent Pillar combination within each category, the minimum fee and maximum rating is calculated.
- If a passive investment with the same People-Process-Parent combination has less than a 3-basis-point annual fee difference from that minimum fee, that investment will earn the maximum rating.

Apply passives ratings cap and modify ratings as required

- If a passive investment has a Process Pillar scored at 0 or below, that investment will earn a maximum rating of Bronze.

Special Cases

- Strategic-beta offerings are rated in the active distribution with passives' pillar weighting.
- Target-date allocation offerings are ranked and rated by share-class type (span across target dates) instead of by individual share classes. Each class in a series consequently has the same rating. Target-date ratings use actives' pillar weighting, and their medalist share classes are defined as having net-of-fee alpha above 0.
- Separately managed accounts are rated using the methodology for actively managed funds, but no fees are deducted because it is not possible to determine the fee paid by SMA investors. To derive the rating, we therefore rank the expected gross-of-fee alpha against the same peer groups as we would for any active strategy, but using gross-of-fee alpha across all strategies to form the ratings distribution.
- Funds that are in categories with no clearly defined benchmark index, primarily alternatives categories:
  - Because an alpha distribution cannot be reliably calculated, semi-IQRs are not used in the derivation of ratings. Instead of alpha, a weighted pillar-sum score is derived. The equation for active offerings then becomes:
    Wps = (0.45*People Score) + (0.45*Process Score) + (0.10*Parent Score)
    Wps = Sum of weighted pillar scores
  - Price is ranked across all share classes in a Morningstar Category, then cut into quintiles, converting price (alpha units) to pillar units (-2 to +2). These are assigned a weight of 0.2 and subtracted from the previously calculated gross-of-fee weighted pillar score, giving a net-of-fee weighted pillar score.
  - Funds in alternatives categories must earn a +2 score for either the Process or People Pillar and a +1 score for the other of the two to qualify for a Gold rating.
  - Analyst Ratings are otherwise assigned per the ranking scheme for active funds.

Pillar Evaluation

People

The overall quality of a strategy's investment team is a significant key to a strategy's ability to deliver superior performance relative to its benchmark and/or peers. Evaluating an investment team requires that analysts assess, among other things, the individuals who make the key decisions on the portfolio; if there is more than one person in charge, how conflicts are resolved; resources that directly support the managers' work on the strategy; other resources that are not part of the team; the expertise and relevance of available resources to the strategy; and how incentive pay influences decision-making and team stability.

The relevant personnel are judged along several axes:

- Experience & ability
- Fit & structure
- Workload
- Communication/information flow
- Temperament
- Alignment of interests
- Key-person risk
- Team stability

Process

Morningstar analysts are style-agnostic, meaning that, for equity strategies, we do not prefer value to growth or momentum, or vice versa. For fixed-income strategies, both high-quality and credit-sensitive styles are viable. For multi-asset strategies, a wide range of approaches to asset allocation can succeed. We look for strategies with a performance objective and investment process (for both security selection and portfolio construction) that is sensible, clearly defined, and repeatable. It must also be implemented effectively. In addition, the portfolio should be constructed in a manner that is consistent with the investment process and performance objective. We seek to understand the context in which managers think about risk and how this is expressed when constructing the portfolio. Our analysts make extensive use of Morningstar's global database and holdings-based analytical capabilities to evaluate the portfolio. We look for strategies with a process distinctive enough to generate standout results in the future.

More specifically, we seek to understand:

- The investment philosophy that underpins the strategy;
- The key "edge" of the process as executed by the manager;
- Elements that are systematic and repeatable, if any;
- The fit of the process with the resources backing the strategy and with the size of the asset base tied to the strategy (including all vehicles across all domiciles);

- Whether the process has been consistently applied, as demonstrated by the composition of the portfolio over time;
- The risks entailed in the process, from a portfolio-bias point of view and from an ability-to-execute point of view;
- The managers' approach to risk management;
- Our expectations for performance in different market environments assuming the process is adhered to;
- Whether or not we believe the process can add value across the cycle versus the relevant benchmark or category on a risk-adjusted basis;
- The suitability of the strategy for different types of investors given the risks we would expect to see in its portfolio; and
- Any historical changes in approach or style, and the reasons for those changes.

Parent

We believe the parent organization is important in evaluating both active and passive funds. Although other factors may have more immediate impact, they would not be sustainable without backing from the asset-management firm. Further, the asset manager and its management set the tone for key elements of our evaluation, including capacity management, risk management, recruitment and retention of talent, and firmwide policies, such as incentive pay, that drive or impede the alignment of the firms' interests with those of fund investors.

Beyond these operational areas, we prefer firms that have a culture of stewardship and put investors first to those that are too heavily weighted to salesmanship. The former tend to operate within their circle of competence, do a good job of aligning manager interests with those of investors in their funds, charge reasonable fees, communicate well with strategy investors, and treat investors' capital as if it were their own. Firms oriented to putting their own interests too much to the fore might be characterized by their view of investors as sales opportunities—they tend to offer faddish products in an attempt to gather assets and have higher charges and incentive programs that do a poor job of aligning managers' interests with those of investors. Although relatively few firms fall obviously at one extreme or another, determining where an asset manager falls on the spectrum is a key part of our parent research approach.

Key areas of evaluation include:

- Recruitment and retention of talent
- Organizational structure
- Capacity management
- Organizational and business strategy
- Quality of product lineup
- Alignment of interests with investors
- Regulatory compliance
- Investment/group culture

Performance

We do not believe past performance is necessarily predictive of future results, and this factor accordingly receives no explicit weighting in our analysis but is referenced instead in our evaluation of people and process. When considering past performance, we strive not to anchor on short-term results and instead focus on long-term return and risk patterns.

The broad principles behind our evaluation of performance are as follows:

- We should have clear expectations for performance in different market environments based on our analysis of the strategy's process and portfolio.
- These expectations are checked against actual performance in such environments.
- Trailing returns and calendar-year returns are of interest, but they are insufficient in themselves as they are end-point dependent and somewhat arbitrary. We consider many periods and performance aspects to build as comprehensive a picture as possible.
- It is extremely important that performance be viewed within the context of risks taken, with a focus on downside risk.
- Performance is viewed relative to the standard index assigned to each strategy vehicle's Morningstar Category and category peers. Other benchmarks deemed of interest by the analyst and rating committee may also be considered.
- Performance attributions are evaluated to determine whether the sources of outperformance match our expectations and if they appear to be sustainable.
- Performance is reviewed in the context of notable changes in assets under management—specifically, if performance tails off as assets grow or if the bulk of outperformance came when a strategy was very small, it is cause for concern.

Price

Morningstar and independent academic research has shown that expenses are one of the better predictors of future outperformance even when evaluating net-of-fee returns. Given this, costs form a critical part of our analysis. To accurately reflect investor experience, rated vehicles are directly penalized by the amount of their fee, inclusive of any performance fee charged, when we assign the rating. Fees are assessed at the level of the vehicle at which they are charged; in the case of open-end funds, for example, this occurs at the share-class level. Vehicles with multiple classes with differing fees are therefore likely to have differentiated ratings reflecting the different impact of their fees on our expected net alpha.

Research Process

Pre-Interview Evaluation

Prior to interviewing the portfolio manager, our analysts perform an in-depth review of the strategy. The goal is to develop a preliminary investment view and identify any potential areas of concern, thereby ensuring the analysts' questions to the manager are targeted to gain insight into the key issues that affect our investment opinion. The following may be taken into consideration as part of the pre-interview evaluation:

- A completed baseline questionnaire from the asset manager as needed;
- Strategy vehicle documents including prospectus and latest annual or interim report to shareholders;
- Any recent news regarding the parent, strategy, or portfolio manager;
- Morningstar complete holdings data through time to build our independent perspective of the fund's investment exposures and risks;
- Morningstar proprietary analytics such as style analysis, performance attribution, risk modeling, capacity assessment and scenario analysis; and
- Performance data through time to ensure the strategy and related vehicles are behaving as we would expect in different market environments given our knowledge of its strategy and analysis of its holdings.

Manager & Key Executives Interview

Our analysts form their initial view of the strategy during the pre-interview evaluation, after which they interview the portfolio manager and other relevant parties. Separately, we may also seek interviews with key parent executives, analysts, risk managers, and traders. At the manager interview, we focus on the issues we have identified in the pre-interview and on fleshing out our knowledge of the manager, the process, and the firm.

Ratings Committee

After consultation with their peers, analysts produce a ratings note that assesses each of the five key pillars. The analyst then presents this note at the relevant Morningstar ratings committee and defends his or her assessment of the strategy and associated vehicles. Only when the committee is satisfied with the soundness of the judgments expressed in each area is the final rating approved.

Report Creation

We believe transparency is extremely important, and our analysts invest considerable time in writing detailed research reports that are enhanced with our proprietary graphics and calculations. The reports justify the ratings decision, evaluate each of the five key pillars, provide readers with guidance on how the strategy might behave in different market environments, and highlight key developments in performance and portfolio holdings.

Monitoring

Analyst teams monitor the strategies they cover for developments that may affect the rating decision and provide updates on such matters as soon as possible. Managed Strategy Analyst Ratings and reports are otherwise updated once per year (report data is updated monthly).