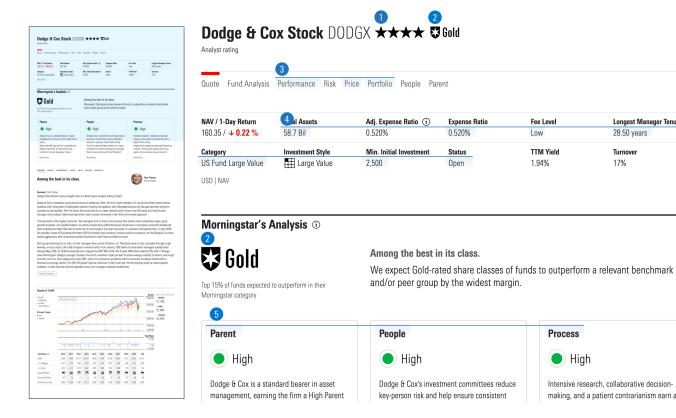
How to Read a Morningstar Fund Analyst Report

The Morningstar Analysis section contains a thorough evaluation of an investment's merits and drawbacks and often discusses the most important or decisive factors leading to the fund's overall rating.



How Did the Fund Perform, and What Does that Mean?

The Morningstar Rating for Funds (the "star rating") scores mutual funds and ETFs from 1 to 5 stars based on how well they've performed (after adjusting for risk and accounting for sales charges) relative to similar funds and ETFs.

Longest Manager Tenure

28.50 years

Turnovei

17%

- ► Within each Morningstar Category, funds are ranked into quintiles based on their risk-adjusted performance, with the top 10% of funds and ETFs receiving 5 stars and the bottom 10% receiving 1 star.
- ► Funds and ETFs are rated for up to three time periods—three, five, and 10 years—and these ratings are combined to produce an overall rating. Funds and ETFs with less than three years of history are not rated.
- ► The star rating is objective and data-driven; it's based entirely on a mathematical evaluation of past performance. It can be a useful tool for identifying funds and ETFs that have performed well relative to peers on a risk-adjusted basis and may be worthy of further research, but the star rating alone shouldn't be considered a buy or sell signal.

Will this mutual fund outperform its peers in the future?

- ► The Morningstar Analyst Rating for Funds (the "medal rating") expresses how much conviction our analysts have in a fund or ETF's ability to outperform its peers. Morningstar Analyst Ratings are assigned globally on a five-tier scale running from Gold to Negative.
- ▶ The top three ratings, Gold, Silver, and Bronze, all indicate that our analysts recommend a fund
- ► The difference between them corresponds to the strength of the analysts' conviction in a fund's ability to outperform its benchmark and peers over time, within the context of the level of risk taken.
- ► Funds that our analysts do not believe will outperform, or that they expect will underperform, are rated Neutral. Funds that we expect to lag their peers by a wider margin are rated Negative.
- The Analyst Rating does not express a view on whether a given asset class or peer group will outperform another, such as whether stocks will outperform bonds. Rather, the rating evaluates each fund relative to an appropriate benchmark and peer group.

Gold	Top 15% of funds expected to outperform in their Morningstar category	We expect Gold-rated funds to outperform a relevant index or Morningstar category average by the widest margin
Silver	Next 35% of funds expected to outper- form in their Morningstar category	We expect Silver-rated funds to outperform a relevant index or Morningstar category average by a lesser margin than Gold-rated funds, but more than Bronze-rated funds
Bronze	Remaining 50% of funds expected to outperform in their Morningstar category	We expect Bronze-rated funds to outperform a relevant index or Morningstar category average, but by the smallest margin
Neutral	Top 70% of funds expected to underper- form in their Morningstar category	We expect Neutral-rated funds to underperform a relevant index or Morningstar category average, but by a smaller margin than Negative-rated funds
Negative	Remaining 30% of funds expected to un- derperform in their Morningstar category	We expect Negative-rated funds to underperform a relevant index or Morningstar category average by the widest margin

- ► Morningstar made improvements to our Analyst Rating for funds designed to make it easier to understand and use. On Oct. 31, 2019, we began to update the ratings for an initial batch of funds under the new framework. We are updating the ratings for the rest of the funds we cover on a rolling schedule over the next 12 months.
 - ► The new Analyst Rating is centered around the three areas (or "pillars") of our analysis that have proved most predictive of future performance: Process, People, and Parent. Funds rated under our new fund rating system will display three pillars.
 - ► Eventually, all funds under coverage will move to our new system, but during the transition some funds rated under our former method will continue to display five pillars.
 - We moved to a five-point scale from a three-point scale for scoring the Process, People, and Parent Pillars: Low, Below Average, Average, Above Average, and High. This more-refined rating scale allows analysts to better emphasize the strength or weakness of a certain pillar and allows for finer-grained comparisons.

What general information can help me with my evaluation of a fund?

- ► The Performance section of the analyst report discusses the fund's performance in both absolute terms and relative to peers. Returns are examined over varying time periods, in the context of risk taken.
- ► The performance data table provides an overview of how much the fund gained or lost each year, and whether it beat or lagged its peers and the index (and by how much). You can also see each fund's percentile and quartile rank relative to peers (the higher the percentile and quartile, the better the fund's performance relative to peers). What other information can help me with my evaluation of a fund?
- ► The Price section of the analyst report explains how that particular share class' expense ratio ranks relative to its Morningstar category, from cheapest to most expensive quintile. This section then explains whether or not we think this particular share class of the fund will outperform based on its price rank and its Process, People, and Parent scores.
- ➤ The Portfolio tab helps you quickly see what types of securities are held in the fund's portfolio, and in what proportion. For example, for stock funds, the Portfolio tab shows how much of the funds' portfolio is invested in U.S. and non-U.S. stocks; value and growth stocks; large-cap and mid-cap stocks, etc.
- ➤ Analyst Tip: Environmental impact is quickly becoming of greater importance to investors. Morningstar awards a Sustainability Rating for hundreds of funds in our coverage universe. This rating scores the overall ESG risk in a fund portfolio based on ESG research provided by our global ESG research partner Sustainalytics.

The rating works like this: First, it measures the degree to which individual companies in the portfolio face financial risks from ESG issues, then it rolls those individual scores up into an overall, portfolio-level score. The rating is easy to interpret: 5 globes means the overall portfolio has negligible ESG risk; 1 globe means it is exposed to significant ESG risk.

4 How do I quickly size up a fund's general characteristics?

- ► Total Assets | How much money is invested in this fund strategy across all its share classes?
- ► Expense Ratio | How much does this share class of the fund cost?
- Fee Level | How does this fund share class' price compare to other funds that invest the same way (its Morningstar category peers)?
- ► Load | Does this fund share class charge a sales fee?
- Category | We categorize funds based on what they invest in (the securities in the fund's portfolio) and how they invest (the fund's strategy). Morningstar categories help investors and investment professionals make meaningful comparisons between funds. The categories make it easier to build well-diversified portfolios, assess potential risk, and identify top-performing funds. We place funds in a given category based on their portfolio statistics and compositions over the past three years.
- ► Status | Is the fund accepting money from new investors?
- ► Minimum Initial Investment | What is the smallest amount of money a fund will accept to start a new account?

5 Who Runs the Fund, and How Do They Run It?

- ▶ Morningstar analysts provide his or her evaluation of how well a fund scores in three fundamental areas (or pillars): Process, People, and Parent. A fund's overall rating is heavily influenced by the qualitative scores our analysts assign to these three pillars.
- Process | What is the fund's strategy and does management have a competitive advantage enabling it to execute the process well and consistently over time?
 Morningstar analysts award high Process scores to funds whose performance objective and investment process (for both security selection and portfolio construction) are sensible, clearly defined, and repeatable. It must also be implemented effectively. Morningstar analysts 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.
- ▶ People | What is Morningstar's assessment of the fund manager's talent, tenure, and resources?
 We have found that mutual funds and ETFs run by high-quality management teams deliver superior performance relative to their benchmark and/or peers. To evaluate an investment's management team, Morningstar analysts assess the managers' and analysts' experience and ability; their workload; the depth of direct and indirect resources that support them; and other factors such as whether they invest alongside investors and whether their pay incentives are aligned with investors' interests.
- Parent | What priorities prevail at the firm? Stewardship or salesmanship?
 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.

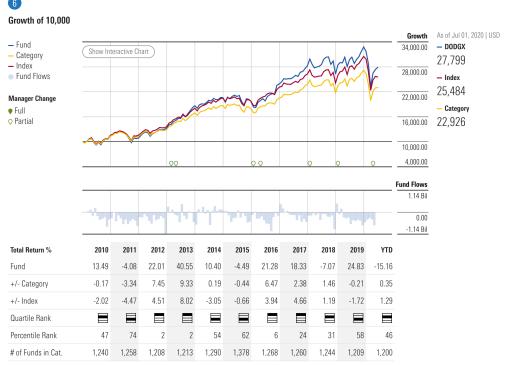
Funds that have not been rated under the new methodology also have ratings for the following two pillars:

- Price | Is the fund a good value proposition compared with similar funds? Costs are a good predictor of future performance. They aren't everything, but they are a crucial piece in the puzzle. We look at a fund's expenses relative to its peer group and its sales channel. We also consider its asset size and in some cases its trading costs if they are particularly high or low.
- Performance | Has the fund delivered consistently strong returns?
 We evaluate a fund's performance record over the current manager's tenure to determine whether he or she has added value. The longer the record, the more predictive it is of future relative performance. Although some investors tend to weight recent returns more heavily, it's really the long-term record of a manager that is most telling.
- ► Learn more about the enhanced Analyst Rating for Funds:

 Introducing the Enhanced Morningstar Analyst Rating for Funds

 Our Enhanced Analyst Rating Is Easier to Understand and Use





6 How has this fund done over the past 10 years? Has it beaten the index over that period? Has it beaten its category peers?

- ► The interactive Growth of \$10,000 graph shows how much money an investor would have at the end of a certain time period if she or he had invested \$10,000 in the fund at the beginning of the time period (assuming dividends are reinvested).
- ► If the fund has 10 years of performance history, the growth of \$10,000 graph will show data for 10 calendar years plus that year to date through the end of the previous month. If it launched more recently, the graph begins at the fund's inception.
- ► Located alongside the fund's graph line (in blue) is a red line that represents how much money you would have if you had invested \$10,000 in a relevant market benchmark (such as the S&P 500 Index or Russell 1000 for stock funds) or the Bloomberg Barclays US Aggregate Bond Index (for bond funds). The yellow line represents the growth of the median fund in the category over the time period.
- ► Analyst Tip: Click on "Show interactive chart" to open a customizable workspace that allows you to adjust the time period and add comparisons.