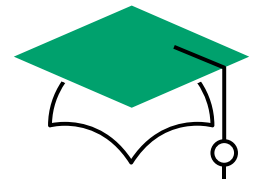


What to look for when evaluating 529 plan investment portfolios



Not all 529 college savings plans are created equal. Besides differences in state tax benefits, fees and contribution limits, each plan takes a unique approach to the age-based and asset allocation portfolios typically favored by participants.

All 529 plans offer professionally managed portfolios that either remain the same over time (asset allocation) or automatically become more conservative as college approaches (age based). However, there can be vast differences in how those portfolios are allocated, assembled and adjusted. Which is right for each family? This paper examines four factors to consider when investing in 529 plans.

Four key considerations in evaluating 529 portfolios

1. Asset class diversification	2. Glide path design	3. Portfolio construction	4. Tactical asset allocation
Some portfolios hold only traditional stocks and bonds, while others diversify more broadly.	Age-based portfolios may differ in how they pursue growth and manage volatility from early years to later years.	Key considerations include the universe of potential investments and the process for deciding which to include.	Most 529 plan managers don't tactically adjust portfolios as market conditions change over the short term.

1. Asset class diversification

Differences in diversification are likely to have a dramatic impact on college investment outcomes and 529 participant experiences. Comparing and analyzing portfolio exposures can help align investor needs with the appropriate solution.

Which asset classes are included in a portfolio?

Some portfolios hold only core stocks and bonds. Others include a broader range of extended and alternative assets, such as high yield bonds, emerging markets and real estate.

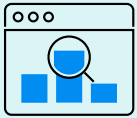
Our research shows that a broader, more sophisticated level of diversification has the potential to increase expected returns while lowering risk (see Exhibit 1 on next page). Given today's rapidly rising tuition costs, even slightly higher returns can be critical in meeting college funding goals without taking on undue risk.

How does the manager decide which asset classes to include?

When it comes to diversification, the objective isn't simply more holdings but rather less correlation, so that some investments rise when others fall to help smooth out performance.

How diverse is the bond allocation?

Some 529 plan portfolios hold only one core bond strategy, which may increase risks and limit returns. For example, with yields currently low and core bonds highly sensitive to rising interest rates, a broader approach may make sense for investors seeking lower volatility or higher income.

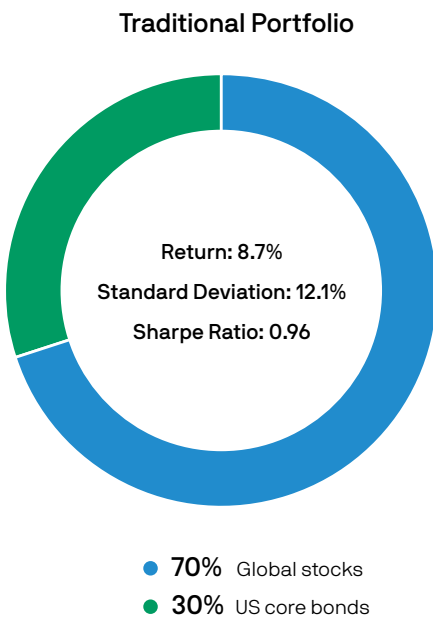


J.P. Morgan's philosophy

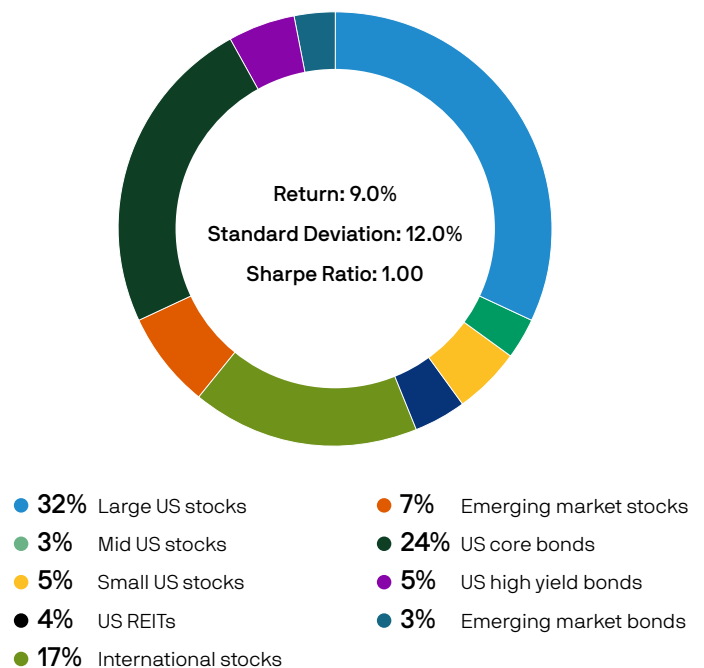
We believe broader diversification delivers better risk-adjusted results. Using time-tested research, our team analyzes both historical and forward-looking risks/returns for each market to determine a portfolio's long-term strategic asset mix. This focus on building stronger portfolios that maximize diversification and manage volatility is a critical component of our investment process.

Exhibit 1: Broader diversification produced higher return, with lower risk

(January 2011—June 2021)



JPMorgan 529 Age-Based Portfolio [Age 11-12]



Indexes and weights of the less diverse portfolio are as follows: Developed world market index: 70% MSCI World, U.S. bonds: 30% Barclays Capital Aggregate. Diversified portfolio is a blend of S&P500 Total Return Index 22.5%, FR 3000 Growth Total Return Index 6%*, FR 3000 Value Total Return Index 6%*, FR Mid Cap Total Return Index 3.25%, Russell 2000 Total Return Index 2.25%, MSCI US REIT Total Return Index 3.5%, Dow Jones Global Ex-US Select Real Estate Securities Net Total Index 0.75%, MSCI EAFE Total Return 16.5%, MSCI EM Net Total Return Index 7.25%, Barclays Capital Aggregate Total Return Index 23%, Barclays Capital Corporate Credit Total Return Index 1%, Barclays Capital US Corporate High Yield Total Return Index 5%, JPM Emerging Markets Debt Fund Composite Benchmark 1.5%, JPM Emerging Markets Strategic Debt Fund Composite Benchmark 1.5%. Return, standard deviation and Sharpe Ratio calculated using Morningstar Direct.

* 80% of the Growth and Value multi-cap exposure is displayed as Large Cap and 20% is displayed as Small Cap.

Charts are shown for illustrative purposes only. Past returns are no guarantee of future results. Data from January 1, 2011, to June 30, 2021.

Diversification does not guarantee investment returns and does not eliminate risk of loss.

2. Glide path design

An age-based portfolio’s glide path determines how assets shift as college gets closer. It’s a major driver of investment returns and the order in which those returns occur—two crucial considerations given a time horizon of 18 years or less until college. Understanding the different approaches is one of the keys to making well-informed investment decisions.

How do portfolios change as college approaches?

Is the overall glide path consistent with an investor’s risk profile? What is the level of stock market exposure in early years versus later years (see Exhibit 2)? Is risk managed by reducing stock allocations or by broadening diversification into other assets with similar return potential?

What information is used to make glide path decisions?

Are long-term market outlooks used? How are those outlooks formed? Does the glide path design factor in 529 plan participant behavior when it comes to making contributions and withdrawals?

What is the glide path’s time horizon?

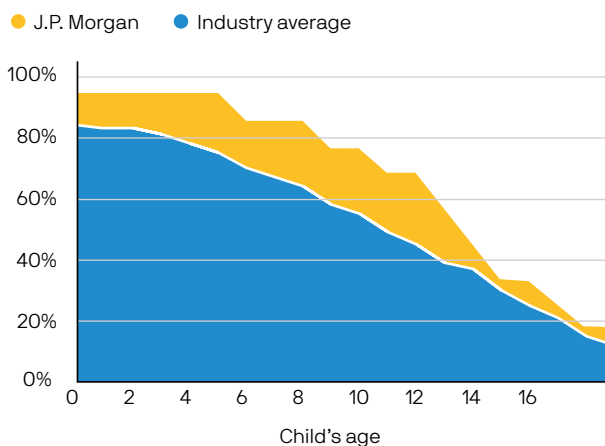
Does it go up to college or through all the enrollment years? A “through college” portfolio may take on more risk between ages 18-22, when preserving capital is most important and withdrawals are highest.



J.P. Morgan’s philosophy

We conduct research on how and when 529 plan investors add and withdraw money. Understanding these unique behaviors provides us with valuable insights into building more resilient portfolios that account for not only market volatility, but also the volatility of cash flowing in and out of accounts (see Exhibit 3).

Exhibit 2:
Stock allocations along the glide path,
J.P. Morgan vs. industry average



Source: Morningstar Direct, as of 6/30/21.

Exhibit 3: How J.P. Morgan’s glide path reflects 529 plan participant behavior



Contributions

Investments typically start early and stay steady in both frequency and size, peaking on average at \$6,000 annually between ages 15-18.



Start with higher stock allocations early in the glide path to maximize return potential and make the most of early contributions



Pre-college withdrawals

Only about 1.9% of participants make early withdrawals between ages 1-17.



Maintain higher stock allocations across much of the glide path because participants are likely to stay invested through volatile times



College withdrawals

Between ages 18-22, roughly 68% of participants withdraw an average of \$14,600 each year.



Dramatically reduce stock allocations late in the glide path in order to lower risk as families start paying for college

Statistics gathered for illustrative purposes only, using an average of 2018 & 2019 participant behavior data for New York’s 529 Advisor-Guided College Savings Program.

3. Portfolio construction

Because most 529 participants choose age-based or asset allocation options, the responsibility for portfolio construction lies with the plan's investment manager. It's important that their approach be compatible with an investor's preferences and college goals.

How does the manager screen, select and monitor underlying investments?

Criteria can include the investment process, performance history, risk characteristics, style consistency, correlations, management and fees. A 529 plan manager should demonstrate a clear process for adding or replacing strategies as well as a track record of successful investment selection.

How diverse is the investment universe?

Does the manager's pool of potential investments cover the full spectrum of asset classes and sub-classes worldwide?

Are underlying investments actively or passively managed?

Some 529 plans blend active and passive to pursue the best of both worlds. Active strategies may offer higher return potential and access to asset classes not readily available through indexing. Passive strategies can be used to lower plan fees and efficiently make tactical shifts in portfolio allocations.

4. Tactical asset allocation

Most 529 plan portfolios are not tactically managed. In those cases, portfolio weightings generally change only when: 1) assets are rebalanced back to target allocations, 2) a predetermined shift takes place along an age-based portfolio's glide path, or 3) participants make their twice-per-year investment exchange.

How important is tactical management?

The ability to tactically adjust a portfolio based on short-term outlooks is particularly important in 529 plans because federal rules allow participants to change investments only twice per calendar year. A tactical manager adds a level of flexibility that would otherwise be lacking, especially during rapidly changing markets.

How do managers make tactical adjustments?

What's their process? Are they seeking to increase upside potential? Limit downside risk? What guidelines govern their tactical tilts? For example, are there ranges for each asset class to prevent the portfolio from straying too far from its strategic long-term allocations?

Is the manager experienced and skilled in tactical asset allocation?

Tactical management involves complex decisions about when to reallocate, which assets to shift and by how much. As an example, Exhibit 4 shows how J.P. Morgan fine-tuned stock exposures during COVID-19 as new opportunities and risks arose (see next page).

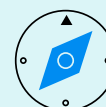


J.P. Morgan's philosophy

Portfolio construction provides an added level of diversification beyond the overall glide path design. An effective manager will determine how much active risk to "budget" for each asset class and how to "spend" that risk within underlying holdings.

The goal is to create a mix of uncorrelated investments with the potential to enhance performance and diversify strategy-specific risks.

Lastly, we combine active and passive strategies, choosing active managers when we have a high conviction in their ability to outperform benchmarks.



J.P. Morgan's philosophy

We believe a disciplined, risk-measured approach to tactical allocation can enhance returns and, most importantly, manage volatility.

Our time-tested process uses both quantitative signals as well as the experience of senior managers and strategists to actively adjust portfolios.

Over time, these thoughtful adjustments can help complement the glide path design, navigate uncertain periods and provide a more consistent path to college goals.

Exhibit 4: Stock positions for JPMorgan 529 Age-Based 11-12 Portfolio during COVID-19

● U.S. ● International developed ● International emergin — Total

Dec 2019

Pre-COVID optimism

Overweighted U.S. small cap and international emerging stocks in anticipation of continued economic growth and de-escalating trade tensions.

June 2020

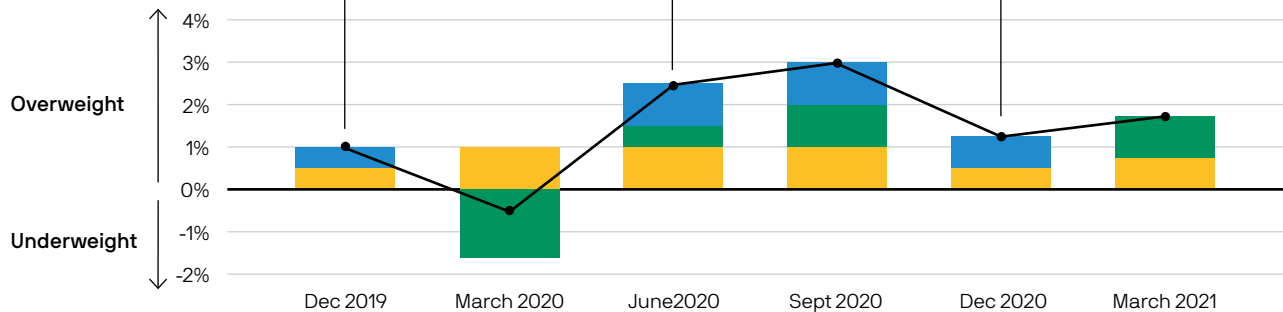
Improving conditions

Added U.S., international developed and international emerging stocks that could benefit most from an improving global economy throughout the summer. Continued to gradually add bonds benefiting from Federal Reserve support.

Dec 2020

Locking in gains

Trimmed down all areas of stock portfolio as markets continued rising through year-end to preserve gains for Plan participants and reduce risk stemming from liquidity concerns.



March 2020

COVID takes hold

De-risked portfolios by scaling back international developed stocks and targeting higher-quality U.S. stocks. Gradually accessed high yield and investment grade credit bonds near month-end as the Federal Reserve announced its support for those securities.

SEPT 2020

The election looms

Prepared for volatility leading up to an uncertain election by shifting from stocks to high yield and investment grade credit bonds offering upside with less downside risk.

MARCH 2021

Vaccine-fueled recovery

Reduced exposure to emerging markets and increased focus on value stocks and economically sensitive markets across U.S. and international developed stocks. Cut back high yield and investment grade credit bonds despite continued Federal Reserve support to preserve gains and manage risk for Plan participants.

Source: J.P. Morgan Asset Management; as of 3/31/2021. Shown for illustrative purposes only. Past performance is no guarantee of future results. The manager seeks to achieve the stated objectives. There can be no guarantee the objectives will be met. +/- represents overweight/underweight relative to strategic asset allocation targets set in August 2019. For the aged-based 11-12 portfolio, the strategic allocations are set to 68% equities and 32% fixed income.

529 plan portfolios managed by J.P. Morgan's Multi-Asset Solutions team

Multi-Asset Solutions manages over **\$304 billion in assets**, drawing on investment expertise and capabilities across J.P. Morgan's entire global organization.* Asset allocation insights form the foundation of our investment process, supported by a global research team of 20-plus dedicated professionals with decades of combined experience in a wide range of disciplines.

Our allocation views are the product of a rigorous process that integrates:

Qualitative insights

into macro investment themes, business cycles and systematic and irregular market opportunities

Quantitative analysis

that considers market inefficiencies, intra- and cross-asset class models, relative value and market directional strategies

* As of June 30, 2021

For more information

To learn more about college investing or New York's 529 Advisor-Guided College Savings Program:

- Consult your financial professional
- Visit www.ny529advisor.com
- Call 1-800-774-2108 (M-F, 8 a.m. – 6 p.m. ET)

For more information about New York's 529 Advisor-Guided College Savings Program, you may contact your financial professional or obtain an Advisor-Guided Plan Disclosure Booklet and Tuition Savings Agreement at www.ny529advisor.com or by calling 1-800-774-2108. This document includes investment objectives, risks, charges, expenses, and other information. You should read and consider it carefully before investing.

Before you invest, consider whether your or the Beneficiary's home state offers any state tax or other state benefits such as financial aid, scholarship funds, and protection from creditors that are only available for investments in that state's qualified tuition program.

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