A review of risk in 529 account-owner asset allocations

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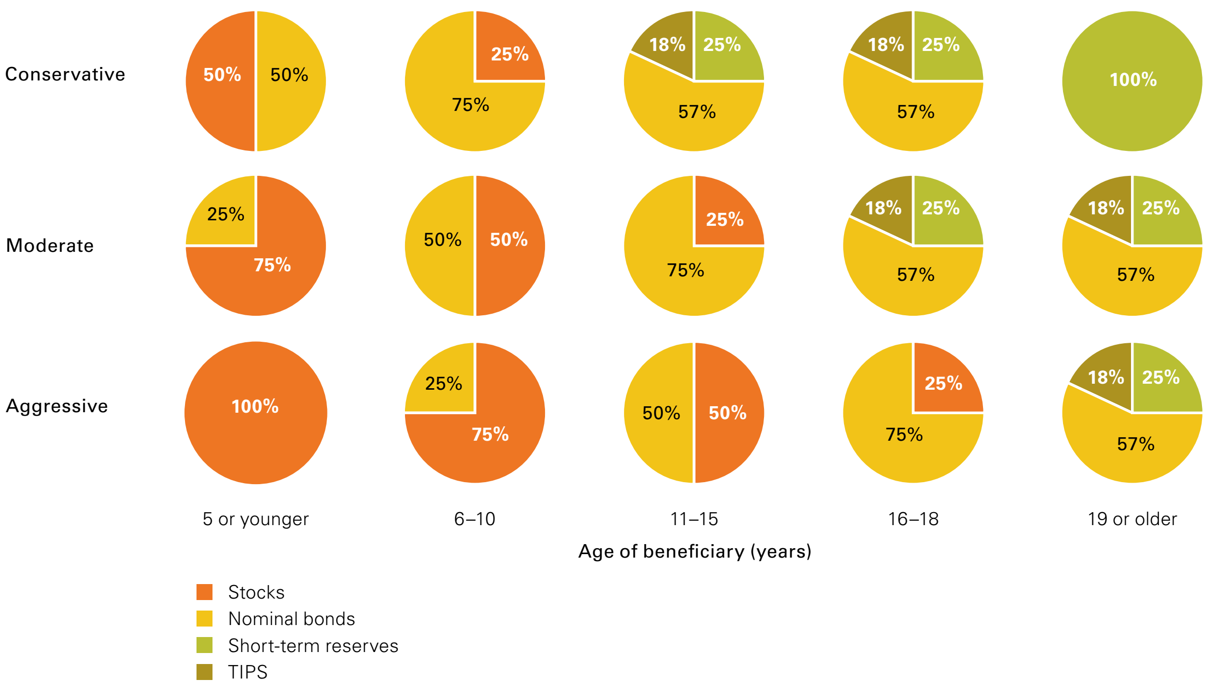
- To assess clients' risk tolerance and investment behavior, Vanguard recently reviewed the investment allocations of 529 plan account owners in five of our client plans, representing nearly 1.3 million accounts and $36 billion in assets.[1]
- Recognizing the differences in plan offerings, we assessed the ways in which account-owner allocations varied from Vanguard-recommended methodology and glide paths, and the extent to which clients used the glide paths offered by their plan.
- For all account owners analyzed, we found that median asset allocations to equity were closest to Vanguard's aggressive glide path and therefore appropriate for investors with a relatively high risk tolerance. However, a majority of account owners were taking advantage of their plans' glide paths and the disciplined, professional asset allocation and rebalancing they provide.

Vanguard's approach: 529 investing strategy

Vanguard constructs its 529 portfolios with an eye toward a number of the company's investment best practices—specifically, principles of asset allocation, diversification, transparency, and maintaining a balance among risk, return, and cost. With respect to 529 age-based investing, Vanguard suggests a glide-path allocation that changes with the investment objective. Vanguard research has shown that a portfolio's investment strategy should differ depending on whether the goal is to increase the portfolio to meet a future need or to preserve the portfolio's ability to pay for near-term liabilities (Bennyhoff, 2009). If the value of the liability is uncertain, as in future college costs, a diversified total-return strategy seeking higher real returns may be preferable. For short-term liability planning, such as a drawdown during college years, the emphasis should be on preserving the principal. This concept is the foundation for the design of Vanguard's 529 age-based options—that is, stocks have a larger allocation when the beneficiary is farther from the college years, and the bond allocation becomes dominant as college years approach. Vanguard suggests three age-based savings tracks: aggressive, moderate, and conservative. With each track, the investor's account moves through a set of progressively more conservative investment portfolios. **Figure 1,** on page 2, shows Vanguard's age-based glide paths.

1 Data for this analysis are based on the following Vanguard-client, direct-sold 529 plans as of December 31, 2014: Vanguard 529 College Savings Plan; CollegeInvest Direct Portfolio College Savings Plan [Colorado]; College Savings Iowa 529 Plan; MOST—Missouri's 529 College Savings Plan; and New York's 529 College Savings Program *Direct Plan.* Accounts with beneficiaries older than age 21 were eliminated from this analysis because reasonable assumptions about drawdown and time horizon could not be made for those. Note that each plan contains some modifications to Vanguard's recommended age-based glide-path allocations and portfolios, and that each plan also offers self-directed options in addition to the glide path(s). Data for each plan were provided by Ascensus College Savings Recordkeeping Services, LLC.

Figure 1. Vanguard-recommended glide paths



Notes: TIPS = Treasury Inflation-Protected Securities.
Source: Vanguard.

Results of our analysis

Actual allocations versus Vanguard-recommended glide paths

Broadly speaking, we found that median asset allocations for all account owners were what one would reasonably expect for an investor with high risk tolerance.[2] As **Figure 2** illustrates, the median equity allocation for these account holders most closely tracked Vanguard's aggressive glide path. At the median, allocations to equity declined to zero by age 19. However, there was a large range around the median results, indicating that some investors had larger equity allocations than Vanguard recommends at this stage of the college-savings glide path. *Vanguard recommends a zero allocation to equities in each of its glide paths for those with beneficiaries aged 19–21 (see Figure 1).*[3] This view holds that equities are too volatile to have a role in a portfolio during the draw-down period of college savings. Yet, 25% of account owners (4th quartile) with beneficiaries aged 19–21 had a 50% or greater allocation to equity.

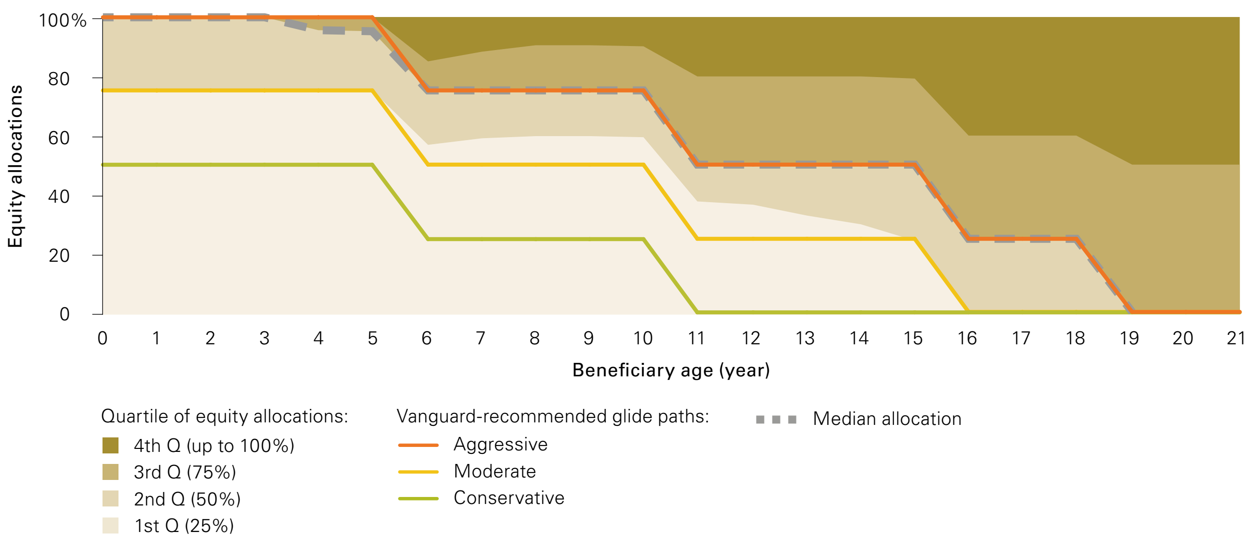
Likewise, our results showed that 43.4% of all accounts in the 19–21-year-old cohort had an equity position (not shown in Figure 2). Although glide-path usage does appear to mitigate excessive risk-taking during the draw-down period, we also found that 70.9% of non-glide-path users with beneficiaries in the 19–21-year-old cohort had an equity position. In other words, of those who eschewed the glide path and completely self-directed their investments in this account, many more had an allocation to equities in the draw-down period.[4]

2 This research note's analysis is based only on accounts reviewed relative to Vanguard's recommended methodology. Investors analyzed may have had additional college-savings resources, which could affect their overall college-savings portfolio as well as this paper's findings relative to Vanguard's recommended approach. Similarly, our methodology assumed 529 investors were investing for four years of spending. To the extent that investors had longer time horizons—for example, if saving for graduate-level study—more aggressive allocations might be appropriate for a longer period.

3 Although this statement describes Vanguard's current recommendation for 529-plan glide paths, the 529 methodology is reevaluated regularly to assess whether trends in capital markets have emerged that merit changes in the glide paths' long-term strategic allocations. Vanguard does not make short-term, tactical over- or underweights in its 529 glide paths. For comparison, according to Morningstar's 529 College-Savings Plans Industry Survey (2014), the industry average glide path had a 10% allocation to equity for beneficiaries aged 19, as of 2013.

4 There could be many reasons for an allocation to equity during the typical draw-down period, including use of 529 accounts for funding graduate-level education, which would indicate a longer time horizon. Future Vanguard research is expected to explore differences in allocations between glide-path and non-glide-path users (the latter are those who self-direct).

Figure 2. Account-owner equity allocations by beneficiary age



Notes: Chart represents equity allocations of all account owners analyzed, segmented into quartiles by size of allocation. For example, the first quartile represents the 25% smallest equity allocations.

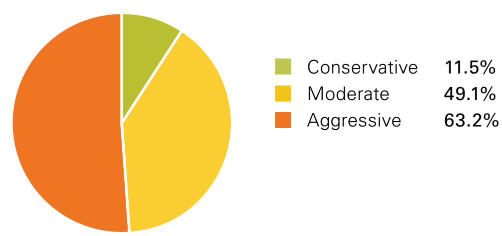
Source: Vanguard.

Glide-path usage

The majority of account owners (69.9%) invested in one or more of their plan's glide paths. **Figure 3** details glide-path usage by risk-tolerance path and age. As shown in the figure's pie chart, overall, most accounts (63.2%) were on the aggressive glide path, and the fewest (11.5%) were on the conservative path. As the age-band table reflects, risk aversion appears to vary with beneficiary age: A total of 67.3% of account owners with beneficiaries between the ages of 0 and 5 years chose the aggressive glide path, while only 46.1% of account owners with beneficiaries 19 or older elected the aggressive path. This pattern was reversed for the conservative path: A greater percentage of account owners with older beneficiaries chose the conservative path than those with younger beneficiaries. Finally, for those with beneficiaries 15 years of age or older, most invested in the moderate glide path. There could be many reasons for this risk-aversion variance with age, such as investors shifting glide paths as they got closer to the draw-down period. That could indicate lack of understanding, because glide paths for all risk tracks already become more conservative as the time horizon shortens. Or it could simply be a response to a change in account-owner risk tolerance.

Figure 3. Glide-path usage by beneficiary risk tolerance and age band

Overall glide-path usage



Age band (years)	Conservative	Moderate	Aggressive
0–5	9.7%	41.7%	67.3%
6–10	13.1	45.7	70.6
11–15	9.7	51.7	62.1
16–18	11.7	58.1	52.5
19–21	17.0	59.0	46.1

Notes: Breakdown by risk track is percentage of accounts invested in each. For plans whose tracks differed from Vanguard's recommended tracks, accounts were mapped to the track that most closely matched Vanguard's by asset allocation.

Source: Vanguard.

Another notable result is that of the 69.9% of accounts invested in the plan's glide path(s), 81.6% were using only one glide-path track (thus, 18.4% used more than one glide path). On the other hand, 83.8% of accounts enrolled in a glide path had 100% of their assets in the glide paths. The mixed usage could be problematic because glide paths are designed with an assumption that all 529 assets are invested in a glide path. However, it could also be the case that these investors were intentionally constructing a portfolio of both glide path(s) and single funds with reasonable diversification and appropriate derisking strategies.

Conclusions

Our initial analysis of nearly 1.3 million account holder investment allocations in five 529 plans revealed the following:

- Median asset allocations to equity were closest to Vanguard's aggressive glide path and were therefore appropriate for investors with a high risk tolerance.
- Twenty-five percent of account owners with beneficiaries aged 19 or older had much larger equity allocations than are contained in Vanguard's recommended glide path or the industry's average glide path.
- Of non-glide-path users with beneficiaries aged 19–21, 70.9% had an equity position.
- The majority of account owners invested in their plan's glide-path options.
- Of those investing in a glide path, 18.4% used more than one glide path, and 83.8% had 100% of their assets in the glide path(s).

As stated earlier, future Vanguard analysis is expected to compare in more detail investor behavior for those using a plan glide path versus those who self-direct.

References

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For more information about any 529 college savings plan, contact the plan provider to obtain a Program Description, which includes investment objectives, risks, charges, expenses, and other information; read and consider it carefully before investing. If you are not a taxpayer of the state offering the plan, consider before investing whether your or the designated beneficiary's home state offers any state tax or other benefits that are only available for investments in such state's qualified tuition program. Vanguard Marketing Corporation serves as distributor and underwriter for some 529 plans.

Notes on risk: All investing is subject to risk, including the possible loss of the money you invest. Past performance is no guarantee of future results. Diversification does not ensure a profit or protect against a loss. There is no guarantee that any particular asset allocation or mix of funds will meet your investment objectives or provide you with a given level of income.

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