
Morningstar Medalist Rating for 529 Education Savings Plans Methodology

Morningstar Manager Research

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Contents

- 1 Overview
- 2 The Morningstar Medalist Rating™ for 529 Plans
- 3 Methodology
- 5 Pillar Evaluation
- 9 Appendix

Important Disclosure

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Overview

Morningstar has conducted qualitative, analyst-driven research on 529 plans since 2004. Since July 2012, we have expressed this research through the Morningstar Medalist Rating (previously known as the Morningstar Analyst Rating) for 529 Education Savings Plans accompanied by written analysis. An essential complement to our database of investment information and our suite of quantitative research tools, such as the Morningstar Rating for 529 investment options (the "star rating"), Morningstar's 529 plan analysis has always focused on helping individuals who are saving for education expenses make better investment decisions. The Medalist Rating and accompanying report:

Identify 529 plans that adhere to best practices and feature investment options that we expect to collectively outperform relevant Morningstar Category peer groups on a risk-adjusted basis over the long term.

- Call out 529 plans that fail to meet best practices and offer investment options that we expect to collectively turn in middling or subpar investment results versus relevant Morningstar Category peer groups on a risk-adjusted basis over time.
- Give individuals saving for college, K-12, or other qualified education expenses clear expectations for the likely behavior of a plan's investment options in different market environments.
- Place the investment options in comparative and historical context in terms of criteria such as expenses, manager tenure, investment style, and asset size.
- Monitor plans for changes that could materially affect the suitability and investment opinion.

Independent Research

Morningstar is committed to the principle of independence. We neither charge to rate plans nor do we permit 529 plans to commission ratings from us. Morningstar commercializes its 529 plan research by including ratings and reports in various products and services and through licensing its intellectual property. Morningstar manager research analysts produce their 529 plan analysis for the benefit of investors and financial professionals, not for the states or the program managers running the plans. Morningstar separates its analyst team from commercial activities to avoid any real or perceived conflicts of interest. Analysts focus on providing in-depth, accurate, and useful analysis that equips investors to select a 529 plan. When a plan has elements that fail to meet best practices and offers investment strategies that we expect are likely to collectively turn in subpar investment results, an analyst will not hesitate to express a negative view.

How We Decide What to Cover

We strive to ensure that education savers and plan selectors have access to our analysts' qualitative opinions across a broad spectrum of plans. Hence, coverage is not determined by quantitative screens on performance or limited to only a "best-in-class" universe, and analyst teams have ample discretion in determining their coverage universe. In determining coverage, analysts focus on investment merit and investor demand. Assets under management in 529 plans are one gauge of investor interest, but analysts may also cover new and/or small plans if they have merit. In addition, Morningstar frequently canvases its analyst team and external users of our research to identify 529 plans that might warrant coverage.

The Morningstar Medalist Rating for 529 Plans

The Morningstar Medalist Rating for 529 plans is the summary expression of our forward-looking analysis of a 529 plan. We evaluate each plan's investment options and assign Medalist Ratings at the plan level to express our view of the overall offering.

The Morningstar Medalist Rating for 529 plans is expressed on a five-tier scale running from Gold to Negative. The top three ratings of Gold, Silver, and Bronze all indicate that our analysts think highly of a 529 plan. The difference between them corresponds to differences in the level of analyst conviction in a plan's ability to offer investments that will collectively outperform peers on a risk-adjusted basis over an education saver's investment horizon, usually a holding period of at least five years.

The ratings should be interpreted as follows:

Gold

These are our highest-conviction recommendations. To earn a Gold rating, a plan must distinguish itself across the key pillars that are the basis for our analysis. These plans follow all or most best practices and offer investment options that we expect will endure and collectively outperform relevant peer groups including plans rated Silver or Bronze.

Silver

These sit just below Gold but are also among our highest-conviction plans. While these are worthy plans with many positive features, they don't necessarily rise to the standard of best in class. They largely follow best practices and offer investment options we expect to collectively outperform relevant peer groups including plans that have a Bronze rating.

Bronze

We do not expect these plans to stand out like Gold or Silver offerings, but we still expect them to serve investors well. These plans have advantages that clearly outweigh any disadvantages across the pillars, giving us the conviction to award them a positive rating. Although they do not follow best practices to the same extent as Gold- or Silver-rated plans, we expect their investment options to collectively outperform relevant peer groups of plans rated Neutral or Negative.

Neutral

We do not believe these plans follow as many best practices as higher-rated plans and therefore do not expect their investment options to collectively outperform over the long term, meaning a full market cycle or at least five years. A promising but unproven plan may also receive this rating until we see further evidence that its investment options have potential.

Negative

These plans possess at least one major flaw and generally fail to meet industry best practices. We believe these plans' investment options are inferior to most competitors' and will likely underperform relevant peer groups.

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

Under Review

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

Methodology

In more than a decade of 529 plan research, Morningstar's analysts have identified four key areas where plans can help or hinder investors:

- ▶ People: The quality and capabilities of the program/investment manager.
- ▶ Process: The quality of the available target-enrollment/age-based and stand-alone options.
- ▶ Parent: The quality of the offering state's decision-making/oversight around key items, including plan features, investment management, and fees.
- ▶ Price: How far a plan's fees exceed or fall below the median fee of all plans.

Pillar Scores

Morningstar analysts assign scores to the People, Process, and Parent Pillars ranging from 1 to 5. Those scores are translated to Pillar Ratings as follows:

People, Process, or Parent Pillar Score	Pillar Rating
1 or 2	Negative
3	Neutral
4 or 5	Positive

The Price Pillar is calculated using the average fees for each plan and calculating a modified z-score (see Price section for details). While there are no technical limits to this modified z-score, we observe that the modified z-scores for 529 plans' average fees tend to lie between negative 1.0 and 1.5.

For the Price Pillar, plans with a z-score of negative 0.5 or lower receive a Price Pillar rating of Positive, and plans with a z-score of 1 or higher receive a Price Pillar rating of Negative.

Modified Z-Score	Pillar Rating
Greater than or equal to 1	Negative
Less than 1, greater than negative 0.5	Neutral
Less than negative 0.5	Positive

Deriving the Rating

Our qualitative assessment of each pillar informs the overall Medalist Rating for the plan. To derive the overall Medalist Rating, we weight the numeric People, Process, and Parent Pillar scores as follows, then adjust the outcome using the Price z-score:

People: 25%

Process: 50%

Parent: 25%

The equation to derive the analyst's level of conviction in the plan's merit is:

$$\text{Weighted Pillar Score} = (0.50 * \text{Process Score}) + (0.25 * \text{Process Score}) + (0.25 * \text{Parent Score})$$

The analyst-derived score is then adjusted for the plan's fees. Plans with lower (higher) fees on average relative to peers put investors in a better (worse) position to reach their goals. To assess a plan's price advantage or disadvantage versus peers, we subtract half of the modified z-score from the Weighted Pillar Score to arrive at the Plan Score.

$$\text{Plan Score} = \text{Weighted Pillar Score} - (0.50) * (\text{modified z-score})$$

We assign the Medalist Ratings according to the following Plan Scores, subject to the exceptions noted below:

Gold: ≥ 4.5

Silver: $= 4.0$ to < 4.5

Bronze: $= 3.5$ to < 4.0

Neutral: $= 2.5$ to < 3.5

Negative: < 2.5

Exceptions:

Plans with one or more Below Average pillar ratings cannot receive an overall rating higher than Silver.

Plans with one or more Low pillar ratings cannot receive an overall rating higher than Neutral.

Morningstar analysts retain discretion to override these scores if they perceive a unique characteristic that they believe will outweigh the combined effects of other pillars.

All proposed pillar scores and the proposed overall Medalist Rating assignments are proposed by the analyst to a ratings committee and must be vetted and approved by that body prior to publication.

Pillar Evaluation

People

The People Pillar is focused on the plan's investment manager of the age-based or target-enrollment portfolios and stand-alone target-risk portfolios. The quality of this team is a significant key to these strategies' ability to deliver superior performance relative to peers. Analysts will assess the individuals at the investment manager who are directly involved with the 529 portfolios. The analysts will also consider broader resources at the firm that support ongoing 529 research efforts.

The criteria used in the assessment include but are not limited to:

- ▶ The team's experience and ability managing glide path and age-based portfolios.
- ▶ Experience and ability conducting manager research and asset-allocation research.
- ▶ The team's expertise and resources relative to the mandate and plan design.
- ▶ The amount of time the team dedicates to 529 research, as well as its other responsibilities.
- ▶ The stability of the team.
- ▶ Key-person risk.
- ▶ The investment team's People rating on other managed strategies and the asset manager's Morningstar Parent rating, if available.

Process

The Process Pillar pertains to the quality of the investments offered, as well as the robustness of the investment process that underpins the products. Analysts look for investment menus that cover core asset classes, limit overlap and niche strategies, and include stand-alone investment options that are Morningstar Medalists.

Plans that follow what we believe to be best practices offer age-based or target-enrollment options that utilize a well-researched asset-allocation approach and a robust process for selecting underlying investments; provide an appropriate set of investment options to meet investor needs without too much overlap among the offerings; and hire investment managers who use strong processes at the underlying strategy level.

- ▶ Analysts seek to understand the philosophy and process behind curating the investment menu.
- ▶ They look for a well-thought-out selection of asset classes and high-quality funds within each core asset class, with minimal overlap, and no niche strategies.
- ▶ We will consider the Morningstar Medalist Rating of stand-alone options, if available.
- ▶ For age-based and target-enrollment portfolios, analysts evaluate the process supporting the glide path construction, asset allocation, and underlying fund selection.

- ▶ If the plan offers static allocation portfolios, analysts look for sound philosophy and process that underpin the asset allocation and manager selection for these portfolios.

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 class strategies, including age-based or target-enrollment investment options and static allocation options, a wide range of approaches to asset allocation can succeed.

The assessment is not on a strict curve. While we reserve our high-conviction marks to plans with distinctive processes that can generate standout results, plans offering solid processes that help education savers meet their goals will not be penalized on a relative basis.

Parent

The Parent Pillar focuses on the state sponsoring the plan. 529 participants rely on the plan's state sponsor to develop and practice a strong oversight function and to generally advocate for its participants and education savers.

Analysts look for rigor, independence, accountability, and judgment around decisions pertaining to plan features, including the choice of the people managing plan assets as well as pricing. The Parent Pillar evaluates the state's contributions to a plan's overall quality and investor alignment.

Inputs for this analysis include the following:

- ▶ Evidence of a rigorous request-for-proposal process, including the use of consultants, and regular solicitations of proposals (every five to 10 years) to ensure the state can keep current with trends in pricing and other 529 plan enhancements.
- ▶ Good stewardship also includes sharing the benefits of scale with investors. Regardless of their current assets under management, it's a best practice to set fee breakpoints for future asset growth.
- ▶ Analysts assess the qualifications, stability, and independence of a state's key decision-makers who determine plan features and design. Board composition and governance are also considered.
- ▶ Critical to a state's Parent Pillar score is ongoing oversight. Demonstration of long-term-oriented plan monitoring and maintenance includes regular reporting to plan participants as well as needed changes in the event of investment-process deterioration or other material reasons.

Although rare, any instance of regulatory infraction, misappropriation of funds, political corruption, quid-pro-quo, or other conflicts of interest can result in a Parent Pillar score deduction. This can occur even if the state has otherwise exhibited other desirable characteristics and/or designed a strong plan.

Price

Morningstar's research and academic studies have repeatedly shown that an investment's fees are one of the better predictors of future performance. As such, Morningstar evaluates a plan's fees as part of its overall assessment. Since the number of investment options can vary greatly across plans, the average fee across the plan is calculated to compare plans to each other.

529 plan fees have grown increasingly clustered on the lower-fee end. To better understand when a plan has a price advantage or disadvantage versus peers, we use a modified z-score. The modified z-score uses the median, rather than the mean, to calculate the z-score. This modification makes the z-score more robust with respect to outliers and more relevant for skewed distributions. A positive z-score indicates that a plan's fees lie above the median value while a negative z-score indicates the opposite. A z-score of 0.00 indicates that a plan's fees are equal to the population median.

We adjust the plan's overall score calculated from the People, Process, and Parent Pillars by $(-1) * (\text{modified Z-score}) * (0.50)$ to arrive at the Plan Score, which is then used to determine the plan's Medalist Rating.

Performance

We do not believe past performance is necessarily predictive of future results, and this factor accordingly receives no explicit weighting in our analysis. Instead, we analyze long-term return and risk patterns to help inform our evaluation of People, Process, and Parent.

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 investment options' 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 for each investment option is viewed relative to its Morningstar Category and category peers. Other benchmarks or custom peer groups 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 maintainable.
- ▶ 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 the strategy was very small, it is cause for concern.

Tax Benefits

529 plans' tax benefits make them attractive investments for education savers. All 529 savers avoid paying taxes on the investments' capital gains when they are used for approved educational expenses. In more than 30 states, savers are eligible for additional benefits, such as state income tax credits or deductions. A few states allow their residents to apply the state-tax benefits to any 529 plan in the country, but more often, residents forgo their home state's tax incentives if they choose a plan offered by another state.

We do not consider a state's tax benefits when evaluating its 529 plan. States that offer tax benefits to their residents give those education savers an additional incentive to choose that state's plan over another, but each investor's tax and residency situation is unique. For that reason, the Morningstar Medalist Rating for 529 plans compares plans nationally and is not influenced by state-tax benefits. However, in each plan's written report, we highlight state-tax benefits that may be available to its investors. ■■

Appendix

Price Adjustment Calculation Description

Step 1: Calculate the expense ratio ($\bar{x}$) for each plan in the population.

The plan-level expense ratio is equal to the average annualized expense ratio of all the investment portfolios offered in each plan.

<u>Investment Portfolio Name</u>	<u>Total Expense Ratio %</u>
US 529 Plan F Age 0-4	0.26
US 529 Plan F Age 5-6	0.27
US 529 Plan F Age 7-8	0.28
US 529 Plan F Static Conservative Allocation	0.35
US 529 Plan F Static Moderate Allocation	0.36
US 529 Plan F Static Aggressive Allocation	0.37
US 529 Plan F Static Large-Blend Active	0.35
US 529 Plan F Static Large-Blend Passive	0.15
US 529 Plan F Static Small-Cap Equity	0.34
US 529 Plan F Static Intermediate Bond	0.40
US 529 Plan F Static Large Growth	0.30
US 529 Plan F Static Large Value	0.30
US 529 Plan F Static Mid-Cap Equity	0.40
US 529 Plan F Static Real Estate	0.50
US 529 Plan F Static Short-Term Bond	0.33
US 529 Plan F Static Non-US Equity	0.40
Plan F Average Expense Ratio	0.34

Step 2: Calculate the plan-level median and standard deviation.

<u>Plan Name</u>	<u>Plan Expense Ratio %</u>
Plan A	0.10
Plan B	0.15
Plan C	0.18
Plan D	0.24

Plan E	0.31
Plan F	0.34
<u>Plan G</u>	<u>0.40</u>
<u>Plan H</u>	<u>0.43</u>
Plan I	0.64
Plan J	0.83
Plan K	0.92
Plan L	0.99
Plan M	1.02
Plan N	1.07
Plan O	1.33
Median	0.43
Std Dev	0.38

Step 3: Calculate the Modified Z-Score.

$$Z\text{-Score} = (x - m) / s$$

where:

x = the expense ratio of the plan being evaluated

m = the median expense ratio of the population

s = the standard deviation of the population

Step 4: Calculate the Price Adjustment

$$\text{Price Adjustment} = - (0.50 * \text{modified Z-score})$$

<u>Plan Name</u>	<u>Plan Exp Ratio %</u>	<u>Z-Score</u>	<u>Price Adj</u>
Plan A	0.10	-0.86	0.43
Plan B	0.15	-0.73	0.36
Plan C	0.18	-0.65	0.33
Plan D	0.24	-0.49	0.24
Plan E	0.31	-0.31	0.15
Plan F	0.34	-0.23	0.12
<u>Plan G</u>	<u>0.40</u>	<u>-0.08</u>	<u>0.04</u>
<u>Plan H</u>	<u>0.43</u>	<u>0.00</u>	<u>0.00</u>
Plan I	0.64	0.54	-0.27
Plan J	0.83	1.04	-0.52
Plan K	0.92	1.27	-0.64
Plan L	0.99	1.46	-0.73
Plan M	1.02	1.54	-0.77
Plan N	1.07	1.67	-0.83

Plan O	1.33	2.34	-1.17
Median	0.43		
Std Dev	0.38		

Pillar	Weight	Pillar Score	Pillar Rating	Weighted Score
Process	50%	3	Neutral	1.50
People	25%	4	Positive	1.00
Parent	25%	4	Positive	1.00
Weighted Pillar Score	100%			3.50
Weighted Pillar Score				3.50
Price Adjustment				0.12
Plan F Score				3.62
Morningstar Medalist Rating				Bronze

Document Version History

Version 1.0	July 25, 2024	Original publication
Version 1.1	Oct. 29, 2024	Update to Price pillar rating

About Morningstar Manager Research

Morningstar Manager Research provides independent, fundamental analysis on managed investment strategies. Morningstar views are expressed in the form of Morningstar Medalist Ratings, which are derived through research of three key pillars—People, Process, and Parent. The Morningstar Medalist Rating is the summary expression of Morningstar's forward-looking analysis of investment strategies as offered via specific vehicles using a rating scale of Gold, Silver, Bronze, Neutral, and Negative. A global research team issues detailed research reports on strategies that span vehicle, asset class, and geography.

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