

How America Saves

2021

SMALL BUSINESS EDITION

In-depth research on the investing behavior of real retirement plan participants—so you can explore what's possible.

Executive summary

This publication was created to help small-business defined contribution (DC) plan sponsors understand how their plans compare with other small-business plans, offering a detailed look into participant behavior over the past year. It serves as a supplement to Vanguard's annual *How America Saves*, which is celebrating its 20th edition.

Launched in 2011, Vanguard Retirement Plan Access™ (VRPA) is a comprehensive service for retirement plans with up to \$50 million in assets (previously \$20 million in assets). Through VRPA, we supported 15,423 plan sponsors with more than 700,000 participants as of year-end 2020.

For purposes of this analysis, VRPA's \$50 million service cap will function as our benchmark population, defining the limits of small business. To learn more about the benchmark criteria and other specifics, review the full 2021 report.

Key takeaways

While the COVID-19 pandemic deeply impacted the global population—on multiple fronts—and wreaked havoc on market stability, our metrics show that the general behavior of participants of small-business retirement plans went largely unchanged from the previous year. In fact, for the most part, participants stayed the course and remained diversified throughout 2020.

Autoenrollment

Automatic enrollment is an extremely valuable service, as it mitigates the impact of demographics. Those who are younger, are shorter tenured, and have lower income have a much higher participation rate when autoenrollment is available. As of December 31, 2020, 16% of VRPA plans permitting employee-elective deferrals had adopted automatic enrollment (**Figure 7**). Thirty-seven percent of participants were in plans that offer automatic enrollment. This is evidence that larger plans adopt autoenrollment more frequently than smaller plans. Forty-six percent of these plans automatically enrolled participants at a 3% contribution rate, and 4 in 10 plans automatically increased the contribution rate annually. Nearly all of these plans used a target-date or other balanced investment strategy as the default fund, with 97% choosing a target-date fund as the default.

Participation rates

Overall, the participation rate increased from 72% in 2019 to 73% in 2020 (**Figure 9**). Rates varied considerably by employee demographics, with income being one of the primary determinants of plan participation rates. Plans with automatic enrollment had higher participation rates than plans with voluntary enrollment (**Figure 10**). The participant-weighted participation rate was 60% higher in plans with automatic enrollment (**Figure 9**).

Deferral rates

Like participation rates, deferral rates also increased slightly from 7.1% in 2019 to 7.3% in 2020 (**Figure 12**). Demographics are an important variable influencing savings. In 2020, deferral rates were lowest for participants younger than 25—saving 5.8% of their income (**Figure 13**). Deferral rates for participants ages 55 to 64 were more than 50% higher, averaging 8.9%. Deferral rates also rose directly with employee tenure.

Professionally managed allocations

Professionally managed allocations have greatly contributed to improvements in portfolio construction. Participants with professionally managed allocations have their entire account balance invested in a single target-date fund, a single non-target-date balanced fund, a model portfolio, or a managed account advisory service. Sixty-three percent of participants were invested in a single target-date fund in 2020 (**Figure 29**). Among new plan entrants, 80% of participants were invested in a professionally managed allocation.

Target-date funds

At year-end 2020, nearly all VRPA participants were in plans offering target-date funds. Eight in 10 participants had all or part of their account invested in target-date funds. More than half of all contribution dollars were directed to target-date funds (**Figure 30**). Contributing to these statistics, new VRPA plans often reenroll into target-date funds, which has greatly increased use of these funds.

Safe harbor designs

Eighty percent of VRPA plans offered an employer contribution (**Figure 4**). Sixty-nine percent of VRPA plans with an employer contribution had adopted a safe harbor design as of year-end 2020 (**Figure 5**). The most common design was a safe harbor match with a value of 4%—up to the first 5%—of employee contributions (39% of safe harbor plans). Fourteen percent of VRPA plans provided a safe harbor match of more than 4%—up to the first 6%—of employee contributions. Forty-seven percent of VRPA plans adopted a safe harbor nonelective employer contribution of 3% or more.

Trading

It is interesting to note that despite the increased volatility attributed to the pandemic, only 7% of participants initiated one or more portfolio trades or exchanges during 2020 **(Figure 33)**. In 2019, the participant trading figure stood at 5%.

Plan withdrawals

Even in light of the pandemic, only 2% of participants in plans offering any type of in-service withdrawal used the feature, with 40% of the participant account balance withdrawn, on average **(Figure 35)**. This accounted for only 1% of total VRPA assets across all plans. Among VRPA DC plans in 2020, 85% allowed hardship withdrawals, and nearly all allowed plan withdrawals for those who have reached age 59½.

Plan distributions

Of the participants eligible for a plan distribution, 88% of participants preserved 97% of assets for retirement **(Figure 37)**. Only 12% of participants took cash distributions that accounted for only 3% of assets eligible for distribution.

Defined contribution (DC) retirement plans are the centerpiece of the private-sector retirement system in the United States. More than 100 million Americans are covered by DC plan accounts, with assets now in excess of \$9.6 trillion.

Sources: U.S. Department of Labor, *Private Pension Plan Bulletin Historical Tables and Graphs*, January 2021; and Investment Company Institute, *Quarterly Retirement Market Data*, Fourth Quarter 2020, March 2021.

DC plans and VRPA

Vanguard is a leader in the DC marketplace with more than \$1.8 trillion in DC plan assets under management, as of March 31, 2021. We serve 17,000 plan sponsors and more than 5.4 million participants in our full-service DC recordkeeping business alone.

Launched in 2011, Vanguard Retirement Plan Access™ (VRPA) is a comprehensive service for retirement plans with up to \$50 million in assets. Since that time, we have served 15,423 plan sponsors with more than 700,000 participants as of the close of 2020.

The U.S. Small Business Administration reports that small businesses represent 99.7% of all employer firms, and they employ half of all private-sector employees. Accordingly, to help small-business DC plan sponsors understand how their plans compare with other small-business plans, we are pleased to present *How America Saves 2021 Small Business Edition*, a supplement to our annual *How America Saves* research. As an industry leader, Vanguard recognizes the importance of having a detailed understanding of DC plans and the role they play in the U.S. retirement system. We believe this information can help you make more effective plan decisions and serve as a valuable reference tool as you continue to develop your retirement programs.

The benchmark population

The benchmark population includes all plans and participants for which VRPA provides recordkeeping (**Figure 1**). Most figures in this analysis compare data from two distinct VRPA populations: established plans and start-up plans. Start-up plans were begun within the past three years, while established plans were started more than three years ago.

On average, VRPA plans had 46 participants and plan assets of \$3.3 million in 2020. Established plans had about twice as many participants as start-up plans. As expected, start-up plans had fewer assets than established plans.

Plan design

DC plans with employee-elective deferrals can be grouped into four categories based on the type of employer contributions made to the plan: (1) plans with matching contributions; (2) plans with nonmatching contributions; (3) plans with both matching and nonmatching contributions; and (4) plans with no employer contributions at all. Nonmatching contributions are typically structured as a variable or fixed profit-sharing contribution.

In employee-contributory DC plans, employer contributions are typically a secondary source of plan funding. Both the type and size of employer contributions vary substantially across plans.

Eligibility

In 2020, 21% of VRPA plans allowed employees to make voluntary contributions immediately after joining their employer (**Figure 2**). At the other extreme, 4 in 10 plan sponsors required eligible employees to have one year of service before they could make employee-elective contributions to their plans. Start-up plans were more likely to allow employees to make voluntary contributions immediately than were established plans. Established plans were more likely to require employees to have one year of service before they could make employee-elective contributions.

Eligibility for employer matching contributions was remarkably similar to eligibility for employee voluntary contributions. However, eligibility for nonmatching employer contributions had a longer waiting period. More than half of plan sponsors required a one-year waiting period for these contributions.

Figure 1. Population

Vanguard Retirement Plan Access defined contribution plans

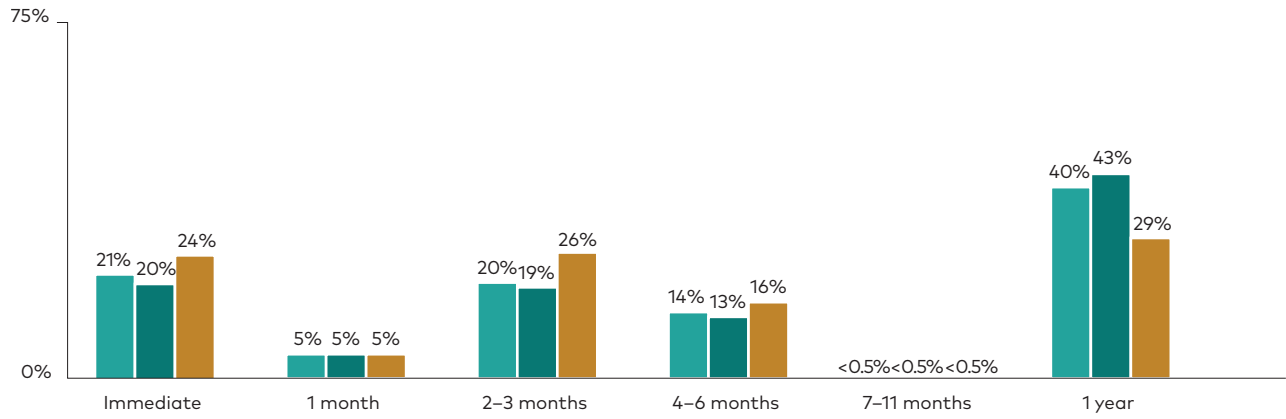
| | 2016 | 2017 | 2018 | 2019 | 2020 | | |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | All | All | All | All | All | Established | Start-up |
| Number of plans | 6,506 | 8,873 | 11,263 | 13,433 | 15,243 | 11,807 | 3,436 |
| Number of participant accounts | 273,045 | 370,414 | 489,625 | 606,129 | 701,598 | 609,620 | 91,978 |
| Average number of plan participants | 42 | 42 | 43 | 45 | 46 | 52 | 27 |
| Median number of plan participants | 19 | 19 | 19 | 20 | 19 | 23 | 11 |
| Average plan assets | \$2.3 million | \$2.6 million | \$2.4 million | \$2.9 million | \$3.3 million | \$4.0 million | \$0.8 million |
| Average participant age | 43 | 43 | 43 | 43 | 44 | 44 | 41 |
| Median participant age | 42 | 42 | 42 | 42 | 42 | 42 | 39 |
| Average participant tenure (years) | 7 | 7 | 7 | 7 | 7 | 7 | 5 |
| Median participant tenure (years) | 4 | 4 | 4 | 4 | 4 | 4 | 2 |
| Median eligible employee income | \$49,000 | \$48,000 | \$45,000 | \$45,000 | \$47,000 | \$47,000 | \$49,000 |
| Median participant income | \$64,000 | \$63,000 | \$62,000 | \$64,000 | \$66,000 | \$66,000 | \$66,000 |
| Median nonparticipant income | \$30,000 | \$30,000 | \$28,000 | \$22,000 | \$21,000 | \$20,000 | \$28,000 |

Source: Vanguard 2021.

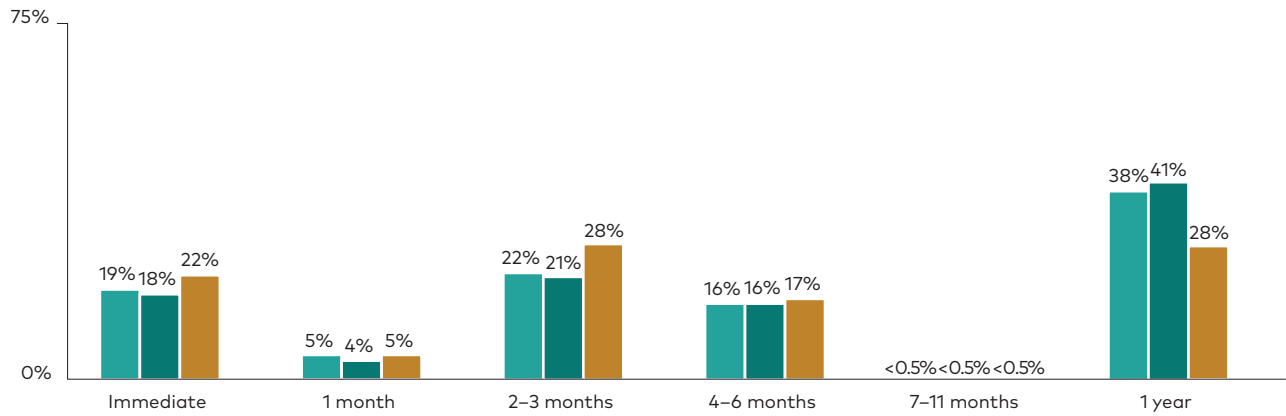
Figure 2. Eligibility, 2020

Vanguard Retirement Plan Access defined contribution plans permitting employee-elective deferrals

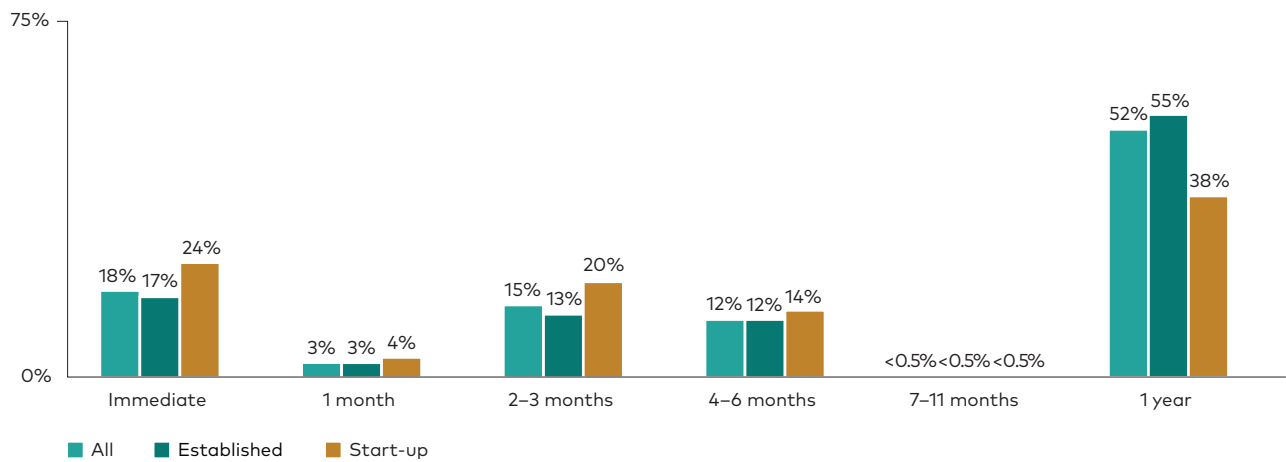
Employee-elective contributions



Employer matching contributions



Nonmatching employer contributions



Source, Vanguard 2021.

Vesting

Voluntary employee contributions are always immediately vested. Seven in 10 plan sponsors also immediately vested both employer matching contributions and nonmatching employer contributions (**Figure 3**).

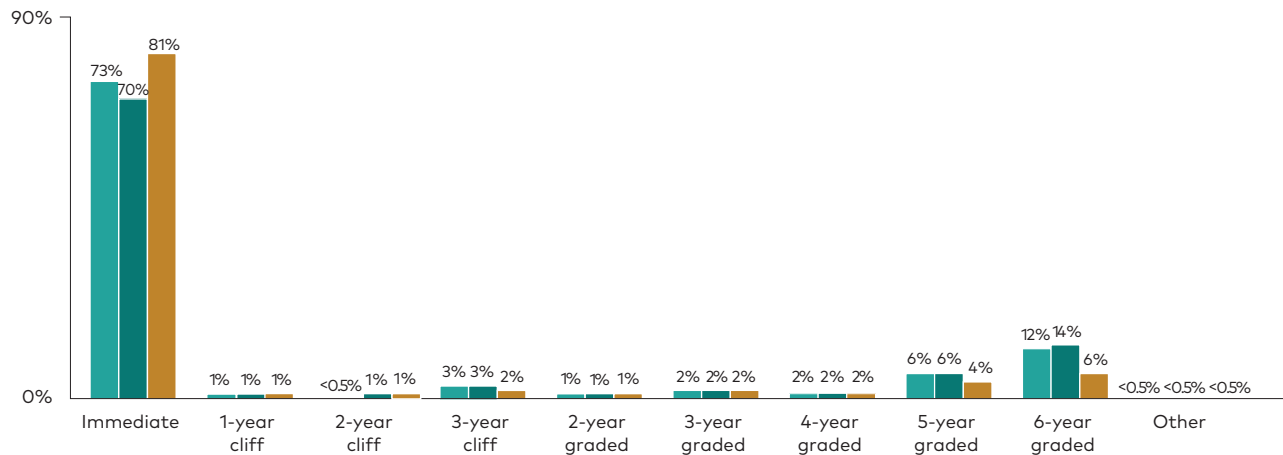
Employer contributions

Forty-five percent of VRPA plans provided only a matching contribution in 2020 (**Figure 4**). Ten percent of plans provided both a matching and a nonmatching employer contribution, while 25% of plans provided only a nonmatching employer contribution. Finally, about 1 in 5 plans made no employer contributions of any kind in 2020.

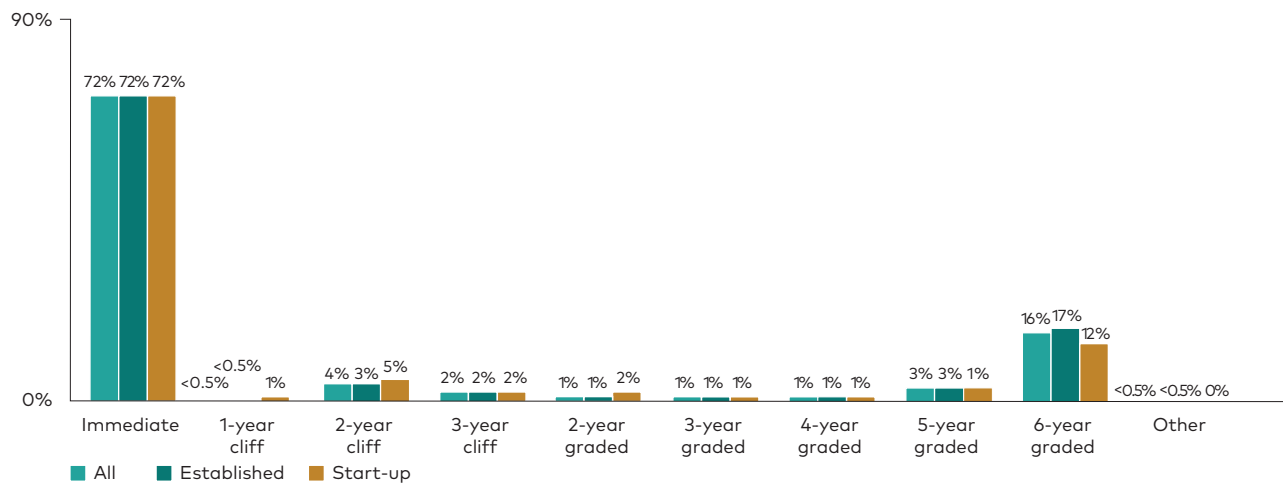
Figure 3. Vesting, 2020

Vanguard Retirement Plan Access defined contribution plans with employer contributions

Employer matching contributions



Nonmatching employer contributions



Source: Vanguard 2021.

Safe harbor designs

Sixty-nine percent of VRPA plans with an employer contribution had adopted a safe harbor design as of year-end 2020 (**Figure 5**). The most common design was a safe harbor match with a value of 4%—up to the first 5%—of employee contributions (39% of safe harbor plans). Fourteen percent of VRPA plans provided a safe harbor match of more than 4%—up to the first 6%—of employee contributions. Forty-seven percent of VRPA plans adopted a safe harbor nonelective employer contribution of 3% or more.

Total employer contributions

As noted previously, 80% of VRPA plans provided an employer match, a nonelective contribution, or both in 2020. The average employer contribution was 4.8% in 2020, and the median value was 4.0% (**Figure 6**). However, the value of employer contributions varied significantly from plan to plan. These contributions varied from less than 3% of wages for 18% of plans to 10% of wages or more for 8% of plans. The most common employer contribution had a value of 4% of wages.

Figure 4. Types of employer contributions, 2020

Vanguard Retirement Plan Access defined contribution plans

| | All | Established | Start-up |
|--|------------|-------------|------------|
| Matching contribution only | 45% | 45% | 48% |
| Nonmatching contribution only | 25 | 26 | 23 |
| Both matching and nonmatching contribution | 10 | 10 | 7 |
| Subtotal | 80% | 81% | 78% |
| No employer contribution | 20% | 19% | 22% |

Source, Vanguard 2021.

Figure 5. Safe harbor designs, 2020

Vanguard Retirement Plan Access defined contribution plans with employer contributions

| | All | Established | Start-up |
|--|-------|-------------|----------|
| Percentage of plans with employer contributions with safe harbor designs | 69% | 68% | 72% |
| Type of safe harbor contribution | | | |
| Automatic enrollment plans with a 3.5% employer match value | <0.5% | <0.5% | <0.5% |
| Employer match with a 4% value | 39 | 38 | 45 |
| Employer match with a value >4% | 14 | 14 | 14 |
| Nonelective employer contribution with a 3% value | 19 | 19 | 16 |
| Nonelective employer contribution with a value >3% | 28 | 29 | 25 |

Source: Vanguard 2021.

Automatic enrollment design

Automatic enrollment plan design reframes the savings decision. Instead of making a positive election to join the plan, employees are automatically enrolled and must act to opt out. Automatic enrollment or autopilot designs are an important plan design feature that can increase plan participation and plan deferral rates. With an autopilot design, individuals are automatically enrolled in the plan, their deferral rates are automatically increased each year, and their contributions are automatically invested in a qualified default investment alternative (QDIA).

As of December 31, 2020, 16% of VRPA plans permitting employee-elective deferrals had adopted automatic enrollment (**Figure 7**). Forty-six percent of these plans automatically enrolled participants at a 3% contribution rate. Four in 10 of these plans automatically increased the contribution rate annually. Nearly all of these plans used a target-date or other balanced investment strategy as the default fund, with 97% choosing a target-date fund as the default. The design of automatic enrollment plans is improving. In 2020, 43% of plans chose a default of 4% or higher, compared with 2016 when only 33% did.

Figure 6. Total employer contributions, 2020

Vanguard Retirement Plan Access defined contribution plans with employer contributions



Source: Vanguard 2021.

An important determinant of whether a plan sponsor offers automatic enrollment is the number of participants in the plan. Larger plans offer automatic enrollment at higher rates than smaller plans. For example, 65% of plans with more than 500 participants and 55% of plans with between 250 and 499 participants offered automatic enrollment, while only 8% of plans with fewer than 25 participants offered this feature (**Figure 8**).

Participation rates

A plan's participation rate—the percentage of eligible employees choosing to make employee-elective contributions—remains the broadest metric for gauging 401(k) plan performance. The most common measure of participation rates is derived by calculating the average of participation rates among a group of plans. We refer to this as the plan-weighted participation rate. In 2020, VRPA's plan-weighted participation rate was 73% (**Figure 9**).

A second measure of participation rates considers all employees in VRPA plans as if they were in a single plan. We refer to this as the participant-weighted participation rate. Across the universe of VRPA participants, 6 in 10 eligible employees were enrolled in their employer's voluntary savings program.

Plans with automatic enrollment had higher participation rates than plans with voluntary enrollment. The participant-weighted participation rate was 60% higher in plans with automatic enrollment.

Participation rates by employee demographics

Participation rates varied considerably by employee demographics (**Figure 10**). Income was one of the primary determinants of plan participation rates. Only 34% of eligible employees with income of less than \$30,000 contributed to their employer's DC plan in 2020, while 88% of employees with income of more than \$150,000 elected to participate. Even among the highest-paid employees, 12% of eligible workers still failed to take advantage of their employer's DC plan.

Figure 7. Automatic enrollment design

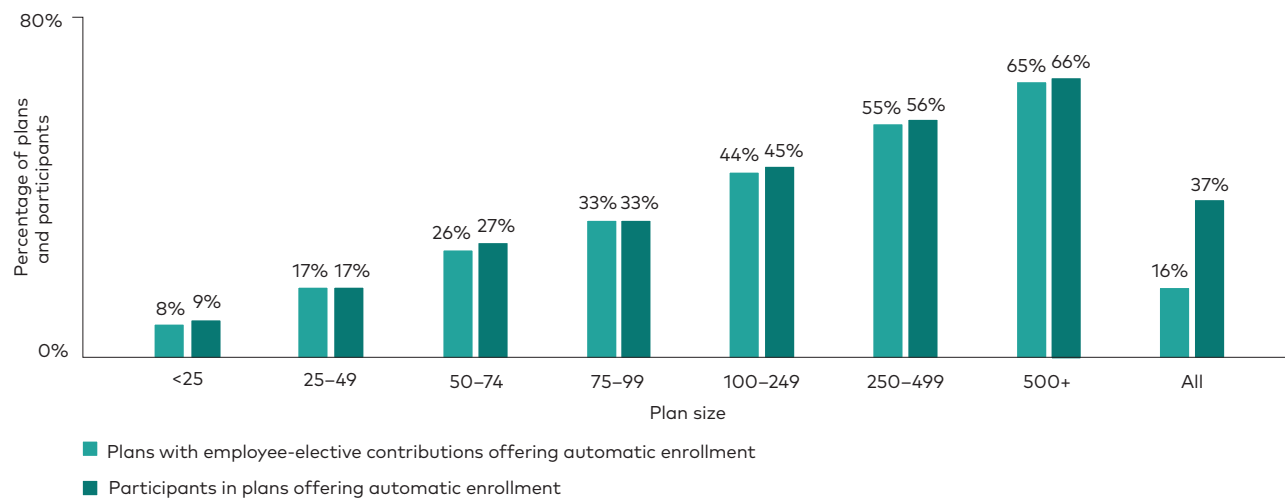
Vanguard Retirement Plan Access defined contribution plans permitting employee-elective deferrals

| | 2016 | 2017 | 2018 | 2019 | 2020 | | |
|--|------|-------|-------|-------|-------|-------------|----------|
| | All | All | All | All | All | Established | Start-up |
| Automatic enrollment adoption | | | | | | | |
| Number of plans | 977 | 1,315 | 1,685 | 2,046 | 2,427 | 1,890 | 537 |
| Percentage of plans | 15% | 15% | 15% | 16% | 16% | 16% | 16% |
| Default automatic enrollment rate | | | | | | | |
| 1 percent | 3% | 3% | 4% | 4% | 5% | 5% | 6% |
| 2 percent | 7 | 7 | 7 | 7 | 6 | 7 | 4 |
| 3 percent | 57 | 54 | 50 | 48 | 46 | 47 | 42 |
| 4 percent | 9 | 9 | 10 | 10 | 11 | 10 | 14 |
| 5 percent | 11 | 13 | 13 | 14 | 15 | 14 | 17 |
| 6 percent or more | 13 | 14 | 16 | 17 | 17 | 17 | 17 |
| Default automatic increase rate | | | | | | | |
| 1 percent | 37% | 37% | 38% | 39% | 40% | 40% | 40% |
| 2 percent | 1 | 1 | 1 | 1 | 1 | 1 | <0.5 |
| 3 percent | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0 |
| Not offered | 62 | 62 | 61 | 60 | 59 | 59 | 60 |
| Default fund | | | | | | | |
| Target-date fund | 97% | 97% | 97% | 97% | 97% | 97% | 98% |
| Other balanced fund | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| Model portfolio | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Money market or stable value fund | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |

Source: Vanguard 2021.

Figure 8. Automatic enrollment by plan size, 2020

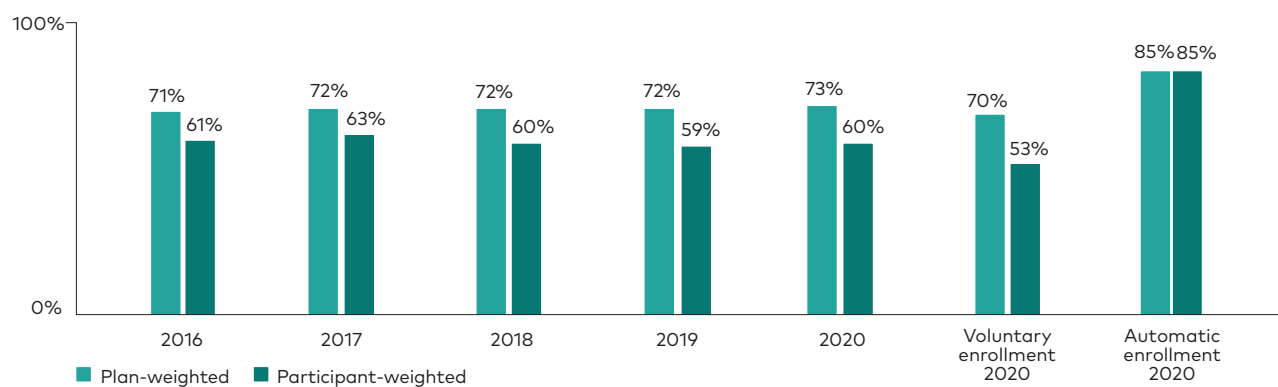
Vanguard defined contribution plans with employee-elective contributions



Source: Vanguard 2021.

Figure 9. Participation rates

Vanguard Retirement Plan Access defined contribution plans permitting employee-elective deferrals



Source: Vanguard 2021.

Figure 10. Participation rates by participant demographics

Vanguard Retirement Plan Access defined contribution plans permitting employee-elective deferrals

| | 2016 | 2017 | 2018 | 2019 | 2020 | Voluntary enrollment | Automatic enrollment |
|---------------------------|------------|------------|------------|------------|------------|----------------------|----------------------|
| | All | All | All | All | All | | |
| All | 61% | 63% | 60% | 59% | 60% | 53% | 85% |
| Income | | | | | | | |
| <\$30,000 | 39% | 41% | 36% | 34% | 34% | 26% | 72% |
| \$30,000–\$49,999 | 62 | 62 | 61 | 61 | 61 | 53 | 85 |
| \$50,000–\$74,999 | 74 | 74 | 74 | 74 | 74 | 69 | 89 |
| \$75,000–\$99,999 | 79 | 81 | 80 | 80 | 81 | 77 | 92 |
| \$100,000–\$149,999 | 82 | 84 | 84 | 84 | 84 | 81 | 93 |
| \$150,000+ | 87 | 88 | 88 | 88 | 88 | 86 | 95 |
| Age | | | | | | | |
| <25 | 38% | 39% | 35% | 33% | 34% | 23% | 79% |
| 25–34 | 58 | 60 | 58 | 57 | 58 | 50 | 84 |
| 35–44 | 63 | 65 | 62 | 62 | 63 | 57 | 86 |
| 45–54 | 67 | 67 | 64 | 64 | 65 | 59 | 87 |
| 55–64 | 70 | 70 | 66 | 66 | 66 | 61 | 88 |
| 65+ | 60 | 59 | 55 | 54 | 55 | 51 | 79 |
| Gender | | | | | | | |
| Male | 63% | 63% | 63% | 62% | 64% | 58% | 85% |
| Female | 61 | 64 | 59 | 58 | 59 | 51 | 85 |
| Job tenure (years) | | | | | | | |
| 0–1 | 47% | 48% | 44% | 43% | 44% | 31% | 79% |
| 2–3 | 62 | 63 | 62 | 61 | 61 | 53 | 88 |
| 4–6 | 69 | 69 | 68 | 68 | 70 | 65 | 91 |
| 7–9 | 72 | 73 | 73 | 73 | 74 | 71 | 91 |
| 10+ | 79 | 80 | 80 | 80 | 81 | 79 | 93 |

Source: Vanguard 2021.

Participation rates were lowest for employees younger than 25. Only about a third of employees younger than 25 made deferrals to their employer’s plan, while 6 in 10 eligible employees between ages 45 and 64 saved for retirement in their employer’s plan. Tenure had a significant influence on plan participation. In 2020, 44% of employees with less than two years on the job participated in their employer’s plan, while 8 in 10 employees with tenure of 10 years or more participated.

Impact of automatic enrollment on plan participation

Employees in plans with an automatic enrollment feature had an overall participation rate of 85%, compared with a participation rate of 53% for employees in plans with voluntary enrollment.

Plans with automatic enrollment had higher participation rates across all demographic variables. For individuals earning less than \$30,000 in plans with automatic enrollment, the participation rate was almost triple that of plans with voluntary enrollment.

Participation rates also varied by industry group (**Figure 11**). Employees in the architectural, engineering, and related services group had the highest participation rate, with more than three-quarters of workers participating in their employer’s plan. Employees in the education and health group had the lowest participation rate at 30%.

Figure 11. Participation rates by industry sector, 2020

Vanguard Retirement Plan Access defined contribution plans permitting employee-elective deferrals

| | Plan-weighted | Participant-weighted | Voluntary enrollment | Automatic enrollment |
|--|---------------|----------------------|----------------------|----------------------|
| Overall | 73% | 60% | 53% | 85% |
| Industry group | | | | |
| Architectural, engineering, and related services | 80% | 79% | 77% | 88% |
| Law firms | 79 | 79 | 78 | 84 |
| Technology | 76 | 76 | 69 | 88 |
| Finance, insurance, and real estate | 79 | 69 | 63 | 88 |
| Manufacturing | 69 | 65 | 60 | 83 |
| Wholesale and retail trade | 70 | 62 | 57 | 79 |
| Agriculture, mining, and construction | 67 | 62 | 57 | 84 |
| Business, professional, and nonprofit | 73 | 56 | 50 | 83 |
| Transportation, utilities, and communications | 69 | 55 | 45 | 84 |
| Media, entertainment, and leisure | 59 | 51 | 43 | 83 |
| Ambulatory health care | 71 | 48 | 43 | 82 |
| Education and health | 61 | 30 | 22 | 82 |

Source: Vanguard 2021.

Contributions

Employee deferrals

In a typical DC plan, employees are the main source of funding, while employer contributions play a secondary role. Thus, the level of participant deferrals is a critical determinant of whether the DC plan will generate an adequate level of savings for retirement. VRPA deferral rates are drawn from recordkeeping data and exclude eligible employees not contributing to their plans.

VRPA participants saved 7.3% of their income, on average, in their employer's plan in 2020 (Figure 12). The median participant deferral rate was 5.5%, meaning that half of participants were saving above this rate and half were saving below it. Plans with voluntary enrollment had average deferral rates 20% higher and median deferral rates 16% higher than plans with automatic enrollment. Participants in automatic enrollment plans are enrolled at the default rate, while participants in voluntary enrollment choose their deferral rate. This often leads to higher deferral rates in voluntary enrollment plans.

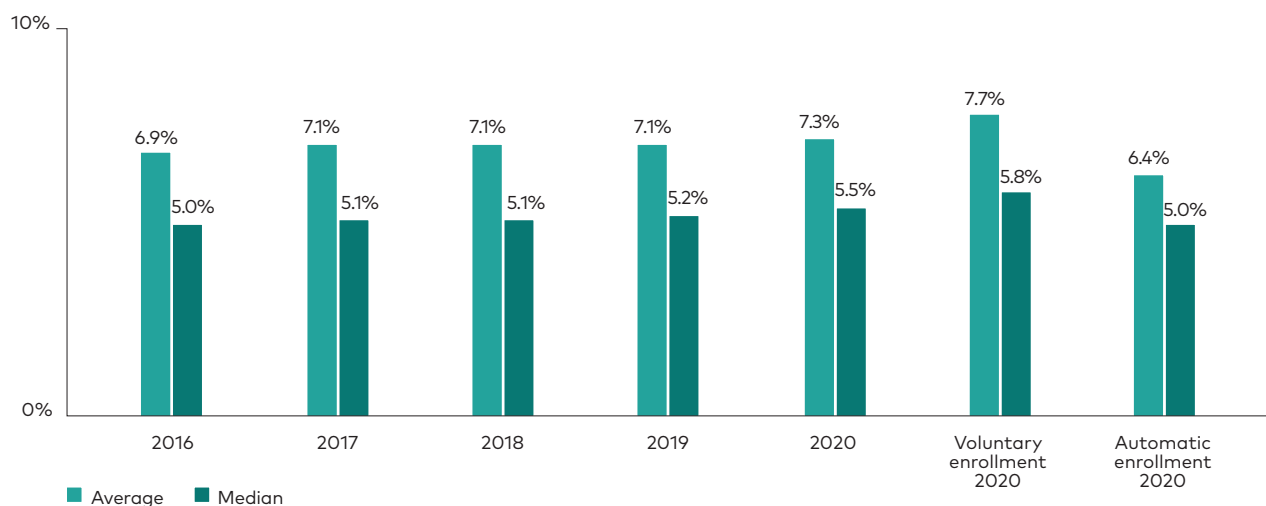
Deferral rates by participant demographics

As with plan participation rates, participant demographics had a strong influence on deferral rates (Figure 13). Income was the primary determinant of deferral rates, which generally rose with income but then declined as highly paid participants reached either the statutory maximum contribution level or plan-imposed caps on contributions related to nondiscrimination testing. The statutory maximum contribution was \$19,500 (\$26,000 for participants 50 and older), and a highly compensated employee was one who earned \$125,000 or more in 2019 (based on the prior year for 2020).

In 2020, participants with incomes between \$30,000 and \$49,999 had an average deferral rate of 6.0%, while participants earning \$75,000 to \$99,999 had an average deferral rate of 7.8%—a saving rate that is about one-third higher. Deferral rates averaged 8.7% for participants earning \$100,000 to \$150,000.

Figure 12. Deferral rates

Vanguard Retirement Plan Access defined contribution plans permitting employee-elective deferrals



Source: Vanguard 2021.

VRPA participants earning less than \$30,000 deferred 7.3% of their income. This is a higher deferral rate than that of participants earning \$30,000 to \$74,999. However, a minority of these participants (3%) had very high deferral rates. If we exclude participants deferring more than 50%, then participants earning less than \$30,000 had deferral rates averaging 5.8%.

Age was another important variable influencing savings. In 2020, deferral rates were lowest for participants younger than 25. This group saved 5.8% of income. Deferral rates for participants

ages 55 to 64 were more than 50% higher, averaging 8.9%. Deferral rates also rose directly with employee tenure.

Impact of automatic enrollment

Plan design, specifically the predominant use of a 3% default deferral rate, indicates that participants enrolled in plans through automatic enrollment are saving less. Participants joining a plan under an automatic enrollment feature had an average deferral rate of 6.4%, compared with 7.7% for participants joining plans under

Figure 13. Deferral rates by participant demographics

Vanguard Retirement Plan Access defined contribution plans permitting employee-elective deferrals

| | 2016 | 2017 | 2018 | 2019 | 2020 | Voluntary enrollment | Automatic enrollment |
|---------------------------|------|------|------|------|------|----------------------|----------------------|
| | All | All | All | All | All | | |
| All | 6.9% | 7.1% | 7.1% | 7.1% | 7.3% | 7.7% | 6.4% |
| Income | | | | | | | |
| <\$30,000 | 6.8% | 7.4% | 7.2% | 7.2% | 7.3% | 9.3% | 4.5% |
| \$30,000–\$49,999 | 5.5 | 5.8 | 5.8 | 5.8 | 6.0 | 6.4 | 5.0 |
| \$50,000–\$74,999 | 6.5 | 6.7 | 6.7 | 6.6 | 6.7 | 6.9 | 6.2 |
| \$75,000–\$99,999 | 7.6 | 7.8 | 7.8 | 7.8 | 7.8 | 8.0 | 7.4 |
| \$100,000–\$149,999 | 8.4 | 8.6 | 8.6 | 8.7 | 8.7 | 8.9 | 8.3 |
| \$150,000+ | 7.6 | 7.6 | 7.6 | 7.7 | 7.9 | 7.9 | 7.7 |
| Age | | | | | | | |
| <25 | 4.9% | 5.2% | 5.2% | 5.2% | 5.8% | 6.6% | 4.9% |
| 25–34 | 5.7 | 5.9 | 5.9 | 6.0 | 6.2 | 6.5 | 5.8 |
| 35–44 | 6.4 | 6.6 | 6.5 | 6.6 | 6.6 | 6.9 | 6.1 |
| 45–54 | 7.3 | 7.6 | 7.5 | 7.5 | 7.6 | 7.9 | 6.8 |
| 55–64 | 8.7 | 9.0 | 8.9 | 8.9 | 8.9 | 9.3 | 7.9 |
| 65+ | 10.4 | 10.6 | 10.6 | 10.7 | 10.7 | 11.2 | 8.9 |
| Gender | | | | | | | |
| Male | 6.9% | 7.1% | 7.1% | 7.1% | 7.3% | 7.7% | 6.5% |
| Female | 6.8 | 7.2 | 7.2 | 7.2 | 7.3 | 7.7 | 6.3 |
| Job tenure (years) | | | | | | | |
| 0–1 | 5.6% | 6.0% | 5.9% | 5.9% | 6.3% | 7.1% | 5.5% |
| 2–3 | 6.5 | 6.6 | 6.7 | 6.8 | 6.8 | 7.0 | 6.4 |
| 4–6 | 6.9 | 7.2 | 7.1 | 7.2 | 7.2 | 7.3 | 6.9 |
| 7–9 | 7.4 | 7.7 | 7.6 | 7.7 | 7.6 | 7.7 | 7.6 |
| 10+ | 8.3 | 8.6 | 8.7 | 8.8 | 8.8 | 8.9 | 8.6 |

Source: Vanguard 2021.

voluntary enrollment—a deferral rate 17% lower. This is especially remarkable considering that participants earning less than \$30,000 saved more than twice as much, on average, under voluntary enrollment designs. This suggests that higher default deferral rates would be amenable to plan participants in automatic enrollment designs.

Our research on automatic enrollment indicates that “quit rates” do not deteriorate when higher default percentages are used to enroll employees.*

Deferral rates also varied—by about 37%—by industry group (**Figure 14**). Participants in the technology group had the highest median deferral rates in 2020. Participants in the education and health group had the lowest deferral rates.

Maximum contributors

During 2020, only 12% of participants saved the statutory maximum dollar amount of \$19,500 (\$26,000 for participants age 50 or older) (**Figure 15**). Participants contributing the maximum dollar amount tended to have higher incomes, were older, had longer tenures with current employer, and had accumulated substantially higher account balances. One in 5 participants were saving 10% or more of their income.

Catch-up contributions

Nearly all VRPA plans offered catch-up contributions in 2020, but only 19% of participants eligible for the feature took advantage of it. The characteristics of these participants are similar to those of participants making the maximum contribution to their plan. They tended to have higher incomes and had accumulated substantially higher account balances.

Figure 14. Deferral rates by industry sector, 2020

Vanguard Retirement Plan Access defined contribution plans permitting employee-elective deferrals

| | Average | Median | Voluntary enrollment | Automatic enrollment |
|--|---------|--------|----------------------|----------------------|
| Overall | 7.3% | 5.5% | 7.7% | 6.4% |
| Industry group | | | | |
| Technology | 8.0% | 6.3% | 8.4% | 7.6% |
| Law firms | 8.5 | 6.2 | 8.8 | 7.0 |
| Architectural, engineering, and related services | 8.4 | 6.0 | 8.8 | 7.3 |
| Finance, insurance, and real estate | 7.4 | 6.0 | 7.8 | 6.2 |
| Business, professional, and nonprofit | 7.5 | 5.8 | 8.0 | 6.4 |
| Agriculture, mining, and construction | 7.1 | 5.1 | 7.5 | 6.1 |
| Ambulatory health care | 7.5 | 5.0 | 8.0 | 5.4 |
| Wholesale and retail trade | 6.6 | 5.0 | 7.2 | 5.5 |
| Manufacturing | 6.6 | 5.0 | 6.9 | 5.8 |
| Media, entertainment, and leisure | 6.3 | 5.0 | 6.6 | 5.9 |
| Transportation, utilities, and communications | 5.9 | 5.0 | 6.1 | 5.7 |
| Education and health | 6.1 | 4.7 | 6.6 | 5.0 |

Source: Vanguard 2021.

* For an in-depth analysis of automatic enrollment, see Jeffrey W. Clark and Jean A. Young, 2018, *Automatic Enrollment: The Power of the Default*, Vanguard research, institutional.vanguard.com

Roth contributions

At year-end 2020, the Roth feature was offered by 85% of VRPA plans and had been adopted by 18% of participants in these plans.

After-tax contributions

After-tax employee-elective deferrals were

available to participants in only 3% of VRPA plans. In 2020, less than 0.5% of participants offered the after-tax deferral feature took advantage of it.

Aggregate contributions

Considering both employee and employer contributions, the average total participant

Figure 15. Other employee contribution data

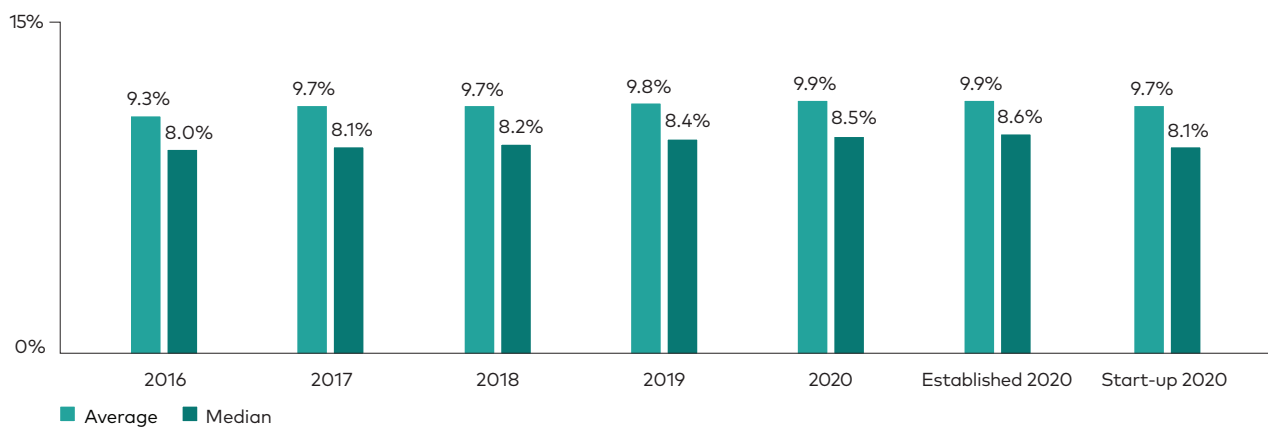
Vanguard Retirement Plan Access defined contribution plans permitting employee-elective deferrals

| | 2016 | 2017 | 2018 | 2019 | 2020 | | |
|---|--------|--------|--------|--------|--------|-------------|----------|
| | All | All | All | All | All | Established | Start-up |
| Percentage of participants reaching 402(g) limit | 12% | 12% | 11% | 11% | 12% | 12% | 10% |
| Percentage of participants deferring more than 10% | 19% | 19% | 19% | 19% | 20% | 20% | 18% |
| Percentage of plans offering catch-up | >99.5% | >99.5% | >99.5% | >99.5% | >99.5% | >99.5% | >99.5% |
| Percentage of participants using catch-up if offered | 17% | 17% | 18% | 18% | 19% | 19% | 17% |
| Percentage of plans offering Roth | 78% | 81% | 82% | 84% | 85% | 81% | 90% |
| Percentage of participants using Roth if offered | 15% | 15% | 16% | 17% | 18% | 18% | 19% |
| Percentage of plans offering traditional after-tax | 3% | 3% | 3% | 3% | 3% | 4% | 2% |
| Percentage of participants using traditional after-tax if offered | <0.5% | 1% | 1% | <0.5% | <0.5% | <0.5% | 1% |

Source: Vanguard 2021.

Figure 16. Aggregate participant and employer contribution rates

Vanguard Retirement Plan Access defined contribution plans permitting employee-elective deferrals



Source: Vanguard 2021.

contribution rate in 2020 was 9.9%, and the median was 8.5% (Figure 16). Established and start-up plans had similar aggregate contribution levels.

Account balances

Account balances are a widely cited measure of the overall effectiveness of DC plans. However, current balances may not reflect lifetime savings and are only a partial measure of retirement preparedness for many participants. The median balance represents the typical participant: Half of all participants have balances above the median, and half have balances below it. In 2020, VRPA participants' average account balance was \$71,258; the median balance was

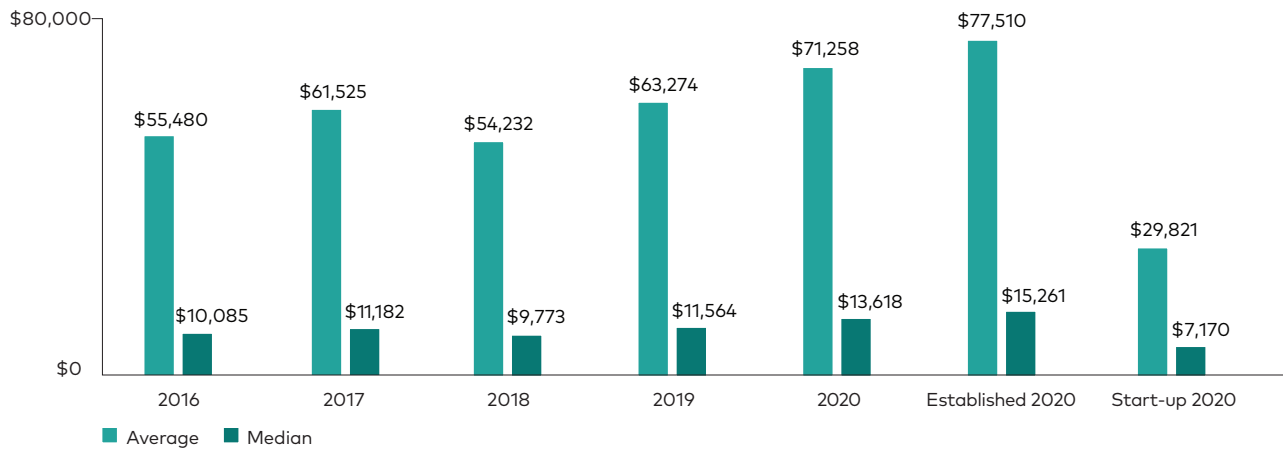
\$13,618 (Figure 17). Established plans had account balances two to three times larger than start-up plans.

Account balances by participant demographics

Median and average account balances varied considerably by participant demographics (Figure 18). Among the factors influencing account balances are income, age, and job tenure. These three factors are intertwined. Not only do incomes, on average, tend to rise somewhat with age, making saving more affordable, but older participants generally save at higher rates. Also, the longer an employee's tenure with a firm, the more likely the employee is to earn a higher salary, participate in the plan, and contribute at

Figure 17. Account balances

Vanguard Retirement Plan Access defined contribution plans



Source: Vanguard 2021.

higher levels. Longer-tenured participants also have higher balances because they have been contributing to their employer's plan for a longer period. Cross-referencing income and age shows an increase in account balances in each category as income or age rises (**Figure 19**).

There were significant variations in account balances by industry sector, which reflects a complex mixture of firm characteristics

(influencing employer contributions) and workforce demographics (influencing participant saving rates). Participants employed in the law firms group had average and median account balances that were more than two times higher than participants in several other industry groups (**Figure 20**). Participants employed in the education and health group had the lowest average and median account balances.

Figure 18. Account balances by participant demographics, 2020

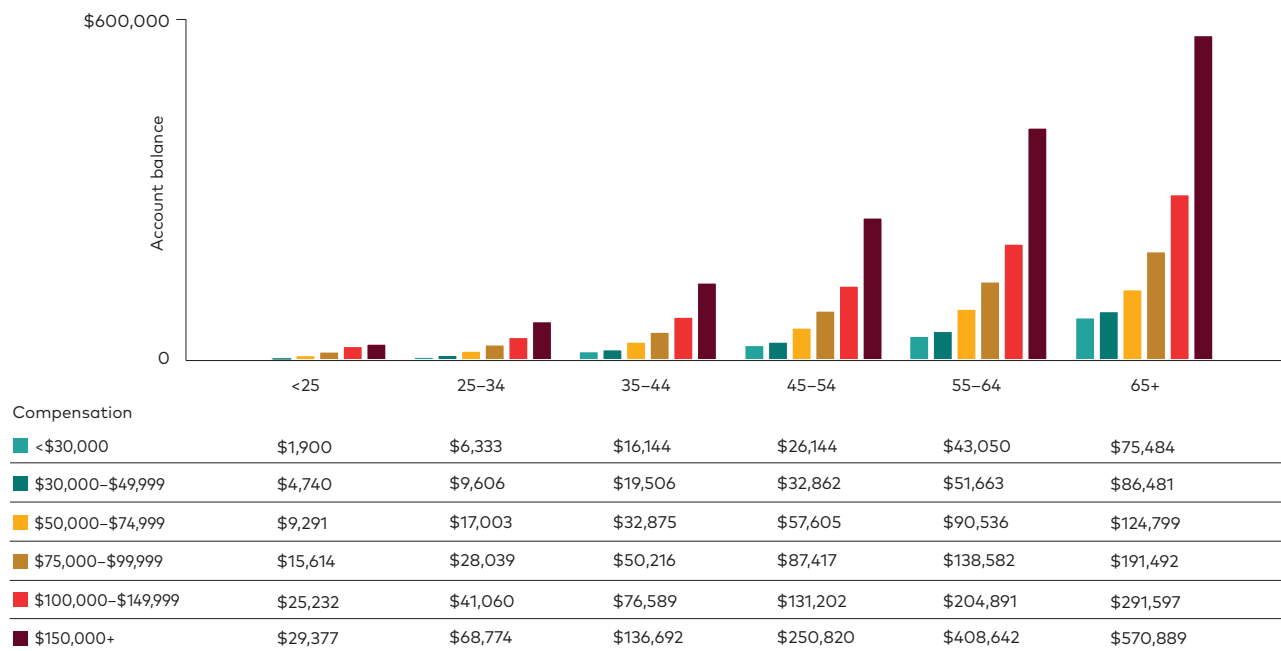
Vanguard Retirement Plan Access defined contribution plans

| | Average | Median | Established average | Start-up average |
|---------------------------|-----------------|-----------------|---------------------|------------------|
| All | \$71,258 | \$13,618 | \$77,510 | \$29,821 |
| Income | | | | |
| <\$30,000 | \$20,627 | \$2,167 | \$23,312 | \$9,368 |
| \$30,000–\$49,999 | \$26,294 | \$6,812 | \$28,801 | \$12,569 |
| \$50,000–\$74,999 | \$45,641 | \$15,167 | \$50,152 | \$21,372 |
| \$75,000–\$99,999 | \$71,132 | \$26,538 | \$78,124 | \$31,765 |
| \$100,000–\$149,999 | \$109,776 | \$43,569 | \$121,351 | \$46,950 |
| \$150,000+ | \$235,845 | \$88,916 | \$263,055 | \$87,526 |
| Age | | | | |
| <25 | \$5,089 | \$1,825 | \$5,344 | \$3,968 |
| 25–34 | \$19,253 | \$7,744 | \$20,348 | \$13,172 |
| 35–44 | \$51,011 | \$16,617 | \$54,578 | \$27,766 |
| 45–54 | \$96,568 | \$23,660 | \$104,078 | \$44,221 |
| 55–64 | \$144,919 | \$33,412 | \$156,037 | \$53,961 |
| 65+ | \$179,423 | \$32,397 | \$189,667 | \$57,319 |
| Gender | | | | |
| Male | \$94,118 | \$18,414 | \$103,151 | \$35,576 |
| Female | \$53,865 | \$12,068 | \$58,307 | \$23,190 |
| Job tenure (years) | | | | |
| 0–1 | \$12,923 | \$3,356 | \$12,800 | \$13,454 |
| 2–3 | \$27,768 | \$11,203 | \$27,790 | \$27,632 |
| 4–6 | \$49,315 | \$21,918 | \$51,571 | \$29,405 |
| 7–9 | \$81,462 | \$36,536 | \$85,672 | \$38,885 |
| 10+ | \$228,788 | \$90,049 | \$241,391 | \$85,251 |

Source: Vanguard 2021.

Figure 19. Average account balances by age and compensation group, 2020

Vanguard Retirement Plan Access defined contribution plans



Source: Vanguard 2021.

Figure 20. Account balances by industry sector, 2020

Vanguard Retirement Plan Access defined contribution plans

| | Average | Median | Established average | Start-up average |
|--|-----------------|-----------------|---------------------|------------------|
| Overall | \$71,258 | \$13,618 | \$77,510 | \$29,821 |
| Industry group | | | | |
| Law firms | \$162,964 | \$27,158 | \$170,601 | \$61,235 |
| Architectural, engineering, and related services | \$91,119 | \$23,771 | \$96,317 | \$32,459 |
| Finance, insurance, and real estate | \$59,805 | \$18,957 | \$65,039 | \$32,796 |
| Technology | \$84,425 | \$17,567 | \$95,463 | \$31,953 |
| Agriculture, mining, and construction | \$70,219 | \$13,340 | \$76,721 | \$28,264 |
| Business, professional, and nonprofit | \$64,463 | \$13,192 | \$70,111 | \$25,866 |
| Ambulatory health care | \$59,391 | \$12,387 | \$63,104 | \$31,810 |
| Manufacturing | \$105,948 | \$10,844 | \$113,751 | \$35,835 |
| Wholesale and retail trade | \$61,311 | \$10,237 | \$65,296 | \$23,521 |
| Media, entertainment, and leisure | \$43,866 | \$9,484 | \$47,605 | \$17,408 |
| Transportation, utilities, and communications | \$43,735 | \$8,649 | \$45,337 | \$24,034 |
| Education and health | \$35,510 | \$7,610 | \$39,635 | \$14,886 |

Source: Vanguard 2021.

Asset and contribution allocations

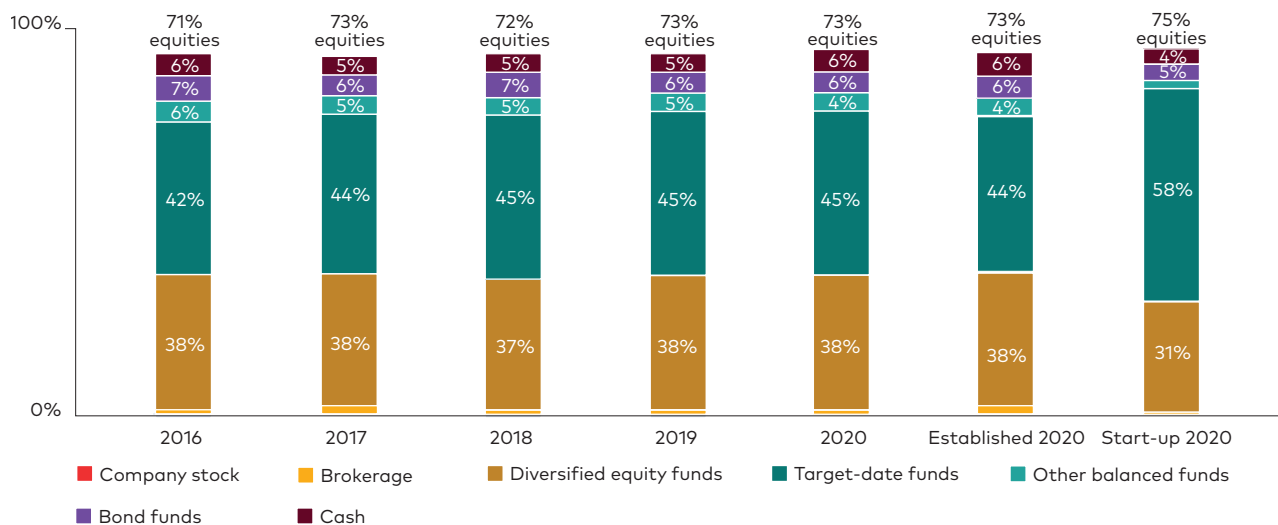
The percentage of plan assets invested in equities stood at 73% in 2020 (Figure 21). The allocation to equities included the equity component of balanced strategies. Investment in balanced funds was 49%, including 45% in target-date funds and 4% in other balanced options. The growth of target-date funds is dramatically

reshaping investment patterns in DC plans, including increasing equity allocation differences by age and reducing extreme allocations.

Three-quarters of plan contribution dollars were invested in equities, and more than half of plan contribution dollars were invested in target-date funds (Figure 22).

Figure 21. Plan asset allocation summary

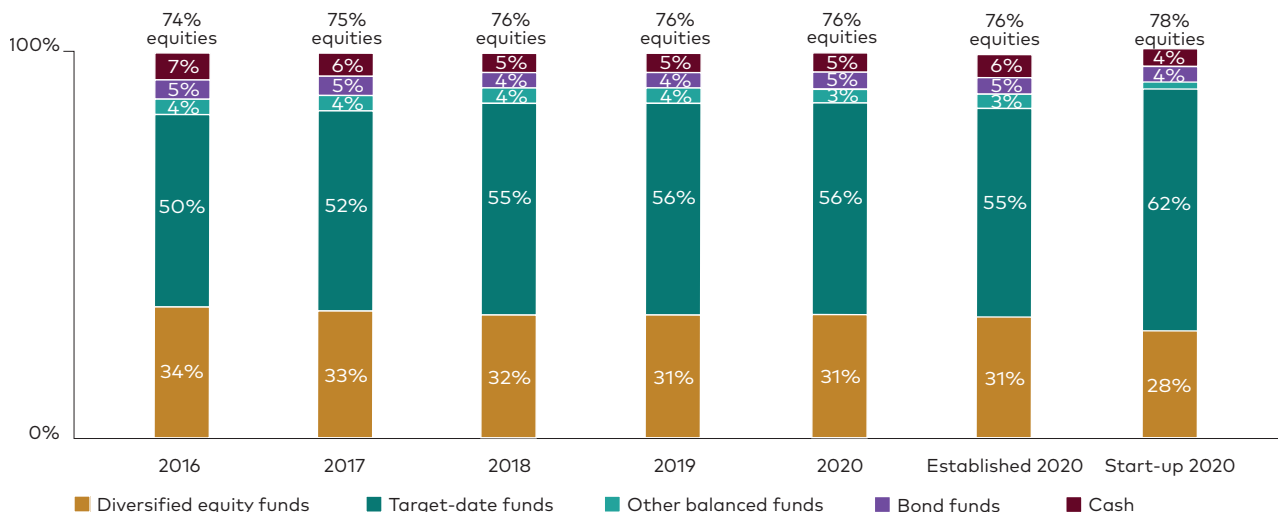
Vanguard Retirement Plan Access defined contribution plans



Source: Vanguard 2021.

Figure 22. Plan contribution allocation summary

Vanguard Retirement Plan Access defined contribution plans



Source: Vanguard 2021.

Overall asset allocation varied somewhat by industry group (**Figure 23**). Participants in the technology group had the highest equity

allocations—an average of 81%. Participants in the manufacturing group had the lowest equity allocations, at an average of 73%.

Figure 23. Asset allocation by industry sector, 2020

Vanguard Retirement Plan Access defined contribution plans

| | Brokerage | Company stock | Diversified equity funds | Target-date funds | Other balanced funds | Bond funds | Cash | Average equity participant-weighted | Median equity participant-weighted |
|--|-----------|---------------|--------------------------|-------------------|----------------------|------------|------|-------------------------------------|------------------------------------|
| All | 1% | <0.5% | 38% | 45% | 4% | 6% | 6% | 77% | 89% |
| Industry group | | | | | | | | | |
| Technology | 1% | 0% | 38% | 49% | 3% | 5% | 5% | 81% | 90% |
| Architectural, engineering, and related services | 0 | 0 | 40 | 44 | 5 | 6 | 5 | 78 | 89 |
| Finance, insurance, and real estate | 1 | <0.5 | 46 | 36 | 4 | 6 | 6 | 78 | 89 |
| Business, professional, and nonprofit | 1 | 0 | 38 | 46 | 4 | 6 | 5 | 78 | 89 |
| Media, entertainment, and leisure | 0 | 0 | 33 | 54 | 4 | 4 | 5 | 78 | 89 |
| Wholesale and retail trade | 1 | 0 | 35 | 47 | 5 | 6 | 7 | 76 | 87 |
| Education and health | 2 | 0 | 27 | 58 | 4 | 4 | 4 | 76 | 87 |
| Ambulatory health care | 4 | 0 | 36 | 42 | 4 | 8 | 6 | 75 | 84 |
| Transportation, utilities, and communications | 0 | 0 | 36 | 48 | 5 | 6 | 5 | 75 | 82 |
| Law firms | 3 | 0 | 40 | 37 | 6 | 8 | 7 | 74 | 82 |
| Agriculture, mining, and construction | 1 | 0 | 34 | 49 | 4 | 6 | 6 | 75 | 81 |
| Manufacturing | 0 | 0 | 36 | 47 | 4 | 6 | 7 | 73 | 81 |

Source: Vanguard 2021.

Plan investment options

Types of options offered

Virtually all VRPA plans offered an array of investment options covering four major investment categories: equities, bonds, balanced funds, and cash reserves (**Figure 24**).

Equity offerings typically included both indexed and actively managed U.S. stock funds as well as one or more international funds. Almost two-thirds of VRPA plans offered sector funds, most commonly a real estate fund (**Figure 25**).

Figure 24. Types of investment options offered and used, 2020

Vanguard Retirement Plan Access defined contribution plans

| | Percentage of all plans offering | Percentage of established plans offering | Percentage of start-up plans offering | Percentage of participants offered using |
|-----------------------------------|----------------------------------|--|---------------------------------------|--|
| Cash | 99% | 99% | 98% | 9% |
| Money market | 82 | 80 | 87 | 8 |
| Stable value/Investment contract | 17 | 19 | 11 | 13 |
| Bond funds | >99.5% | >99.5% | >99.5% | 12% |
| Active | 62 | 66 | 50 | 10 |
| Index | 83 | 83 | 85 | 8 |
| Inflation-protected securities | 46 | 40 | 64 | 4 |
| Multisector | 16 | 16 | 14 | 7 |
| High-yield | 29 | 31 | 23 | 6 |
| International | 50 | 48 | 59 | 4 |
| Global | 8 | 8 | 6 | 6 |
| Emerging markets | 3 | 3 | 3 | 4 |
| Balanced funds | 99% | 99% | 99% | 83% |
| Traditional balanced | 72 | 72 | 75 | 8 |
| Target-risk | 25 | 28 | 14 | 10 |
| Target-date | 98 | 98 | 97 | 79 |
| Equity funds | >99.5% | >99.5% | >99.5% | 27% |
| Domestic equity funds | >99.5% | >99.5% | >99.5% | 27% |
| Large-cap index | 99 | 99 | 99 | 20 |
| Large-cap active | 54 | 57 | 44 | 15 |
| Large-cap value | 90 | 90 | 90 | 8 |
| Large-cap growth | 92 | 91 | 92 | 13 |
| Large-cap blend | 99 | 99 | 99 | 18 |
| Mid-cap index | 92 | 92 | 94 | 10 |
| Mid-cap active | 32 | 34 | 26 | 9 |
| Small-cap index | 92 | 92 | 93 | 11 |
| Small-cap active | 39 | 40 | 34 | 9 |
| Socially responsible | 11 | 11 | 11 | 6 |
| International equity funds | 99% | 99% | 98% | 13% |
| Index international | 87 | 86 | 90 | 9 |
| Active international | 52 | 55 | 41 | 11 |
| Emerging markets | 70 | 69 | 75 | 8 |
| Global equity | 25% | 27% | 18% | 7% |
| Sector funds | 63% | 70% | 42% | 10% |
| Company stock | <0.5% | <0.5% | 0% | 54% |
| Self-directed brokerage | 11% | 12% | 7% | 2% |
| Model portfolio | 9% | 10% | 6% | 18% |
| Managed account | 20% | 18% | 24% | <0.5% |

Source: Vanguard 2021.

Number of options offered and used

The average VRPA plan offered 20 investment options in 2020 (**Figure 26**). When analyzing options offered, we counted a series of target-

date funds as one fund since these funds are designed as a single-fund investment. Counting a target-date series as a single fund offering, the median plan sponsor offered 19

Figure 25. Types of sector options offered and used, 2020

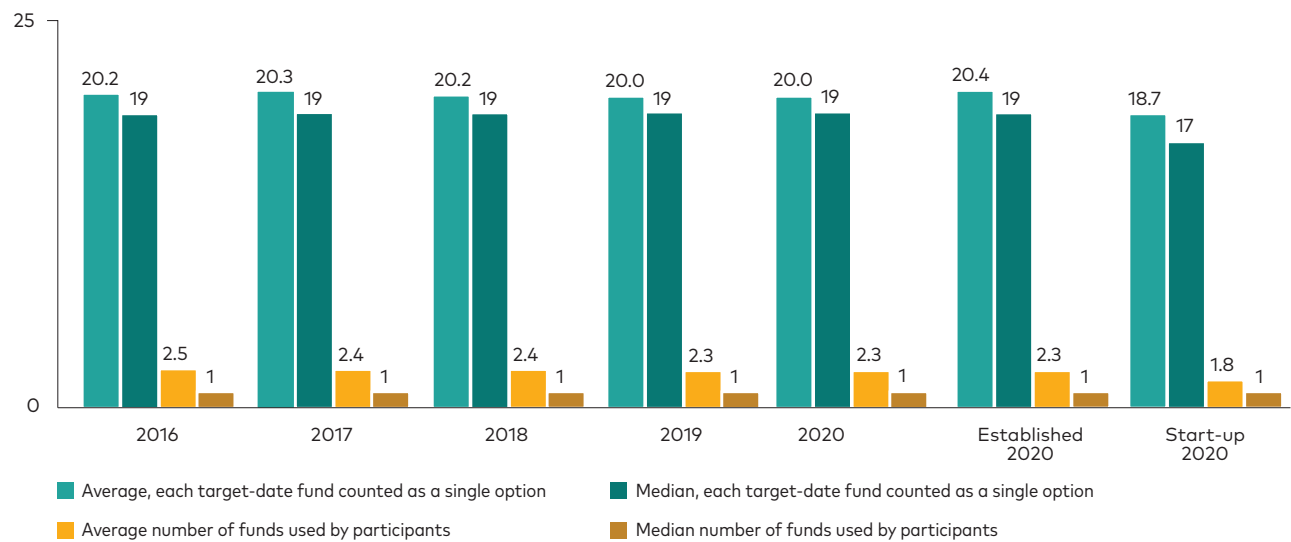
Vanguard Retirement Plan Access defined contribution plans

| | Percentage of all plans offering | Percentage of established plans offering | Percentage of start-up plans offering | Percentage of participants offered using |
|---------------------|----------------------------------|--|---------------------------------------|--|
| Sector funds | 63% | 70% | 42% | 10% |
| Real estate | 58 | 64 | 37 | 7 |
| Health care | 15 | 16 | 9 | 8 |
| Energy | 10 | 11 | 6 | 5 |
| Precious metals | 2 | 3 | 1 | 5 |
| Technology | 10 | 11 | 8 | 10 |
| Utilities | 6 | 6 | 3 | 5 |
| Natural resources | 5 | 5 | 3 | 3 |
| Financials | 4 | 5 | 3 | 3 |
| Communications | 2 | 2 | 1 | 3 |
| Commodities | 3 | 3 | 3 | 7 |
| Consumer | 3 | 3 | 2 | 5 |

Source: Vanguard 2021.

Figure 26. Investment options offered and used

Vanguard Retirement Plan Access defined contribution plans



Source: Vanguard 2021.

investment options. Sixteen percent of plans offered more than 25 distinct investment options, while 4% of plans offered 10 or fewer (**Figure 27**).

Despite the large number of funds available to them, participants tended to use only a few. On average, VRPA participants used 2.3 funds, and the typical participant held just 1.0 fund (**Figure 26**). When analyzing options used, we counted each target-date fund as a separate fund rather than counting multiple target-date

funds as one fund. This is important because participants can, and some do, invest in multiple target-date funds.

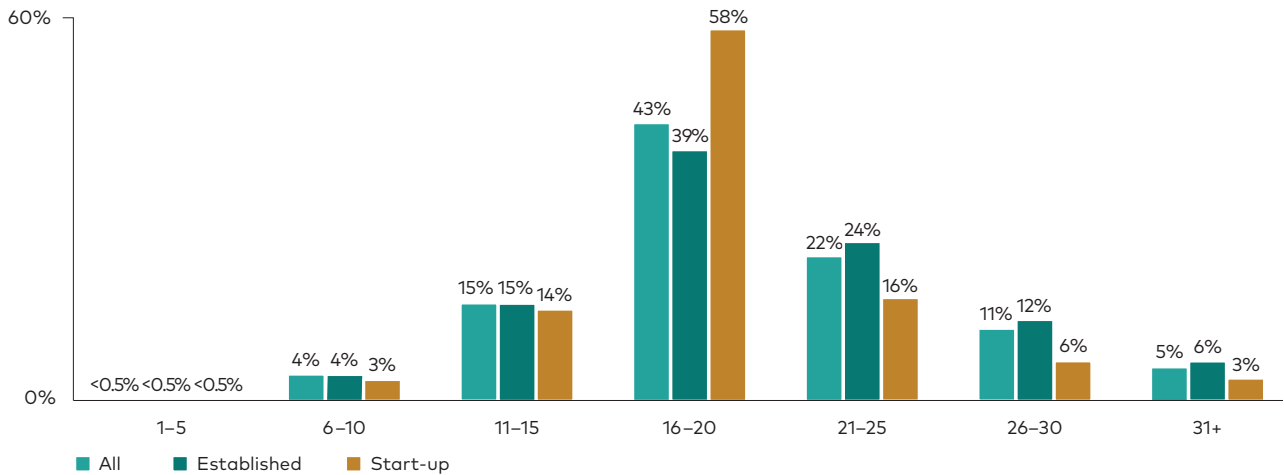
Default funds

Increasingly, participants are being directed into default investments selected by the plan sponsor rather than making their own active investment choices. Default investing is rising in importance because of the growing use of automatic enrollment as well as concerns about

Figure 27. Number of options offered, 2020

Vanguard Retirement Plan Access defined contribution plans

Target-date funds counted as one option



Source: Vanguard 2021.

participants' lack of investment knowledge. In response, the U.S. Department of Labor (DOL), acting under the Pension Protection Act, authorized three types of default investments as eligible for special fiduciary protection: target-date funds, other balanced funds, and managed account programs (including model portfolios).

Nearly all VRPA plans had designated a default fund, and 96% had selected a target-date fund as the default option in 2020 (**Figure 28**). Ninety-eight percent of plans had specifically designated a QDIA under the DOL's regulations. Among those plans, 97% designated target-date funds, 2% designated balanced funds, and 1% selected a model portfolio.

Figure 28. Default fund designations, 2020

Vanguard Retirement Plan Access defined contribution plans

| | All plans | Established plans | Start-up plans |
|------------------------------|-------------|-------------------|----------------|
| Plans designating a default | 100% | 100% | 100% |
| Target-date | 96% | 96% | 96% |
| Balanced fund | 2 | 3 | 2 |
| Model portfolio | 1 | 1 | 1 |
| Money market or stable value | 1 | <0.5 | 1 |
| Other | <0.5 | <0.5 | <0.5 |
| Plans designating a QDIA | 98% | 98% | 99% |
| Target-date | 97 | 97 | 99 |
| Balanced fund | 2 | 2 | 1 |
| Model portfolio | 1 | 1 | <0.5 |
| | 100% | 100% | 100% |

Source: Vanguard 2021.

Professionally managed allocations

The most notable effect of plan investment menus on participant choices is the expanded offering and use of professionally managed allocations. Participants with professionally managed allocations have their entire account balance invested solely in a single target-date fund, a traditional balanced fund, a model portfolio, or a managed account program.

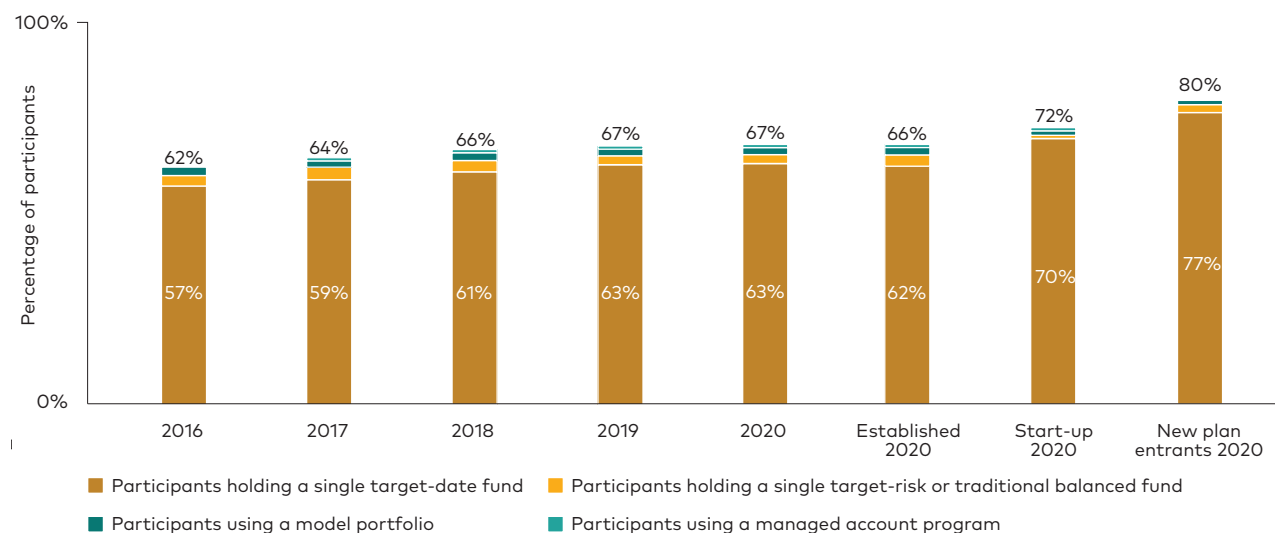
In 2020, more than two-thirds of VRPA participants were invested in a professionally managed allocation (**Figure 29**). The growing use of target-date funds is driving this development.

Sixty-three percent of participants were invested in a single target-date fund in 2020. Among new plan entrants (those entering the plan for the first time), 8 in 10 participants were invested in a professionally managed allocation.

Most VRPA plan sponsors chose to reenroll participants in a QDIA at conversion. As noted earlier in this report, VRPA was launched in 2011, and the majority of these plans converted between 2012 and 2020. Seven in 10 plans reenrolled participants in a QDIA at conversion, and more than 97% used this strategy to reenroll into a target-date fund.

Figure 29. Participants with professionally managed allocations

Vanguard Retirement Plan Access defined contribution plans



Source: Vanguard 2021.

Target-date funds

Target-date funds base portfolio allocations on an expected retirement date; allocations grow more conservative as the participant approaches the fund's target year. At year-end 2020, nearly all VRPA participants were in plans

offering target-date funds (**Figure 30**). Eight in 10 participants had all or part of their account invested in target-date funds. More than half of contribution dollars were directed to target-date funds.

Figure 30. Use of target-date funds

Vanguard Retirement Plan Access defined contribution plans

| | 2016 | 2017 | 2018 | 2019 | 2020 | Established 2020 | Start-up 2020 |
|---|------|------|------|------|------|------------------|---------------|
| Percentage of all plans offering target-date funds | 98% | 98% | 98% | 98% | 98% | 98% | 97% |
| Percentage of recordkeeping assets in target-date funds | 42% | 44% | 45% | 45% | 45% | 44% | 57% |
| Percentage of all contributions directed to target-date funds | 50% | 52% | 55% | 56% | 56% | 55% | 62% |
| Percentage of all participants offered target-date funds | 98% | 98% | 98% | 98% | 98% | 98% | 99% |
| Percentage of all participants using target-date funds | 75% | 76% | 78% | 79% | 79% | 78% | 84% |

Source: Vanguard 2021.

Note: Investments in target-date funds are subject to the risks of their underlying funds. The year in the fund name refers to the approximate year (the target date) when an investor in the fund would retire and leave the workforce. The fund will gradually shift its emphasis from more aggressive investments to more conservative ones based on its target date. An investment in target-date funds is not guaranteed at any time, including on or after the target date.

Participant equity allocations

Equities are the dominant asset class holding of many plan participants. From an investment perspective, an asset allocation to equities of 80% or more may be appropriate considering the long-term retirement objectives of most DC plan participants (**Figure 31**).

The growing use of professionally managed allocations within DC plans, including target-date funds, is reshaping equity allocations by age and reducing extreme allocations. Four percent of participants had no allocation to equities in 2020. At the other extreme, 7% were invested exclusively in equities.

Figure 31. Distribution of equity exposure

Vanguard Retirement Plan Access defined contribution plans

Participant-weighted balances

| | 2016 | 2017 | 2018 | 2019 | 2020 | Established 2020 | Start-up 2020 | Percentage of contributions to equities 2020 |
|---|------|------|------|------|------|---------------------|------------------|---|
| Percentage of account balances in equities | | | | | | | | |
| 0% | 4% | 4% | 3% | 3% | 4% | 4% | 3% | 2% |
| 1%–30% | 3 | 3 | 3 | 2 | 2 | 2 | 1 | 3 |
| 31%–40% | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 2 |
| 41%–50% | 3 | 3 | 2 | 4 | 4 | 4 | 3 | 4 |
| 51%–60% | 8 | 7 | 10 | 8 | 7 | 7 | 6 | 7 |
| 61%–70% | 15 | 14 | 11 | 9 | 9 | 9 | 7 | 9 |
| 71%–80% | 12 | 11 | 11 | 11 | 10 | 11 | 10 | 11 |
| 81%–90% | 42 | 44 | 45 | 48 | 48 | 47 | 55 | 48 |
| 91%–99% | 5 | 6 | 6 | 6 | 7 | 7 | 6 | 6 |
| 100% | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Average equity participant-weighted | 75% | 75% | 76% | 76% | 77% | 76% | 80% | 78% |
| Median equity participant-weighted | 85% | 85% | 83% | 86% | 89% | 87% | 89% | 89% |

Source: Vanguard 2021.

Portfolio construction is also benefiting from this rising use of professionally managed allocations (**Figure 32**). Seventy-eight percent of participants held broadly diversified portfolios in 2020, while less than 0.5% held concentrated company stock positions.

Trading activity

Participant trading, or exchange activity, is the movement of existing account assets from one plan investment option to another. This transaction is distinct from a contribution allocation decision in which participants decide how future plan contributions should be invested. Exchange activity is a proxy for a participant's holding period for investments, as well as a

measure of the participant's willingness to change their portfolio in response to short-term market volatility.

Daily trading is nearly universal for Vanguard DC plans, with virtually all plan sponsors allowing it. While assets can be traded daily, Vanguard and other investment companies serving DC plans typically have "round-trip" restrictions designed to thwart the minority of individual participants who seek to engage in active market-timing or day-trading. Despite the increased volatility due to the pandemic, only 7% of participants initiated one or more portfolio trades or exchanges during 2020 (**Figure 33**).

Figure 32. Participant portfolio construction

Vanguard Retirement Plan Access defined contribution plans

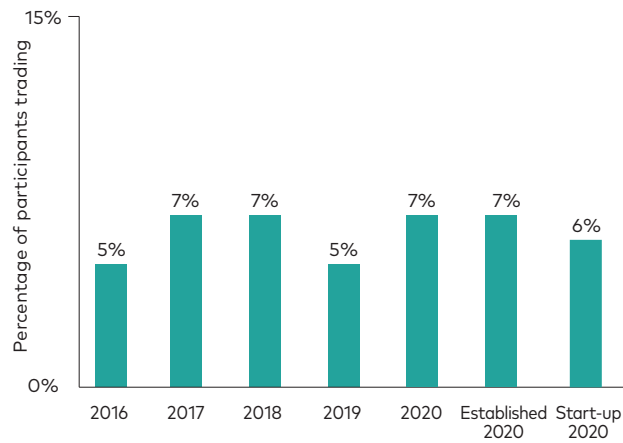


| | 2016 | 2017 | 2018 | 2019 | 2020 | Established 2020 | Start-up 2020 |
|--|------|------|------|------|------|------------------|---------------|
| Percentage of participants using | | | | | | | |
| Zero equity (0% equity and 0% company stock) | 4% | 4% | 3% | 3% | 4% | 4% | 3% |
| Conservative equity (>0% and <40% equity) | 4 | 4 | 5 | 4 | 4 | 4 | 2 |
| Balanced strategies (40% to 90% equity and <20% company stock) | 80 | 79 | 79 | 80 | 78 | 78 | 80 |
| Aggressive equity (>90% equity) | 12 | 13 | 13 | 13 | 14 | 14 | 15 |
| Aggressive company stock (>20% company stock) | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0 |

Source: Vanguard 2021.

Figure 33. Participant-directed trading

Vanguard Retirement Plan Access defined contribution plans



Source: Vanguard 2021.

Plan loans

If permitted by the plan, participants can borrow up to 50% of their balance (up to a maximum of \$50,000) from their DC plan account. Loans are more common for plans accepting employee contributions and less common for employer-funded DC plans, such as money purchase or profit-sharing plans. Plan loans allow DC participants to access their plan savings before retirement without incurring income taxes or tax penalties.

Loans do appear to have a beneficial effect on retirement savings, raising contribution rates above what they would otherwise be. Yet they also come with risks. Cash that has been borrowed earns fixed income rather than equity market returns, and loan interest is double-taxed. Also, participants who leave their employer must typically repay any loan balance immediately—or risk paying taxes and a penalty and incurring a reduction in retirement savings by the amount of the loan outstanding.

Loan availability

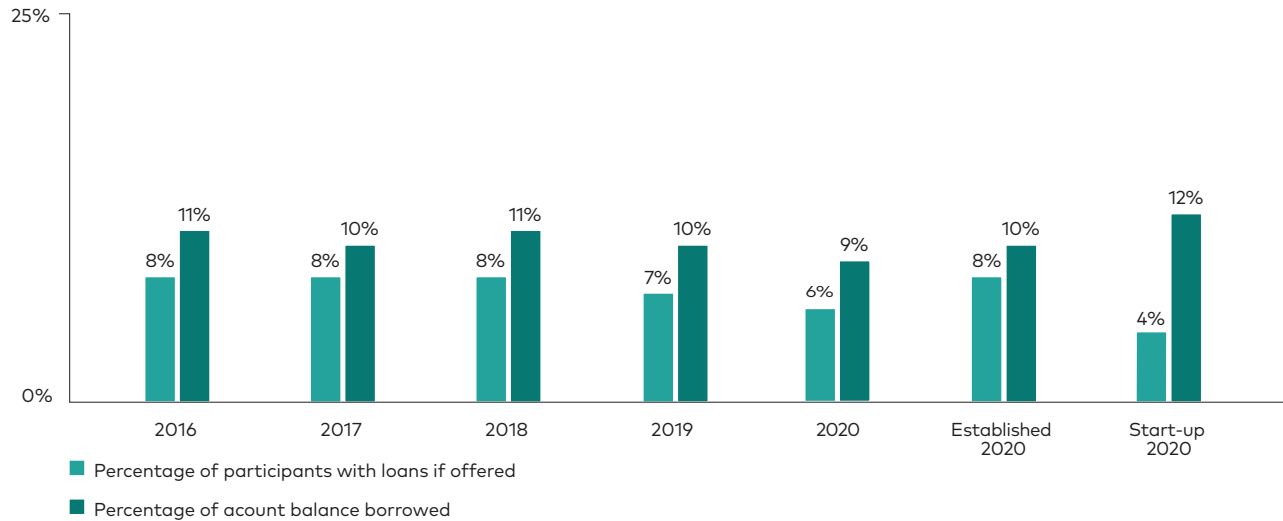
Loans are widely offered by employee-contributory DC plans. In 2020, 7 in 10 VRPA 401(k) plans permitted participants to borrow from their plan, and 78% of participants had access to a loan feature (**Figure 34**). Only 6% of VRPA participants offered a loan had a loan outstanding at year-end 2020.

On average, the outstanding loan balance equaled 9% of the participant's account balance including the loan, and the average participant

had borrowed about \$9,201. Participants in start-up plans were least likely to borrow from their retirement plan account, but when doing so, they borrowed 12% of their account balance. Outstanding loans are typically excluded from measures of plan and participant assets because these assets have, in effect, been withdrawn from the plan and are not currently available as a retirement resource. However, more than 90% of loans are repaid, and outstanding loans represent participant and plan assets. Only about 1% of aggregate plan assets had been borrowed by participants.

Figure 34. Loans

Vanguard Retirement Plan Access defined contribution plans



| | 2016 | 2017 | 2018 | 2019 | 2020 | Established 2020 | Start-up 2020 |
|---|---------|---------|---------|---------|---------|------------------|---------------|
| Percentage of all plans offering loans | 70% | 69% | 69% | 69% | 69% | 71% | 63% |
| Percentage of participants offered loans | 78% | 77% | 77% | 77% | 78% | 79% | 74% |
| Percentage of recordkeeping assets borrowed | 1% | 1% | 1% | 1% | 1% | 1% | 1% |
| Average participant loan | \$8,648 | \$8,749 | \$8,751 | \$8,740 | \$9,201 | \$9,251 | \$8,628 |

Source: Vanguard 2021.

Plan withdrawals

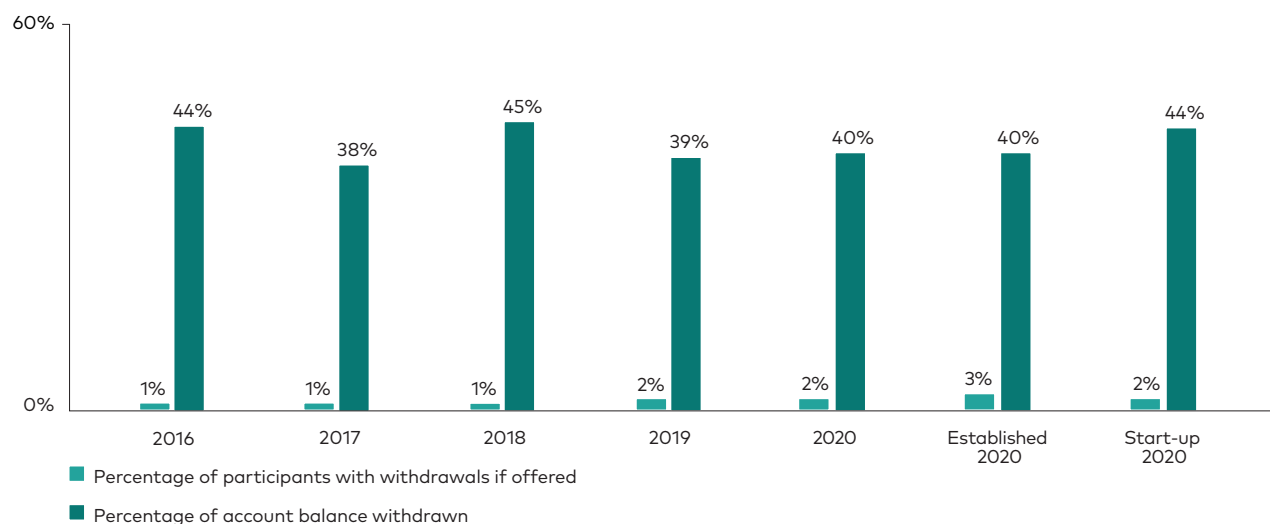
Plan withdrawals allow participants to access their plan savings before a job change or retirement. Withdrawals are optional plan provisions and availability varies from plan to plan. They can be classified into two categories: hardship withdrawals and nonhardship withdrawals. Hardship withdrawals allow participants to access a portion of their savings when they have a demonstrated financial hardship, such as receipt of an eviction or home foreclosure notice, but may also be used for such purposes as college education and purchase of a first home. Nonhardship withdrawals include both post-age-59½ withdrawals and other

withdrawals. Post-age-59½ withdrawals allow participants age 59½ and older to access their savings while they are working and are exempt from the 10% penalty on premature distributions. Some plans may also allow participants to withdraw employer profit-sharing contributions, after-tax contributions, or rollover assets while they are working.

Among VRPA DC plans in 2020, 85% allowed hardship withdrawals, and nearly all allowed plan withdrawals for those who have reached age 59½ (**Figure 35**). Only 2% of participants in plans offering any type of withdrawal used the feature, and the average portion of account

Figure 35. Withdrawals

Vanguard Retirement Plan Access defined contribution plans



| | 2016 | 2017 | 2018 | 2019 | 2020 | Established 2020 | Start-up 2020 |
|--|----------|----------|----------|----------|----------|------------------|---------------|
| Percentage of all plans offering withdrawals | >99.5% | >99.5% | >99.5% | >99.5% | 99.0% | >99.5% | >99.5% |
| Percentage of all plans offering hardship withdrawals | 84% | 85% | 85% | 85% | 85% | 83% | 90% |
| Percentage of all plans offering age 59½ withdrawals | 99.0% | 99.0% | >99.5% | >99.5% | 99.0% | 99.0% | >99.5% |
| Percentage of all plans offering employer contribution withdrawals | 94% | 96% | 97% | 97% | 97% | 97% | 98% |
| Percentage of all participants offered withdrawals | >99.5% | >99.5% | >99.5% | >99.5% | >99.5% | >99.5% | >99.5% |
| Percentage of recordkeeping assets withdrawn | 1% | 1% | 1% | 1% | 1% | 1% | 2% |
| Average participant withdrawal | \$22,277 | \$20,913 | \$27,545 | \$24,116 | \$26,595 | \$28,083 | \$15,514 |

Source: Vanguard 2021.

balance withdrawn was 40%. Assets withdrawn totaled 1% of VRPA recordkeeping assets. Certain participants could, over time, jeopardize their retirement program if they continue to rely on this feature throughout their working years.

Plan distributions and rollovers

When changing jobs or retiring, DC plan participants can preserve their savings for retirement (by retaining savings in the plan or rolling it over to an IRA or another DC plan) or take a cash lump sum (and spend or invest it). If they choose to roll over their savings to an IRA or another qualified retirement plan, participants avoid paying taxes on the accumulated balance. If participants spend the lump-sum distribution or invest it in a taxable account, they incur a possible income tax liability (and a 10% penalty if they are younger than 59½).

Virtually all VRPA plans permitted indefinite deferral of savings, meaning that participant balances can remain in the employer plan (Figure 36). Ten percent of VRPA plans allowed participants to establish installment payments. Virtually all VRPA plans permitted terminated participants to take partial ad hoc cash distributions.

Participant and asset flows

Plan distributions can occur frequently as participants change jobs or retire, and they represent a large portion of total plan and participant assets. During 2020, more than one-third of VRPA plan participants could have taken their plan account as a cash distribution because they had separated from service in the current year or prior years. However, just 12% of participants eligible for a cash distribution took one, while the vast majority (88%) continued to preserve their plan assets for retirement (Figure 37).

These figures differ from other reported statistics on plan distributions because they include participants who chose to retain their assets in their prior employer’s plan when they changed jobs or retired. Among only those participants who took a distribution from their plan, the same percentage of participants took cash distributions (12%) as those who rolled over their assets to another plan or IRA (12%). But in our view, a full assessment of plan distribution behavior must include participants who kept their assets within their prior employer’s plan at the time of a job change or retirement.

Figure 36. Distribution options, 2020

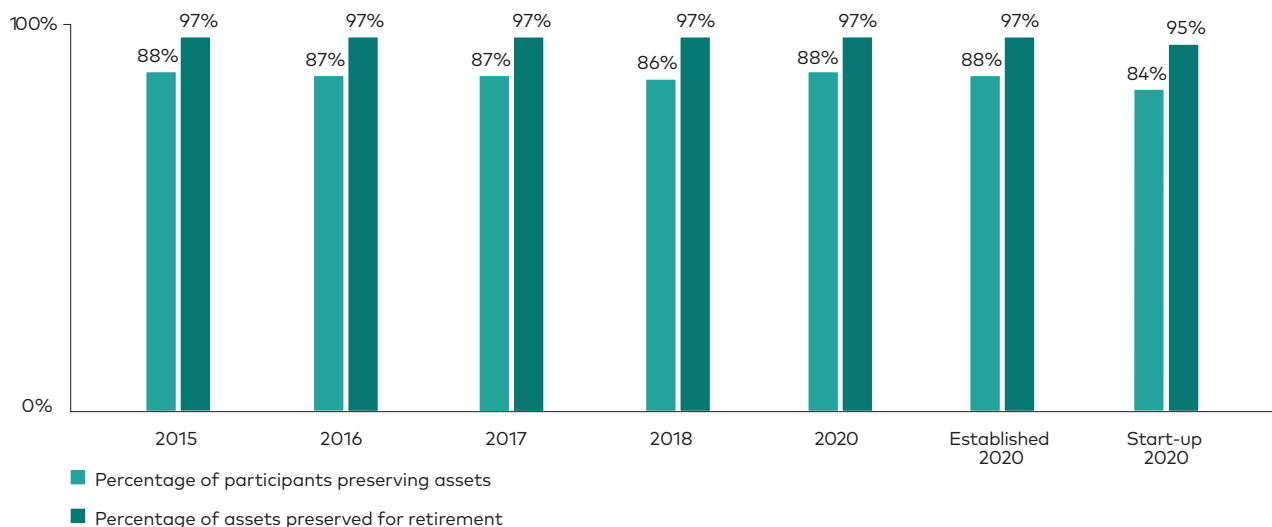
Vanguard Retirement Plan Access defined contribution plans

| | All | Established | Start-up |
|------------------------------|------|-------------|----------|
| Deferral | 100% | 100% | 100% |
| Installments other than RMDs | 10 | 11 | 6 |
| Ad hoc partial distributions | 100 | 100 | 100 |

Source: Vanguard 2021.

Figure 37. Plan distributions

Vanguard Retirement Plan Access defined contribution plans



| | 2016 | 2017 | 2018 | 2019 | 2020 | Established 2020 | Start-up 2020 |
|--|------|------|------|------|------|------------------|---------------|
| Percentage of participants choosing | | | | | | | |
| Remain in plan | 77% | 76% | 75% | 74% | 76% | 76% | 71% |
| Rollover | 11 | 11 | 12 | 12 | 12 | 12 | 13 |
| Remain in plan and rollover | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Installment payments | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Participants preserving assets | 88 | 87 | 87 | 86 | 88 | 88 | 84 |
| Cash lump sum | 11 | 12 | 12 | 13 | 11 | 11 | 15 |
| Rollover and cash | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percentage of assets available for distribution | | | | | | | |
| Remain in plan | 77% | 78% | 78% | 78% | 79% | 79% | 76% |
| Rollover | 19 | 19 | 19 | 19 | 18 | 18 | 19 |
| Remain in plan and rollover | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Installment payments | 1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Assets preserved for retirement | 97 | 97 | 97 | 97 | 97 | 97 | 95 |
| Cash lump sum | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| Rollover and cash | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

Source: Vanguard 2021.

Appendix

In this table, we provide a comparison of VRPA key statistics with the *How America Saves* population recordkept directly by Vanguard.

Vanguard Retirement Plan Access™ comparison to *How America Saves*

| | Vanguard Retirement Plan Access | | | | | How America Saves |
|---|---------------------------------|----------|----------|----------|----------|-------------------|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2020 |
| Vanguard recordkeeping statistics | | | | | | |
| Number of participant accounts | 273,045 | 370,414 | 489,625 | 606,129 | 701,598 | 4.7 million |
| Number of plans | 6,506 | 8,873 | 11,263 | 13,433 | 15,243 | 1.7 thousand |
| Median participant age | 42 | 42 | 42 | 42 | 42 | 44 |
| Median participant tenure (years) | 4 | 4 | 4 | 4 | 4 | 7 |
| Percentage male | 57% | 57% | 57% | 55% | 54% | 56% |
| Median eligible employee income (thousands) | \$49 | \$48 | \$45 | \$45 | \$47 | \$64* |
| Median participant income (thousands) | \$64 | \$63 | \$62 | \$64 | \$66 | \$73* |
| Median nonparticipant income (thousands) | \$30 | \$28 | \$22 | \$22 | \$21 | \$34* |
| 1. Accumulating | | | | | | |
| Plan design | | | | | | |
| Plans offering immediate eligibility for employee contributions | 21% | 21% | 22% | 21% | 21% | 70%* |
| Plans providing an employer contribution | 75% | 75% | 77% | 79% | 80% | 96%* |
| Plans with automatic enrollment | 15% | 15% | 15% | 16% | 16% | 54% |
| Plans with automatic enrollment with automatic annual increases | 38% | 38% | 39% | 40% | 41% | 69% |
| Plans offering catch-up contributions | >99.5% | >99.5% | >99.5% | >99.5% | >99.5% | 97.0% |
| Plans offering Roth contributions | 78% | 81% | 82% | 84% | 85% | 74% |
| Plans offering after-tax contributions | 3% | 3% | 3% | 3% | 3% | 19% |
| Participation rates | | | | | | |
| Plan-weighted participation rate | 71% | 72% | 72% | 72% | 73% | 84%* |
| Participant-weighted participation rate | 61% | 63% | 60% | 59% | 60% | 78%* |
| Voluntary enrollment participant-weighted participation rate | 57% | 58% | 54% | 52% | 53% | 62%* |
| Automatic enrollment participant-weighted participation rate | 82% | 83% | 82% | 83% | 85% | 92%* |
| Participants using catch-up contributions (when offered) | 17% | 17% | 18% | 18% | 19% | 15%* |
| Participants using Roth (when offered) | 15% | 15% | 16% | 17% | 18% | 14%* |
| Participants using after-tax (when offered) | <0.5% | 1.0% | 1.0% | <0.5% | <0.5% | 10.0%* |
| Employee deferrals | | | | | | |
| Average participant deferral rate | 6.9% | 7.1% | 7.1% | 7.1% | 7.3% | 7.2%* |
| Median participant deferral rate | 5.0% | 5.1% | 5.1% | 5.2% | 5.5% | 6.0%* |
| Percentage of participants deferring more than 10% | 19% | 19% | 19% | 19% | 20% | 22%* |
| Voluntary enrollment plan average participant deferral rate | 7.3% | 7.6% | 7.5% | 7.6% | 7.7% | 7.2%* |
| Automatic enrollment plan average participant deferral rate | 5.7% | 6.0% | 6.1% | 6.1% | 6.4% | 7.2%* |
| Participants reaching 402(g) limit (\$19,500 in 2020) | 12% | 12% | 11% | 11% | 12% | 12%* |
| Average total contribution rate (participant and employer) | 9.3% | 9.7% | 9.7% | 9.8% | 9.9% | 11.1%* |
| Median total contribution rate (participant and employer) | 8.0% | 8.1% | 8.2% | 8.4% | 8.5% | 10.2%* |
| Account balances | | | | | | |
| Average balance | \$55,480 | \$61,525 | \$54,232 | \$63,274 | \$71,258 | \$129,157 |
| Median balance | \$10,085 | \$11,182 | \$9,773 | \$11,564 | \$13,618 | \$33,472 |

| | Vanguard Retirement Plan Access | | | | | |
|---|---------------------------------|-------|-------|-------|-------|------|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2020 |
| 2. Managing | | | | | | |
| Asset and contribution allocation | | | | | | |
| Average plan asset allocation to equities | 71% | 73% | 72% | 73% | 73% | 72% |
| Average plan contribution allocation to equities | 74% | 75% | 76% | 76% | 76% | 77% |
| Average plan asset allocation to target-date funds | 42% | 43% | 45% | 45% | 45% | 37% |
| Average plan contribution allocation to target-date funds | 50% | 52% | 55% | 56% | 56% | 60% |
| Participants with balanced strategies | 80% | 80% | 79% | 80% | 78% | 76% |
| Extreme participant asset allocations (100% fixed income or equity) | 11% | 11% | 10% | 10% | 11% | 8% |
| Plan investment options | | | | | | |
| Average number of funds offered | 20.2 | 20.3 | 20.2 | 20.0 | 20.0 | 17.5 |
| Average number of funds used | 2.5 | 2.4 | 2.4 | 2.3 | 2.3 | 2.5 |
| Percentage of plans designating a QDIA | 98% | 98% | 98% | 98% | 98% | 87% |
| Among all plans designating a QDIA, percentage target-date fund | 97% | 97% | 97% | 97% | 97% | 97% |
| Plans offering target-date funds | 98% | 98% | 98% | 98% | 98% | 95% |
| Participants using target-date funds (when offered) | 75% | 76% | 78% | 79% | 79% | 80% |
| Plans offering managed account program or a model portfolio | 31% | 27% | 27% | 29% | 29% | 39% |
| Participants with professionally managed allocations | 62% | 64% | 66% | 67% | 67% | 62% |
| Participants using a single target-date fund | 57% | 59% | 61% | 63% | 63% | 54% |
| Participants using a single risk-based balanced fund | 3% | 3% | 3% | 2% | 2% | 1% |
| Participants using a managed account program or model portfolio | 2% | 2% | 2% | 2% | 2% | 7% |
| Plans offering company stock | <0.5% | <0.5% | <0.5% | <0.5% | <0.5% | 8.0% |
| Participants with >20% company stock | <0.5% | <0.5% | <0.5% | <0.5% | <0.5% | 3.0% |
| Trading activity | | | | | | |
| Participant-directed trading | 5% | 5% | 7% | 5% | 7% | 10% |
| 3. Accessing | | | | | | |
| Plan loans | | | | | | |
| Plans offering loans | 70% | 69% | 69% | 69% | 69% | 79% |
| Participants with an outstanding loan (when offered) | 8% | 8% | 8% | 7% | 6% | 13% |
| Recordkeeping assets borrowed | 1% | 1% | 1% | 1% | 1% | 1% |
| Plan withdrawals | | | | | | |
| Plans offering hardship withdrawals | 84% | 85% | 85% | 85% | 85% | 95% |
| Participants using withdrawals (when offered) | 1% | 1% | 1% | 2% | 2% | 7% |
| Recordkeeping assets withdrawn | 1% | 1% | 1% | 1% | 1% | 2% |
| Participant account balance withdrawn | 44% | 38% | 45% | 39% | 40% | 40% |
| Plan distributions and rollovers | | | | | | |
| Terminated participants preserving assets | 88% | 87% | 87% | 86% | 88% | 83% |
| Assets preserved that were available for distribution | 97% | 97% | 96% | 97% | 97% | 98% |

* These figures are estimated for 2020, as the data required to compute them will not be available until December 2021.

Source: Vanguard 2021.



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Acknowledgments

Launched in 2011, Vanguard Retirement Plan Access™ (VRPA) is a comprehensive service for retirement plans with up to \$50 million in assets. Ascensus, LLC—a nationally recognized recordkeeping firm—provides the administration of these plans on Vanguard's behalf. Through VRPA, we served 15,423 plan sponsors with 700,000 participants as of year-end 2020.

All investing is subject to risk, including the possible loss of the money you invest.

Be aware that fluctuations in the financial markets and other factors may cause declines in the value of your account. 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.

Diversification does not ensure a profit or protect against a loss.

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