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Saving and investing in 529 plans

- 529 savings plans offer investors a tax-advantaged way to save for education. This paper examines saving and investing behavior in 1.9 million 529 plan accounts holding $56 billion in assets as of December 31, 2022.
- One key theme in 529 plan investing is the use of automated plan features as a behavioral commitment device.[1] For savings decisions, 6 in 10 contributing accounts use an automatic contribution method in whole or in part, with 4 in 10 relying solely on automatic methods. For investment decisions, nearly 7 in 10 accounts use some form of an age-based investment track, also known as a glide path, and more than half of accounts rely on them exclusively.
- Account owners who make automatic contributions exhibit the most consistent saving behavior, but those who contribute ad hoc make the largest total deposits. For investment decisions, accounts using glide paths have significantly less equity market risk in their portfolios than self-directed accounts, particularly as beneficiaries approach college age.
- Ninety-eight percent of withdrawals in 2022 were for IRS-allowed purposes. Withdrawals for beneficiaries under age 17 increased from 1.3% of accounts in 2017 to 2.8% in 2018 and remained consistent through 2022. This increase may reflect withdrawals taken to pay for K–12 tuition under new federal regulations, but it still represents a small percentage of accounts.
- Minimal exchange activity is seen in 529 plan accounts. Most exchanges that do occur are initiated by self-directed investors, and the majority of the inflows are into cash products, which is consistent with the needs of self-directed investors to rebalance their portfolios over time.

1 A behavioral commitment device is a mechanism to ensure future action and avoid procrastination.

The ABCs of 529s

529 plan accounts, also known as qualified tuition plans, are an increasingly popular way to save and invest for education. Plans are administered at the state level, with almost every state managing at least one plan. Each account has an owner who retains control of the assets as well as a designated beneficiary for whose education the assets are intended. The plans are authorized by and take their name from Section 529 of the Internal Revenue Code.

An account's owner and beneficiary need not be related. An owner has the option to change the beneficiary to another member of the same family, or even themselves. So, while a 529 plan account is typically used by parents saving for a child's education, 529 plans also can be owned by anyone over the age of 18, such as grandparents saving for grandchildren or adults saving for their own education.

Saving in a 529 plan offers potentially significant tax advantages. At the federal level, investors receive no tax deduction on contributions, but their savings grow tax-deferred, and there is no federal tax on withdrawals provided the funds are used for qualified purposes,[2] such as education expenses or Roth IRA rollovers.[3] Many states also offer tax benefits for 529 plan savings, typically as a tax deduction or credit.[4] Recent legislation permits 529 plan accounts to be used for primary and secondary education, student loans, and Roth IRA rollovers, within specified limits.[5]

At the end of 2022, the total assets held in 529 plans in the United States was about $411 billion across 16 million accounts (College Savings Plan Network, 2023). This compares with $1.6 trillion in outstanding student loan debt in the fourth quarter of 2022 (Federal Reserve Bank of New York, 2023). About one-third of Americans use an education savings fund such as a 529 plan (Sallie Mae and Ipsos, 2022).

2 For a full list of qualified purposes, see IRS Publication 970 and the SECURE 2.0 Act.

3 The earnings portion of nonqualified withdrawals may be subject to federal income tax and a 10% federal penalty tax, as well as state and local income taxes. The availability of tax or other benefits may be contingent on meeting other requirements. Investors should consult with a tax professional regarding their situation.

4 Investors should consider before investing whether their or the designated beneficiary's home state offers any tax or other benefits that are available only for investments in the state's qualified tuition program. Such other state benefits may include financial aid, scholarship funds, and protection from creditors.

5 Federal limitations specified in IRS Publication 970 and the SECURE 2.0 Act; state limitations vary.

Account characteristics

For this study, we examine assets held in 529 plans in 10 states totaling $56 billion across 1.9 million accounts.[6] Account owners may have additional assets they intend to use for education, but our analysis is isolated to those in the 529 plan sample accounts.[7] All analysis is at the account level and valid as of December 31, 2022, unless otherwise noted.

At the median, the typical account owner in our sample is 48 years old and the typical beneficiary is 12 (**Figure 1**). The median account has been open for six years and has a balance of about $11,600.

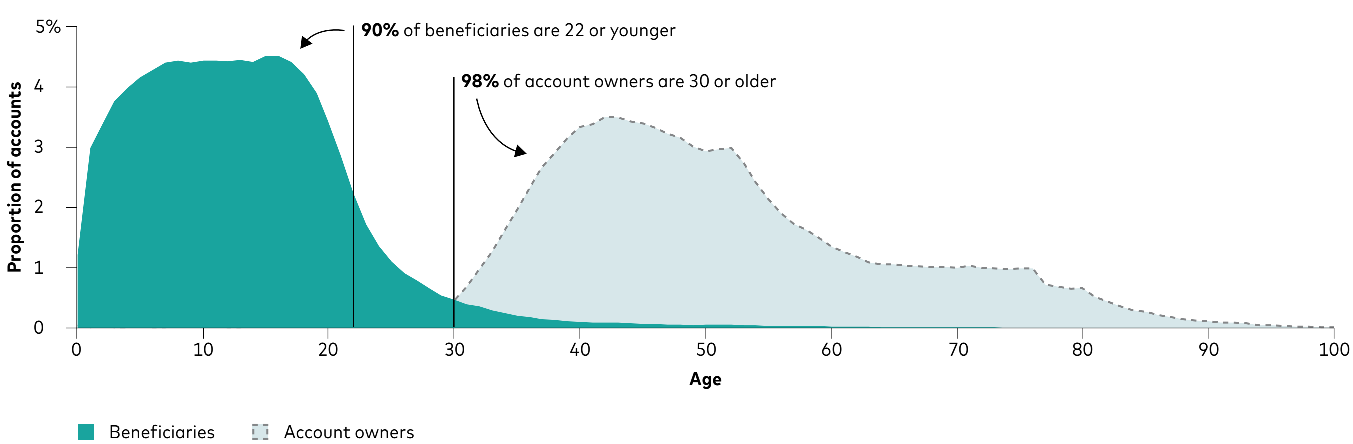
More than 90% of beneficiaries are 22 or younger (**Figure 2**). Owners, on the other hand, tend to be older—98% are at least 30. Most owners are between 30 and 55, but there is a notable cohort in their seventies. These age blocs are consistent with parents being the typical 529 plan account owners, with a sizable number of grandparents saving for their grandchildren as well.

FIGURE 1
Overview of sample

	Category	Amount
Summary statistics	Number of state plans	10
	Number of beneficiary accounts	1.9 million
	Total assets	$56 billion
Median values	Account owner age	48
	Beneficiary age	12
	Length of account ownership (years)	6
	Account balance	$11,600
Average values	Account owner age	51
	Beneficiary age	13
	Length of account ownership (years)	7
	Account balance	$30,000

Note: Account balances are rounded.
Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

FIGURE 2
Distribution of account owner and beneficiary ages



Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

6 State plans analyzed include the Vanguard 529 College Savings Plan (administered by Nevada) and nine other plans for which Ascensus is the service manager and Vanguard is an investment manager.

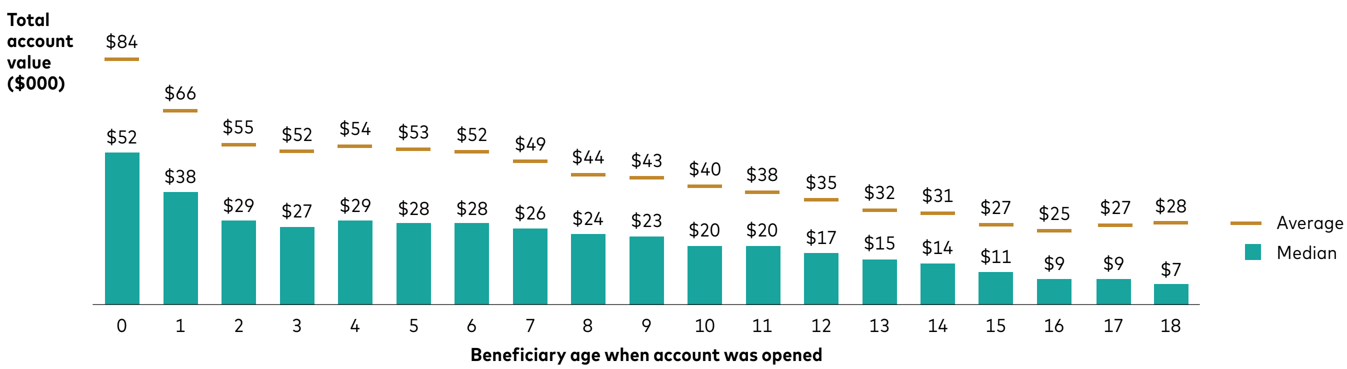
7 Importantly, this means we cannot observe household behavior, such as parents saving for multiple children in the same household.

Accounts are most often opened when the beneficiary is young, with 20% being opened the year the beneficiary was born and more than 50% of accounts being opened by the time the beneficiary turns 3. Based on our research, accounts that were opened when the beneficiary was younger had significantly higher average and median balances when the beneficiary entered college compared with accounts opened while the beneficiary was in middle school or high school (**Figure 3**).[8]

For example, accounts opened before the beneficiary turns 1 have a median account value of almost $52,000, more than 2.5 times higher than accounts opened when the beneficiary is 10. This shows that starting early can increase the chance of successfully meeting college savings goals. According to a survey done in 2018 among parents with children ages 13 to 17 who have set a college savings goal, the average target is just over $55,000 (Sallie Mae and Ipsos, 2018).

FIGURE 3

Account value when beneficiary enters college



Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

8 Beneficiaries ages 17 and 18 are used as a proxy for beneficiaries entering college.

Millennial account owners (those born between 1981 and 1996) tend to have the youngest beneficiaries, with a median age of 6, and the smallest balances, at $6,500, suggestive of young parents beginning to save for their children (**Figure 4**). But millennials also have the highest contribution rates, with 76% of account owners contributing in 2022, investing a median of $1,860 during the year. Generation X account owners (born 1965–1980), on the other hand, have a median beneficiary age of 15 and a median account balance of $17,700, more than 2.5 times that of millennials. Generation X owners tend to make the largest contributions, with a median of $2,600 in 2022, consistent with patterns of higher income as account owners age.

Baby boomer (born 1946–1964) and silent generation (born 1928–1945) account owners are more likely to be grandparents in relation to the beneficiary and have lower contribution rates—in 2022, they were 50% and 42% respectively.

FIGURE 4

Account and contribution characteristics by owner generation

		Millennials	Generation X	Baby boomers	Silent generation
Proportion of accounts		26%	47%	21%	6%
Median values	**Beneficiary age**	6	15	14	16
	Length of account ownership (years)	3	8	7	9
	Account balance	$6,500	$17,700	$9,700	$17,300
	Proportion contributing	76%	60%	50%	42%
	Annual contribution	$1,900	$2,600	$1,200	$1,800

Notes: Annual contribution statistics are for contributing accounts only. Account balances are rounded.

Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

For accounts with beneficiaries under 17, we see increasing balances and lengths of account ownership (**Figure 5**). The typical beneficiary up to age 4 has just under $5,000 in a fairly new account, and 84% of these accounts had a contribution in 2022. For beneficiaries between 13 and 16, the median balance is nearly $20,000 and the account has been open for 9 years, but only 60% of these accounts received contributions in 2022. For accounts with beneficiaries 17 or older, the median balance for accounts was about 14,300, with 30% of these accounts having a balance of $50,000 or more.

It is notable that contribution rates decline with beneficiary age. It could be that, as a beneficiary ages, parents decide that they have saved enough for college or that the advantages of tax-deferred earnings are less attractive given the time remaining. It could also be that account owners face competing demands for their income and savings. The median balance starts to decline as beneficiaries reach college age, from about $19,500 for beneficiaries ages 13–16 to $14,300 for beneficiaries 17 and over, consistent with the account being in the withdrawal phase.

FIGURE 5

Account and contribution characteristics by beneficiary age

		0–4	5–8	9–12	13–16	17+
Proportion of accounts		16%	18%	18%	18%	31%
Median values	**Account owner age**	38	42	45	49	55
	Length of account ownership (years)	1	4	7	9	9
	Account balance	$4,800	$9,900	$14,200	$19,500	$14,300
	Proportion contributing	84%	73%	67%	60%	37%
	Annual contribution	$2,000	$1,900	$2,000	$2,300	$2,500
Proportion of contributor types	**Automatic**	24%	31%	33%	31%	19%
	Manual	38%	27%	23%	20%	14%
	Mixed	22%	17%	11%	9%	14%
	Noncontributor	16%	27%	33%	40%	53%
Median contribution	**Automatic**	$1,200	$1,200	$1,400	$1,500	$1,700
	Manual	$3,000	$2,200	$2,500	$3,000	$3,500
	Mixed	$2,600	$2,700	$3,300	$3,800	$4,400

Notes: Annual contribution statistics are for contributing accounts only. Noncontributors are account owners who have contributed to their 529 plans in past years but not during the year under review. Percentages may not total 100% due to rounding. Account balances are rounded.

Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

Savings behavior in 529 plans

The plans analyzed in our sample offer account owners several ways to contribute toward their goals. To understand savings styles, we define four categories of accounts. Automatic contributor accounts rely exclusively on one or both of two available automatic investment options as commitment devices to encourage saving: recurring contributions, in which scheduled contributions are taken directly from an owner's bank account, and payroll deductions. Manual contributor accounts rely exclusively on ad hoc contributions and gift contributions.

Mixed contributors combine automatic and manual approaches, boosting their savings with ad hoc contributions in addition to recurring contributions. Finally, there are noncontributors, who have contributed to 529 plans in the past but not during the year under review.[9]

Automatic contributor accounts make up 27% of our sample and 44% of contributing accounts (**Figure 6**). Their owners tend to be young and make monthly contributions. The typical automatic contributor saves monthly, and the most common amount for an automatic contribution is $100.

FIGURE 6

Account and contribution characteristics by contributor type

		Automatic	Manual	Mixed	Noncontributors
Proportion of accounts		27%	23%	11%	40%
Proportion of contributing accounts		44%	38%	18%	—
Total contributions		$1.4 billion	$2.6 billion	$1.2 billion	—
Median values	**Account owner age**	46	48	42	53
	Beneficiary age	11	9	8	16
	Length of account ownership (years)	6	4	4	8
	Account balance	$12,000	$11,900	$12,600	$10,800
	Number of annual contributions	12	1	13	—
	Annual contribution	$1,300	$3,000	$3,200	—
Source of contributions, by assets	**Ad hoc**	—	85%	12%	—
	Gift	—	15%	7%	—
	Payroll	10%	—	7%	—
	Recurring	90%	—	73%	—

Notes: Noncontributors are account owners who have contributed to their 529 plans in past years but not during the year under review. Percentages may not total 100% due to rounding. Account balances are rounded.

Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

9 Categorization is based on transactions occurring over the course of 2022. It is likely that a given investor would demonstrate multiple contribution styles over the course of their savings horizon.

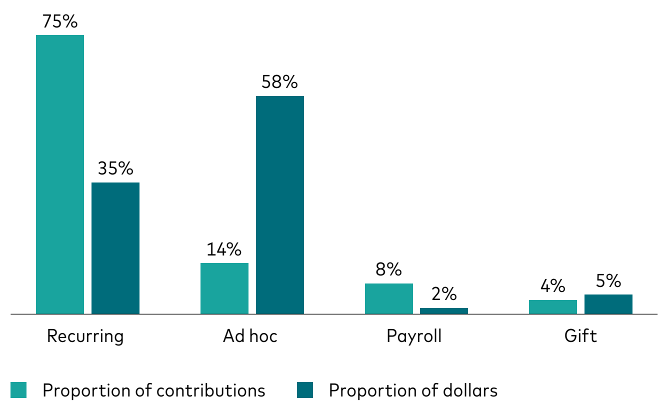
Manual contributor accounts, the next-largest group at 23% of the sample and 38% of contributing accounts, have slightly older owners and tend to make a single, large contribution per year, the median amount of which is $3,000. Noncontributor accounts tend to have the oldest owners and beneficiaries, consistent with many of these accounts being in the spending phase.

Mixed contributors constitute 11% of the sample accounts and 18% of contributing accounts. These have the youngest owners and beneficiaries and highest median balance (about $12,600) and annual contribution ($3,200) of any group. This tells us that while an automatic investment plan is a great way to stay disciplined in saving for college, supplementing those automatic investments with manual ad hoc contributions can increase a participant's chance of meeting their savings goal. Manual contributions account for 45% of all contributions to mixed contributor accounts. These supplemental investments are about twice as likely to be made in December and 70% more likely to be made in January than in other month, presumably because of holiday gifting or tax planning.

Overall, recurring contributions and payroll deductions combine to make up 83% of total contributions by transaction volume (**Figure 7**). These individual transactions tend to be smaller, however, accounting for only 37% of total contributed dollars. More than half (58%) of contributed dollars come from ad hoc contributions even though they account for just 14% of transactions.

FIGURE 7

Contribution methods used



Note: Percentages may not total 100% due to rounding.

Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

Portfolio choice in 529 plans

Account owners choose from a list of core investment options that offer exposure to stocks, bonds, and cash equivalents. Each investment list is curated by the state in partnership with the plan's investment manager and therefore may vary. Owners also may elect to use a glide-path option, which automatically reallocates assets over time; plans in this study offer either target enrollment portfolios or age-based tracks.

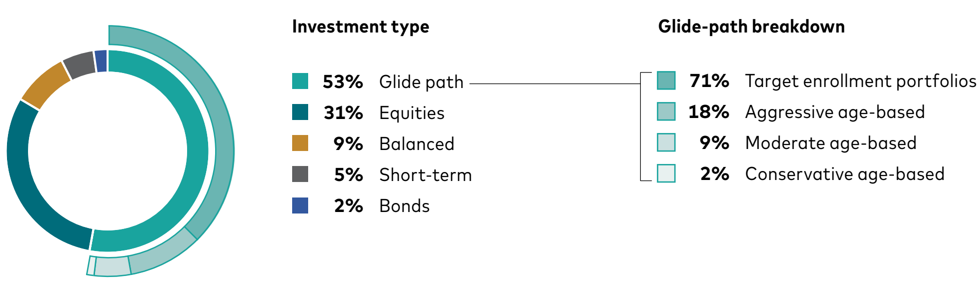
Target enrollment portfolios are broadly diversified options that consist of stocks, bonds, and stable value investments that allow account owners to invest based on the year they expect a beneficiary to enroll in school. These portfolios are professionally administered and automatically adjust to become more conservative as a beneficiary gets closer to enrollment. Age-based tracks invest in the same core funds, but the allocation to each fund automatically adjusts based on beneficiary age instead of a target enrollment date.

Age-based tracks typically come in three varieties: aggressive, moderate, and conservative. All three reduce portfolio risk with age, but an aggressive track will hold more equities than a conservative track for beneficiaries of the same age. Even when an investor selects an aggressive track in one of the 529 plans included in this analysis, the equity portion is automatically decreased to 10%–20% of assets as the beneficiary nears college age. This is designed to help mitigate the risk of significant loss due to market volatility at the time the funds will be needed.

Among total 529 plan assets, 53% are in glide-path options (**Figure 8**), with 71% of glide-path assets invested in target enrollment portfolios. Of the assets invested in age-based portfolios, 63% are invested in an aggressive track and 31% in a moderate track, with only 6% taking a conservative track. Outside of glide paths, the most popular option is a direct investment in stock funds, which represents 31% of assets. While glide paths make up 53% of invested assets, they only make up 44% of the total investment choices, meaning investments in glide paths tend to have a higher balance than static investment options.

FIGURE 8

Investment type preference



Note: Chart shows investment types as a percentage of assets.

Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

To better understand investors' decision-making processes, we define four investment style categories: pure glide-path investors, who have 100% of assets invested in glide-path portfolios; self-directed investors, who choose their own asset allocations and have 0% of their assets in glide-path portfolios; mixed investors, who use a mix of glide-path portfolios and other investment options; and cash investors, who have 100% of assets in short-term investments.

Nearly 6 out of 10 accounts belong to pure glide-path investors, while 31% are self-directed and mixed investors constitute only 9% (**Figure 9**). Pure glide-path investors tend to have the youngest beneficiaries and smallest balances. The popularity of glide-path options indicates that many account owners find value in a portfolio option that automatically rebalances as their beneficiary approaches college age.

Pure cash investors represent the lowest proportion of accounts and have a median beneficiary age of 19, indicating that those who are invested solely in short-term products have beneficiaries in college.

Pure glide-path investors hold the least risky portfolios overall (cash investors excepted), with a median equity allocation of 53%. Self-directed investors, on the other hand, have higher account balances than pure glide-path investors and have the riskiest portfolios, with a median equity allocation of 100% and an average equity allocation of 80%. The difference between the median and average is a result of more than half of self-directed investors being 100% invested in equities.

FIGURE 9

Account characteristics by investment style

		Pure glide path	Self-directed	Mixed	Cash
Proportion of accounts		57%	31%	9%	3%
Median values	**Account owner age**	47	51	48	54
	Beneficiary age	11	14	13	19
	Length of account ownership (years)	5	7	8	9
	Account balance	$9,900	$15,300	$15,300	$5,500
	Equity allocation	53%	100%	63%	0%
	Average equity allocation	52%	80%	59%	0%

Notes: Account balances are rounded.

Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

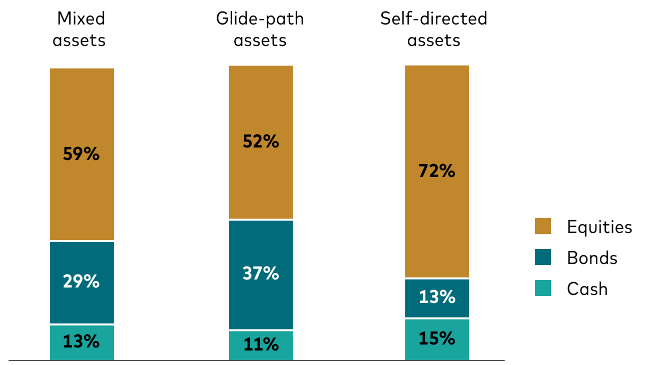
Risk implications of portfolio choice

Pure glide-path investors tend to have more conservative portfolios on average (**Figure 10**). However, of those in age-based glide paths, 94% of investors chose either an aggressive or moderate track. Self-directed investors represent the most aggressive investors and allocate a majority of their portfolio to stock funds. Mixed investors' asset allocations more closely align to that of glide-path investors; on average, they hold 49% of their assets in glide-path portfolios. Mixed investors tend to prefer aggressive and moderate allocations in the age-based glide paths (similar to pure glide-path investors) and stock funds in the self-directed component.

Self-directed investors' preference for stock funds over other core fund types leads them to take more portfolio risk than pure glide-path investors. This finding holds true across beneficiary ages, with the difference most notable as beneficiaries approach college age (**Figure 11**).

FIGURE 10

Investment allocations

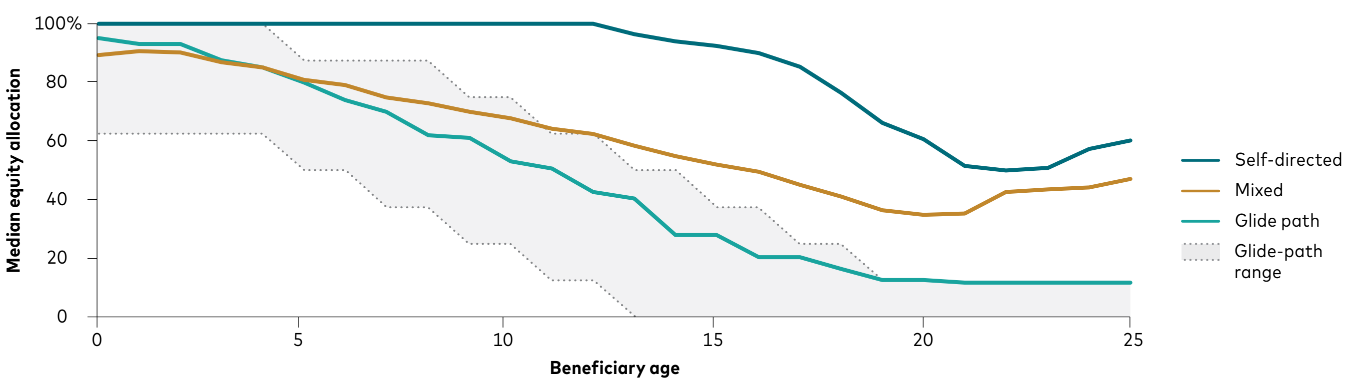


Notes: In this chart, cash investors were combined with self-directed investors as choosing all cash is a self-directed choice. Percentages may not total 100% due to rounding.

Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

FIGURE 11

Portfolio risk by investment style



Note: Chart shows the median equity allocation for each investment style. Glide-path range includes conservative, moderate, and aggressive glide-path plans. In this chart, cash investors were combined with self-directed investors as choosing all cash is a self-directed choice.

Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

The typical self-directed investor holds a 100% equity portfolio until the beneficiary turns 14, whereas pure glide-path and mixed investors start with a slightly lower equity allocation and gradually reduce their risk over time. By the time beneficiaries reach college age, pure glide-path investors hold relatively more conservative portfolios, while self-directed investors continue to hold equity allocations of more than 70%.

These high equity levels leave self-directed investors more vulnerable to market volatility, which could result in a steeper decline in portfolio balance at the time they plan to use the funds compared to glide-path investors. This aligns with what we see in retirement plans as well, where self-directed investors are more likely to hold "extreme portfolios"—either 0% equities or 100% equities—compared with other investors (Clark and Young, 2022).

Trading behavior

IRS regulations allow 529 plan account owners to change their investment allocation only twice a year. Automatic age-based exchanges in a glide path do not count against this limit, nor do trades that occur when a beneficiary is changed. Most investors take a long-term perspective and do not make trades.

We analyzed only accounts making discretionary trades, excluding age-based exchanges and those related to a fund closure over which the account owner has no control (**Figure 12**). We found that only 4.2% of accounts made such a transaction in 2022, and traders typically make only one exchange. Trading accounts tend to be demographically similar to nontrading ones but have a median account balance more than twice as large. Self-directed investors are more than three times as likely to trade compared to pure glide-path investors, which makes sense as self-directed investors need to rebalance manually while glide-path accounts are rebalanced automatically.

This also aligns with what we found in retirement accounts based on *How America Saves 2022*, an annual analysis of Vanguard 401(k) plans, which showed that in 2021, 3% of accounts invested in a single target-date fund traded, 4% of accounts invested in a single balanced fund traded, and 14% of all other investors traded (Clark and Young, 2022).

FIGURE 12
Fund exchange activity

		Trading accounts	Nontrading accounts
Proportion of accounts		4.2%	95.8%
Pure glide-path investors		17%	59%
Self-directed investors		55%	30%
Mixed investors		14%	9%
Cash investors		14%	3%
Total		100%	100%
Median values	**Account owner age**	50	48
	Beneficiary age	15	12
	Length of account ownership (years)	8	6
	Account balance	$29,200	$11,100

Notes: Trading accounts includes only accounts making discretionary trades and excludes age-based exchanges or those related to a fund closure over which the account owner has no control. Account balances are rounded.
Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

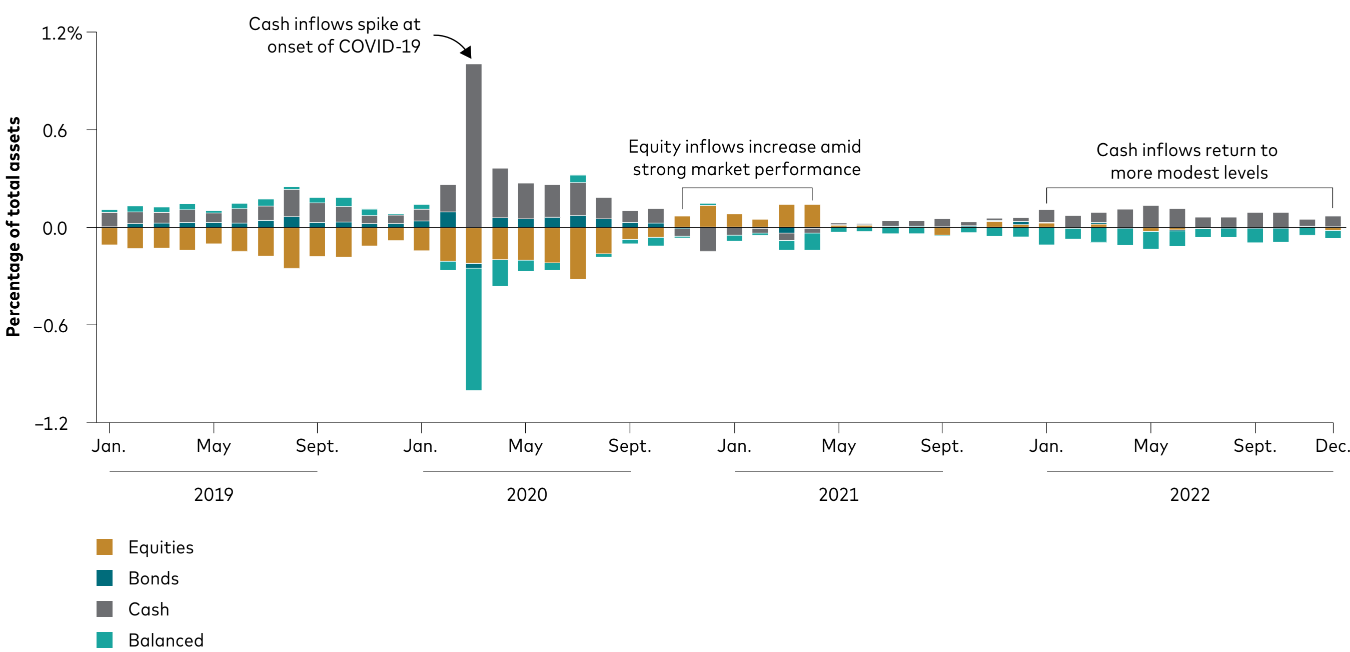
529 plan portfolios show minimal exchange activity over time. When exchanges do occur, the majority of inflows are directed toward cash portfolios while most outflows are from stock and balanced portfolios (**Figure 13**). This aligns with what we would expect to see as the majority of trades are made by self-directed investors who should be rebalancing their accounts to be more conservative over time. The exchange data did show a few anomalies, which mostly coincided with times of market stress.

The most notable anomaly was the relative spike in inflows to cash in March 2020, at the start of the COVID-19 pandemic, although it is important to note that this spike represented only 1% of total assets and that only 1.5% of clients traded during this period. This aligns with what was seen more broadly among Vanguard clients, who showed increased (but still minimal) trading behavior with slightly positive net inflows into cash (Young, 2020). In times of market stress, Vanguard research shows that investors are generally best served by staying the course—of those Vanguard clients who in March 2020 moved to cash, 80% would have had higher actual realized returns by the end of the following May had they maintained their February 2020 asset allocation (De Luca and Young, 2020).[10]

In addition, November 2020 through April 2021 saw abnormal inflows into stock funds as opposed to consistent outflows in 2019. This was during the period of increasing equity returns.

Lastly, it is notable that 2022 did not see a spike in cash similar to what was seen in the broader market. While cash portfolios did see inflows in 2022, no more than 0.8% of 529 plan accounts made an exchange in any given month, and the levels of inflows were more in line with 2019 levels and therefore not likely a result of the declining market conditions.

FIGURE 13
Exchange cashflows by asset group



Note: Chart shows monthly net cashflows for each asset type.
Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

10 This research was conducted on Vanguard account owners and focused on individual accounts, IRAs, and direct contribution plans. Data that would have been needed to conduct a similar analysis for 529 plans were not available for this research.

Accessing assets

In 2022, 12% of accounts made a withdrawal, with a total of $3.3 billion withdrawn, or about 6% of all 529 plan sample assets (**Figure 14**). Accounts that make withdrawals tend to have older account owners and beneficiaries, and the accounts tend to have been open for almost twice as long as nonwithdrawing accounts. Accounts with at least one withdrawal had a median beneficiary age of 20, consistent with expectations that the savings would be used for college. Only 2% of withdrawals were considered nonqualified, meaning the vast majority of account owners are using the 529 plan accounts for their intended purpose.

529 plan usage for K–12

Federal tax legislation passed in 2017 expanded the use of 529 plan accounts to include primary and secondary education (K–12) tuition. Since that change, a small but increasing number of accounts have made withdrawals for beneficiaries under 17—an indicator that such withdrawals may be for K–12 expenses (**Figure 15**).

FIGURE 14

Account characteristics by withdrawal choice

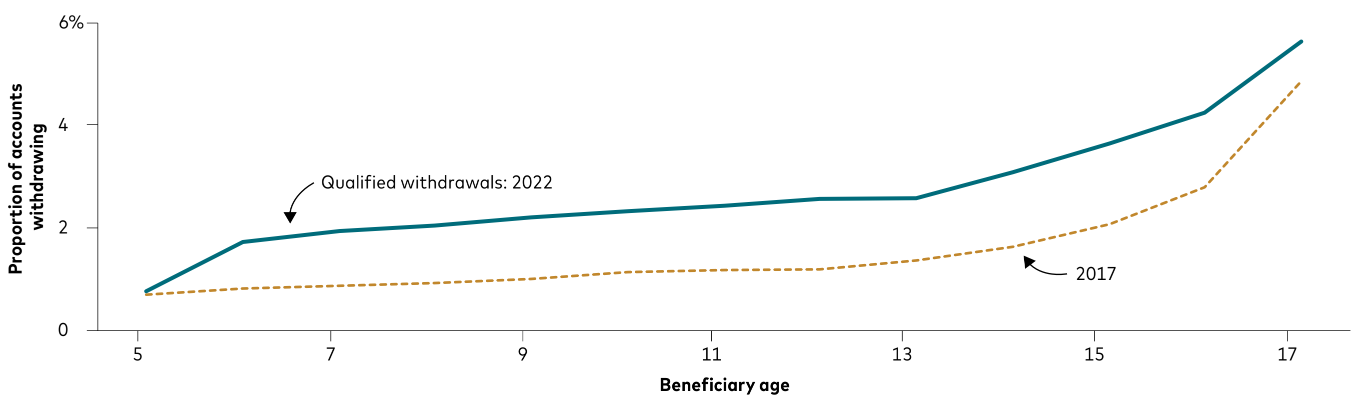
		Withdrawing accounts	Non-withdrawing accounts
Proportion of accounts		12%	88%
Total withdrawals		$3.3 billion	–
Proportion of qualified withdrawals		98%	–
Median values	**Account owner age**	54	47
	Beneficiary age	20	11
	Length of account ownership (years)	9	5
	Account balance	$18,300	$11,000
	Number of withdrawals	2	–
	Withdrawal amount	$10,000	–

Notes: Account balances are rounded.

Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

FIGURE 15.

Effect of tax-law change on K–12 withdrawals



Notes: Withdrawal totals for 2017 consist of both qualified and nonqualified withdrawals; the tax law allowing for qualified 529 plan withdrawals for K–12 education took effect beginning in 2018. While there is significant overlap in 529 plans offered in different states, several plans analyzed are not identical.

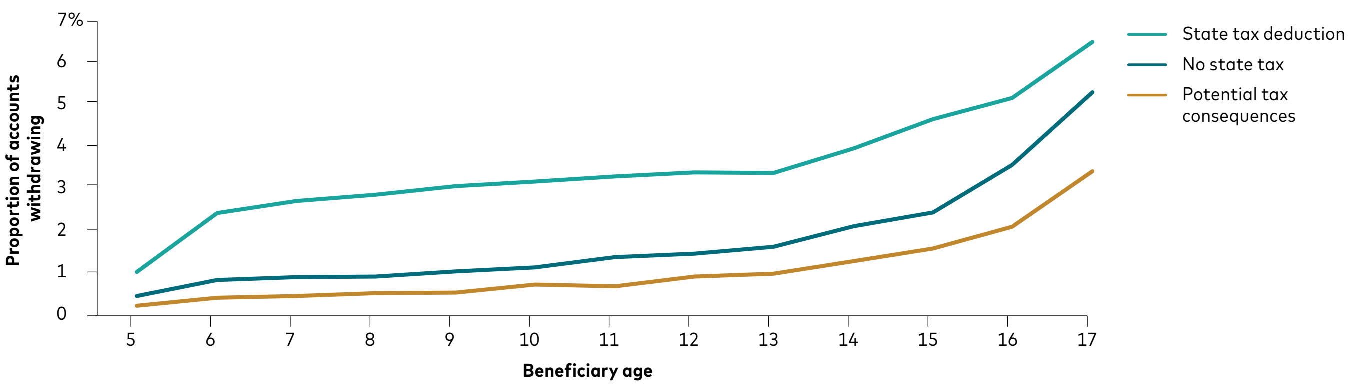
Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

In 2017, 1.3% of accounts with beneficiaries from age 5 to 17 made a withdrawal; that figure rose to 2.8% in 2018, after the new tax law took effect, and remained at 2.8% in 2022 (2.5% for qualified withdrawals). Although 2.8% is still a small portion of accounts, it does represent a doubling from the 2017 level, and as a result there are more withdrawals from accounts with younger beneficiaries than in the past.

While federal tax law has expanded to include K–12 tuition, not all states have updated their legislation to allow for such withdrawals free of taxes and penalties. Among account owners residing in states that have adopted the K–12 tax legislation and offer tax deductions or credits for contribution, 3.5% with beneficiaries from age 5 to 17 made withdrawals in 2022 (**Figure 16**). In contrast, in states that do not allow for tax-free K–12 withdrawals or impose a penalty on them, and in states that do not offer any tax deductions for 529 plan contributions, only 1% and 2%, respectively, of accounts with beneficiaries from age 5 to 17 made withdrawals in 2022. This aligns with what we would expect, as account owners in states that offer a tax deduction may be moving their school payments through a 529 plan to receive the tax benefit.

FIGURE 16

Effect of tax-law change on K–12 withdrawals based on home state tax treatment



Sources: Vanguard calculations, using data from Ascensus, as of December 31, 2022.

Implications

529 plans are a tax-advantaged way to save for education, and investors across multiple generations are taking advantage of the plans' incentives to save for the future. One key theme in 529 plan investing is the use of automated plan features, such as automatic investment methods and glide-path portfolio allocations, as a behavioral commitment device.

Sixty percent of 529 plan account owners made contributions in 2022, using both automatic and manual contribution methods to build their balances. Interestingly, owners making ad hoc contributions, including those also using automatic investment methods, contributed significantly more than those relying on automatic methods alone. More than one-third of ad hoc contributions by dollar value and one-quarter by transaction volume are made in December and January. Knowing this, plan administrators may want to consider targeted messaging in these months advocating a "set it, but don't forget it" approach to automated saving to encourage additional contributions.

With regard to portfolio choice, nearly 7 in 10 investors use glide-path investment tracks in some form. Investors using these accounts hold substantially less equity market risk than those taking a self-directed approach. The difference is most striking as beneficiaries get older, perhaps suggesting that self-directed investors are overly confident about future market returns, or that they feel taking more market risk is needed to account for the rising costs of college. These investors may experience losses from market volatility with little time to recover. Plan sponsors may want to consider encouraging account owners of older beneficiaries to review their asset allocations to ensure their allocations align with their risk tolerance.

Overall, account owners seem to be using 529 plans for their intended purposes, with 98% of withdrawals in 2022 being made for qualified reasons and the vast majority of withdrawals being made for college-age beneficiaries. Despite the change in federal law allowing withdrawals for K–12 educational expenses, only a small number of account owners seem to use their savings for this purpose, but that proportion is higher in states that offer deductions or credits for 529 plan contributions.

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