

# Morningstar Quantitative Equity Rating Enhancement

## Frequently Asked Questions

### **What are Morningstar Quantitative Equity Ratings?**

Morningstar's quantitative equity ratings are forward-looking, quantitatively derived ratings based on Morningstar's analyst-driven equity ratings, including Morningstar's Fair Value Estimate, Morningstar® Economic Moat™ Rating, and Uncertainty Rating, as well as financial data points from Growth, Liquidity, Profitability, among others. The quantitative ratings are relative to the universe of rated companies and a company's sector and country.

### **How are the Quantitative Ratings calculated?**

The ratings are generated by a statistical model based on Morningstar's proprietary, analyst-driven equity ratings and financial data points. The quantitative ratings are calculated daily and derived from the analyst-driven ratings of a company's peers, as determined by statistical algorithms.

### **What are the different Quantitative Ratings?**

**Quantitative Star Rating:** The Quantitative Star Rating is our summary rating and Morningstar's best-guess for the future expected return of those stocks. The Quantitative Star Rating for stocks identifies stocks trading at discounts or premiums to their intrinsic worth — or fair values. Five-star stocks are trading at the most attractive prices relative to their fair values, whereas 1-star stocks are trading at significant premiums to fair value.

**Quantitative Fair Value Estimate:** This is a statistical representation of the per-share value of a company's equity, expressed in the local currency.

**Quantitative Valuation:** This is defined as the ratio of a company's Quantitative Fair Value Estimate to its last market close price, similar to the analyst-driven Fair Value Estimate to last market close price ratio.

**Quantitative Uncertainty:** Describes the level of uncertainty around the Quantitative Fair Value Estimate, comparable to the Uncertainty Rating for the analyst Fair Value Estimate.

**Quantitative Economic Moat:** Corresponds to Morningstar's Economic Moat rating, which measures a company's sustainable competitive advantages.

**Quantitative Financial Health:** Based on Morningstar's proprietary measure of the likelihood of financial distress.

### **How many companies will have the Quantitative Ratings?**

Morningstar has assigned quantitative ratings to approximately 40,000 companies globally.

### **Will the Quantitative Equity Ratings replace the Qualitative Analyst Ratings?**

No. The quantitative equity ratings are generated using Morningstar's analyst ratings as inputs to the statistical model; analyst coverage is required for the model to work. The quantitative ratings complement Morningstar's existing analyst ratings and analysis and serve as a second opinion for investors to consider when evaluating a stock. We believe having multiple perspectives will allow investors to make better, more informed decisions.

### **Why are the Quantitative and Qualitative Ratings different for some companies?**

Quantitative ratings may differ from analyst ratings because a company's analyst-driven ratings can significantly differ from those of other companies in its peer group. If a company is unique and has few comparable companies, the statistical model may generate quantitative ratings that differ from the analyst ratings, as analyst input would more easily recognize a company's true characteristics. Alternatively, the statistical model may include new financial data that has yet to be incorporated into the analyst rating.

### **What is the rating scale for the Quantitative Equity Ratings?**

Four of the ratings have a numerical score range that maps to an attribute and is expressed as the following: Quantitative Valuation, expressed as Overvalued, Fairly Valued, or Undervalued; Quantitative Uncertainty, expressed as Low, Medium, High, Very High, or Extreme; Quantitative Economic Moat, expressed as None, Narrow, or Wide; and Quantitative Financial Health, expressed as Weak, Moderate, or Strong. The Quantitative Fair Value Estimate is expressed in the local currency.

### What does the Quantitative Equity Research Report contain?

The Quantitative Equity Research Report includes Morningstar's quantitative equity ratings, and comparisons to aggregate scores for the entire universe of rated companies as well as a company's sector and country. The report also includes five years of historical financial data and a Competitive Advantage Trend chart, which displays the historical values of the Quantitative Economic Moat over the last seven years. Only specific Morningstar products have the Quantitative Equity Research Report available.

### What is the pricing structure for the Quantitative Equity Ratings?

The pricing varies for each product that carries the quantitative equity ratings and reports. Morningstar's quantitative equity ratings are subjective and should not be used as the sole basis for investment decisions. Ratings involve unknown risks and uncertainties that may cause Morningstar's expectations not to occur or to differ significantly from what was expected. Morningstar does not represent its ratings as guarantees, nor should they be viewed as assessing a stock's creditworthiness.

### What is the methodology for the Qualitative Analyst Ratings based on these Quantitative Ratings?

Morningstar's unique approach to equity research is grounded in our fundamental, bottom-up philosophy and has an intuitive structure that investors can quickly understand. The Morningstar Rating for stocks identifies stocks trading at discounts or premiums to their intrinsic worth—or fair values. Five-star stocks are trading at the most attractive prices relative to their fair values, whereas 1-star stocks are trading at significant premiums to fair value. There are three critical components to the Morningstar Rating for stocks:

- Our analysts estimate the stock's fair value using forward-looking, discounted cash flow analysis.
- We assess the firm's business risk and sustainable competitive advantages (i.e., "economic moat").
- The stock's current market price.

### What is being enhanced in the Quantitative Equity Rating?

- **Weekly Fair Value Calculation:** Shifting from daily to weekly fair value calculations aims to enhance the stability of security fair values.
- **New Ratings Introduced:** Introduction of two additional rating values, representing Under Review (6) and Not Rated (0).
- **Corporate Action Handling:** Implementing a more robust corporate actions handling system for automated responsiveness to company changes.
- **New Factors Introductions:** The new operating and market ratio-based model utilizes approximately 61 stock data points from Growth, Liquidity, Financial Health, and Profitability, employing a non-linear regression system for a more nuanced analysis than the existing 11-factor model.
- **Improved Model:** Adoption of Gradient-Boosted Regression for inferring transformed FVP from input data, a departure from the Random Forest approach used in the current Quantitative Equity Rating.
- **Liquidity Filter:** To focus on a more investible total coverage universe, introduced a liquidity filter which will decrease the coverage from ~58k companies to ~39k.

### What does Under Review mean, and when a security will get an Under Review tag?

Under Review indicates that the stock is being re-evaluated due to recent corporate actions, significant price fluctuations, or limited price data availability.

A share class will get a Star Rating of 6 if it meets any of the following conditions:

- If a company experiences a corporate action involving any of its share classes, we restrain ourselves from providing any rating and would like to re-evaluate such a

company. In that case, we give the Under Review label for all share classes of that company.

- If the QFVP value of a share class is out of the expected range of 0.25-4, then most likely the share class has observed some turbulence so till the next adjustment of QFVP these are classified as Under Review
- For a share class, if price data is available in the last month but older than seven days, so in that case, we refrain from assigning star ratings based on limited price data. Instead, we provide an Under Review flag for these share classes.

#### **What kinds of corporate actions are included, and how are securities tagged Under Review in the case of corporate actions?**

We cover Stock Split, Stock Dividend, Right Issue, and Spin-Off.

Process for handling Corporate Actions in the enhanced Quantitative Equity Rating:

- In QER 2.0, we will update the star ratings of all share classes to 6 (Under Review) for a company experiencing a corporate action involving any of its share classes.
- This rating adjustment will be effective from T-1 business day before the ex-date, and it will remain in effect until the refreshed fair value from the Inferred Rating Model (IRM) is utilized in the star rating calculation. The fair values, determined in the IRM run on the subsequent Saturday after the ex-date, will be used in this process.
- The updated fair value, determined on the Saturday calculation, will be utilized in star rating calculations the following Monday, leading to the assignment of new star ratings for the respective share classes by replacing the Under Review label.

#### **What is the new Not Rated (0) rating?**

For any stock whose price data has been missing for more than a month, we will remove the rating and update it to Not Rated (0).

#### **What is a liquidity filter?**

If none of a company's share classes has a 5000 median daily traded value (close price \* volume) in 60 days, we will exclude that company from our universe to make our coverage investible.

#### **Will each share class of a company get the same Star Rating?**

The quantitative fair value of a share class will be reset each Saturday based on the close price of each share class. Due to differences in price movements among share classes, a company's share classes can have different Star Ratings.

#### **What is momentum restriction in Star Ratings?**

For any company with a momentum percentile less than 30 percentile, we will restrict Star Ratings to a maximum of 3 for all share classes.

#### **What does No Rating mean?**

No Rating means that a stock available in Morningstar's equity database does not meet the criteria set by Morningstar for a quantitative equity rating. This ensures that only stocks that fulfill specific, rigorous requirements are assigned a rating, maintaining the integrity and reliability of our rating system. Here is a detailed explanation:

1. Database Availability:
  - If a share class ID is unavailable in Morningstar's equity database, it automatically receives a No Rating.
2. Share Class Level Filter:
  - Share classes must meet certain conditions, such as being of a specific security type, investment type, and active status. If a share class fails to meet these criteria, it is excluded and receives a No Rating.
3. Trading Activity:
  - A share class must have a median daily traded value of at least 5,000. Share classes not

meeting this trading threshold are excluded from receiving a rating.

4. Company Level Filter:

- Companies from restricted countries, sectors, or industries and specific companies like 'Morningstar' are excluded.
- Companies with a market capital value of zero are also excluded. Share classes belonging to these companies will receive a No Rating.

- The share class does not have a median daily traded value of at least 5,000.
- The company is from a restricted country, sector, or industry, or is a specific company like 'Morningstar.'
- The company's market capital value is zero.

In summary, Not Rated (0) is temporary due to insufficient recent data. In contrast, No Rating is a more permanent status indicating that the stock does not meet the criteria for a quantitative rating.

In summary, a No Rating signifies that the share class does not meet the criteria for inclusion in our rating process, ensuring that only investible and relevant share classes are rated.

**What is the difference between the new Not Rated (0) rating and No Rating?**

The new Not Rated (0) rating and No Rating indicate different statuses for a stock within Morningstar's equity database:

1. Not Rated (0): This rating is assigned to stocks previously rated but currently lack sufficient recent price data to maintain an accurate rating. Specifically, if a stock's price data has been missing for over a month, it will be updated to Not Rated (0). This allows for a temporary pause in the rating until sufficient data is available to reassess the stock's value.
2. No Rating: This status is applied to stocks that do not meet Morningstar's criteria for a quantitative equity rating. Reasons for a No Rating status include:
  - The share class ID is not available in Morningstar's equity database.
  - The share class fails to meet specific criteria such as security type, investment type, or active status.