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Research

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Generational changes in 401(k) behaviors

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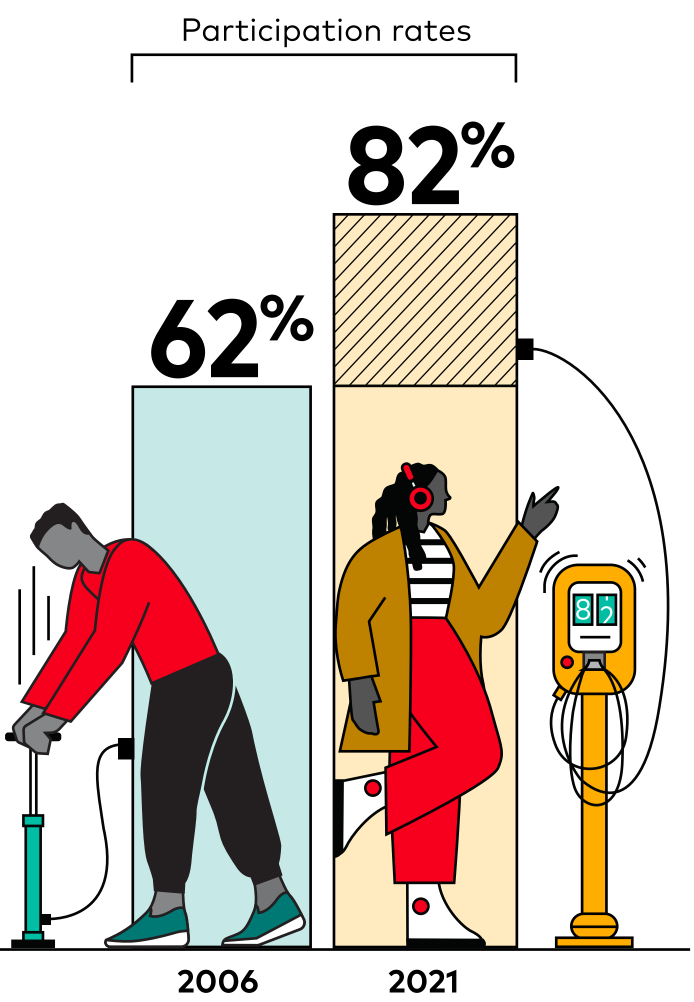
- **Automatic enrollment and the rise of target-date funds** are reshaping retirement plan behavior for all generations, but those innovations are having the greatest impact on younger workers—the millennials and Generation Z.
- **The overall participation rate of employees in our study increased from 62% in 2006 to 82% in 2021**, largely because more plans have adopted automatic enrollment. Generation Z's participation rate was more than twice as high as similarly aged employees in 2006.
- **Overall, eligible employees deferred nearly 40% more in 2021 than in 2006**. Employees across all generations saved more in 2021.
- **Professionally managed allocations (via target-date funds) and advice have significantly improved age-appropriate equity allocations for all generations**. In 2006, nearly one-quarter of participants ages 18 to 24 had no equity exposure. In 2021, 97% of automatically enrolled Generation Z participants had an equity allocation between 41% and 99%.



Introduction

Baby boomers were the first generation with access to defined contribution (DC) retirement plans throughout a meaningful part of their careers. Millennials were the first generation to have access to automatic enrollment and automatic investment solutions in DC plans during their early working years. This paper highlights some of the generational differences we have observed in our recordkeeping data over a 15-year period as a result of automatic solutions. We answer the question: How have generational patterns of saving and investing changed in DC plans?

Our approach was to compare cohorts based on their ages in 2006 and 2021. For example, millennials were 25 to 40 years old in 2021, so we compared 2021 millennials with workers ages 25 to 40 in 2006. We made similar comparisons for Generation Z (ages 18 to 24 in 2021), Generation X (ages 41 to 56 in 2021), and baby boomers (ages 57 and older in 2021).

Our data is drawn from a subset of Vanguard recordkeeping clients for whom we perform nondiscrimination testing. Those clients include 219 DC plans offered by the same set of companies in both 2006 and 2021, encompassing about 250,000 eligible employees in each year (**Figure 1**). Over this period, the demographic characteristics of the population shifted modestly. (See the Appendix for details on the changes, or lack of changes, in population characteristics between 2006 and 2021.)

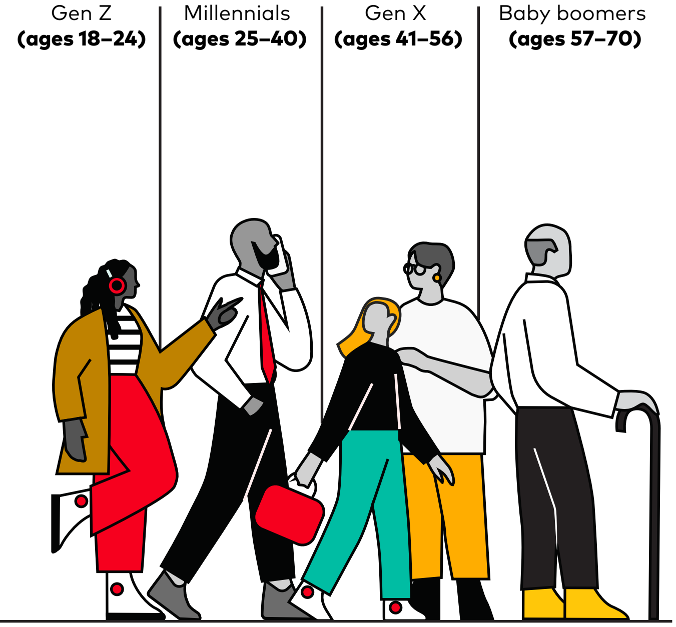


Figure 1. Study sample

	2006	2021
Number of plans	219	219
Plans with voluntary enrollment	89%	50%
Plans with automatic enrollment	11%	50%
Number of eligible employees	241,519	260,788

Distribution of eligible employees	**2006**	**2021**
Ages 18–24	6%	7%
Ages 25–40	36%	38%
Ages 41–56	46%	37%
Ages 57–70	12%	18%

Source: Vanguard, 2023.

One dramatic shift during this period was the rising adoption of automatic enrollment. In 2006, 11% of plans offered automatic enrollment, but by year-end 2021, half of the plans in our study had adopted the feature. We define two separate populations of interest. Voluntarily enrolled participants are those who were hired under a voluntary enrollment design or, in plans with automatic enrollment, were hired before the plan adopted automatic enrollment. Automatic enrollment participants are those who were hired in a plan with new-hire automatic enrollment or those who were eligible nonparticipants when the plan "swept" all eligible employees into the plan.

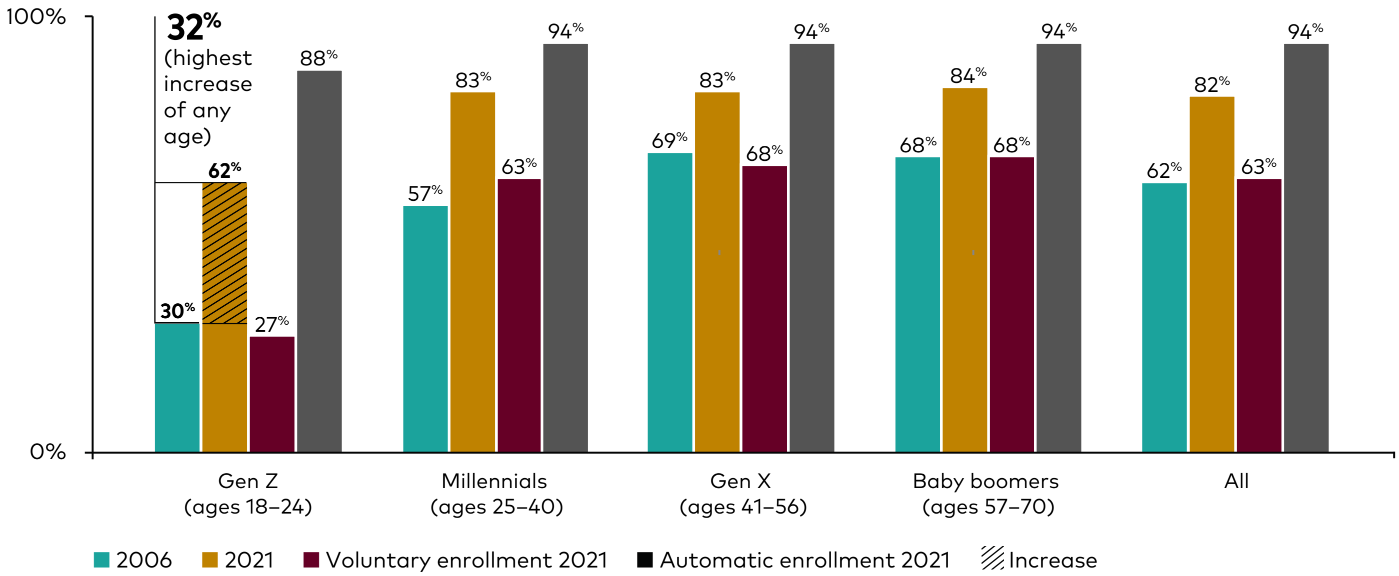
About 10% of contributing participants belonged to plans with an automatic enrollment plan design in 2006. By year-end 2021, more than 70% of all contributing participants, including about three-quarters of Generation Z and millennials, were in plans with automatic enrollment.

Participation rates

Between 2006 and 2021, aggregate participation rates across our sample rose dramatically among participants subject to automatic enrollment (**Figure 2**). In 2006, the participation rate for our sample was 62%; it rose to 82% by 2021. But among plans with automatic enrollment, participation reached 94% in 2021. This result reflects the powerful effects of automatic enrollment on plan participation.

All generations saw rising participation rates. Because young participants typically have the lowest participation rates, Generation Z saw the largest increase. In 2006, 30% of employees ages 18 to 24 participated in their plan. This rate rose to 62% in 2021. In plans with voluntary enrollment designs in 2021, only about 1 in 4 employees participated, compared with nearly 9 in 10 among employees in plans with automatic enrollment designs.

Figure 2. Participation rates: 2006 versus 2021



Source: Vanguard, 2023.

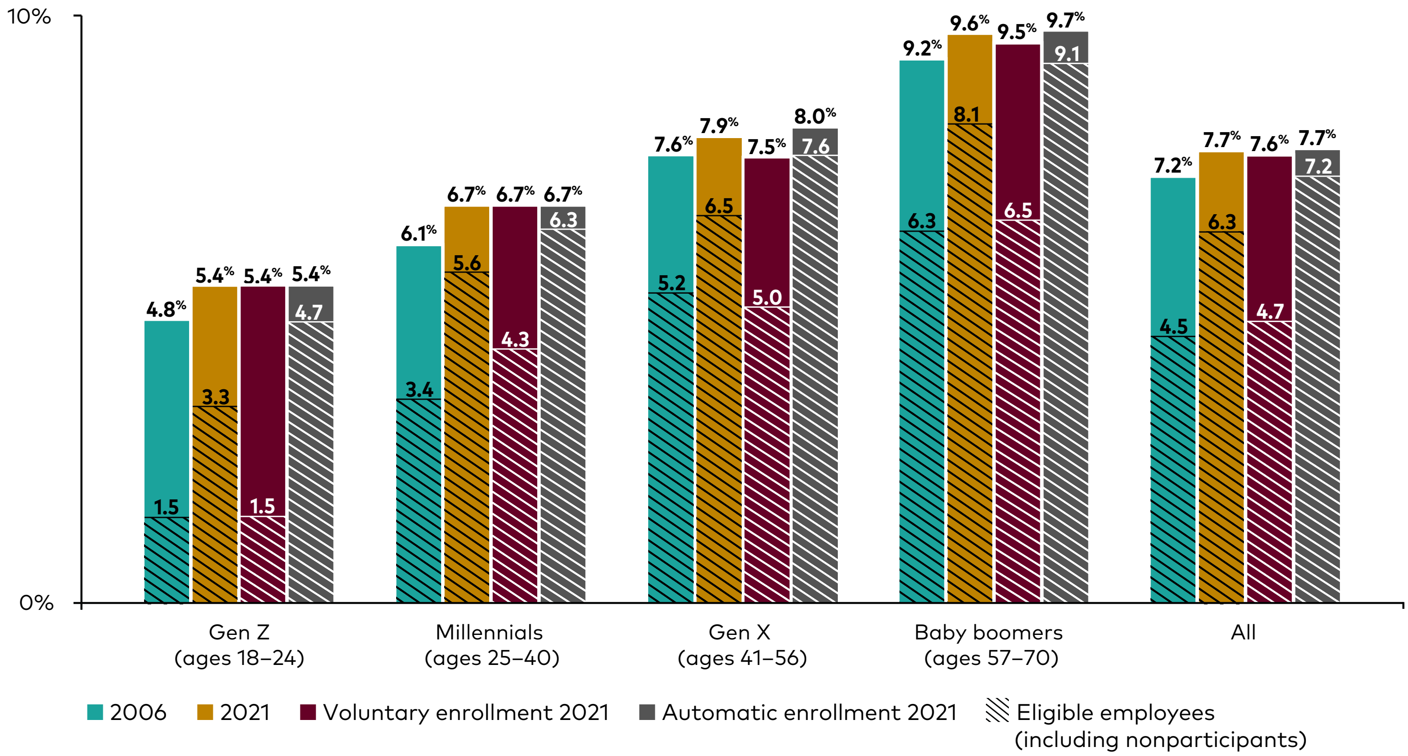
Deferral rates

The average employee-elective deferral rate among plan participants—the amount withheld from participant paychecks—was 7.2% in 2006 (**Figure 3**). This rate includes plan participants only and excludes those who were not saving (that is, those who were eligible but had decided not to save). Among all plans, the rate increased to 7.7% by 2021.

In voluntary enrollment plans, the average deferral rate was 7.6% in 2021, slightly below the automatic enrollment rate of 7.7%. While the most common default deferral rate in plans with automatic enrollment was 3%, many plan sponsors reassessed their plan defaults. By 2021, 58% of plans had chosen default deferral rates of 4% or higher.[1]

1 *How America Saves 2022*. Vanguard, 2022.

Figure 3. Participant and eligible employee average deferral rates

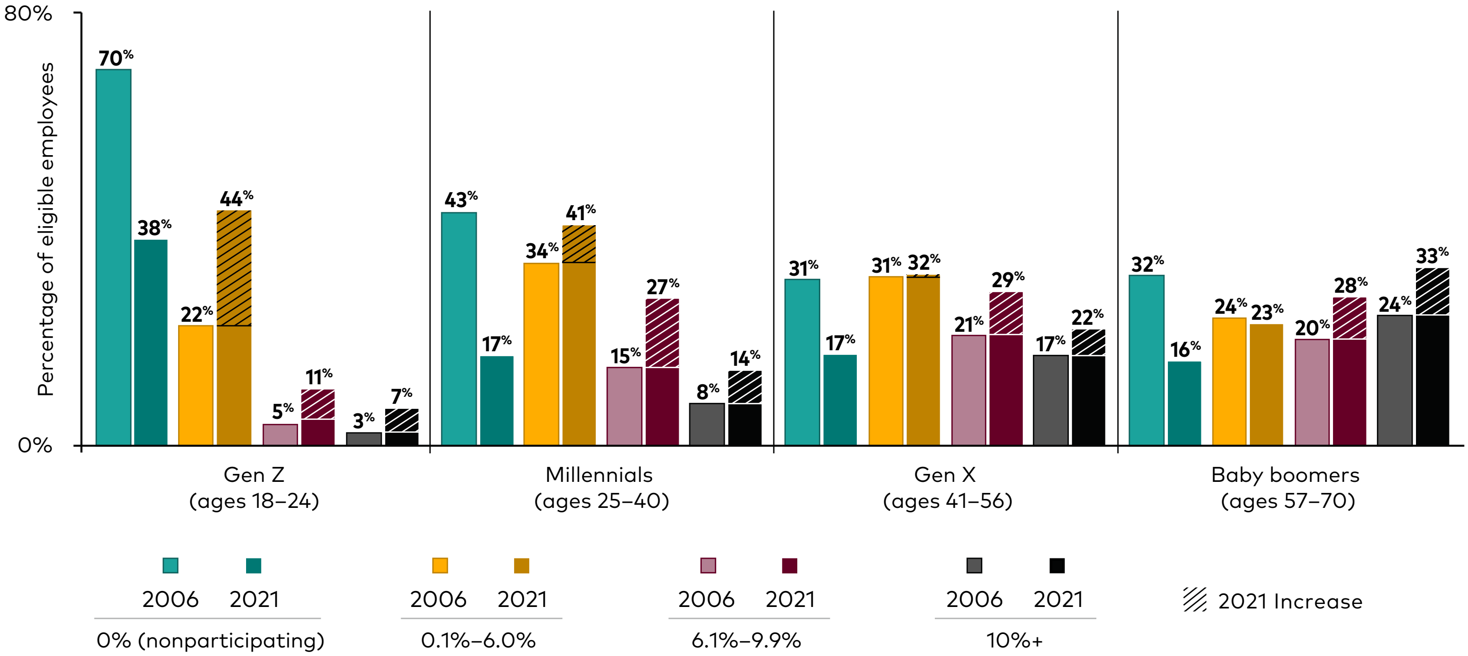


Source: Vanguard, 2023.

A different picture emerges when we calculated an average deferral rate for all eligible employees, including both those who participate in the plan and those who do not. Overall employee-elective deferral rates rose significantly between 2006 and 2021 and were highest in plans with automatic enrollment designs in 2021. Generation Z and millennials in automatic enrollment plans had the strongest gains. Generational cohorts in plans with voluntary enrollment designs typically had contribution rates in line with all employees in 2006.

An automatic annual increase feature may also influence saving behavior. Among voluntary enrollment plans, 20% of participants had chosen to sign up for an automatic annual increase in 2021. Generations differed, with millennials somewhat more likely to sign up than other generations. But among automatic enrollment plans, more than twice as many participants opted for an automatic increase, and nearly half of millennials were enrolled in an autoincrease feature. The higher figure for automatic enrollment plans reflects sponsors' introduction of the feature as part of automatic enrollment and that the automatic increase feature is a default for two-thirds of these plans.

Figure 4. Distribution of eligible employee-elective deferral rates



Source: Vanguard, 2023.

One way to summarize these effects is to examine the distribution of deferral rates for all eligible employees (**Figure 4**). Eligible employees include those who contribute and those who do not (those with a 0% employee-elective deferral rate). All cohorts had stronger employee-elective deferrals in 2021. For example, 83% of millennials were participating, compared with 57% of employees ages 25 to 40 in 2006. And 41% of millennials were deferring more than 6%, compared with 23% of those ages 25 to 40 in 2006. We also observed the shift in improved participation rates due to automatic enrollment and increased deferral rates due to automatic increase.

Incorporating employer contributions

We can also measure the aggregate contribution rate, which combines the employee deferral amount and the employer contribution. Ninety-five percent of plans have an employer contribution.[2]

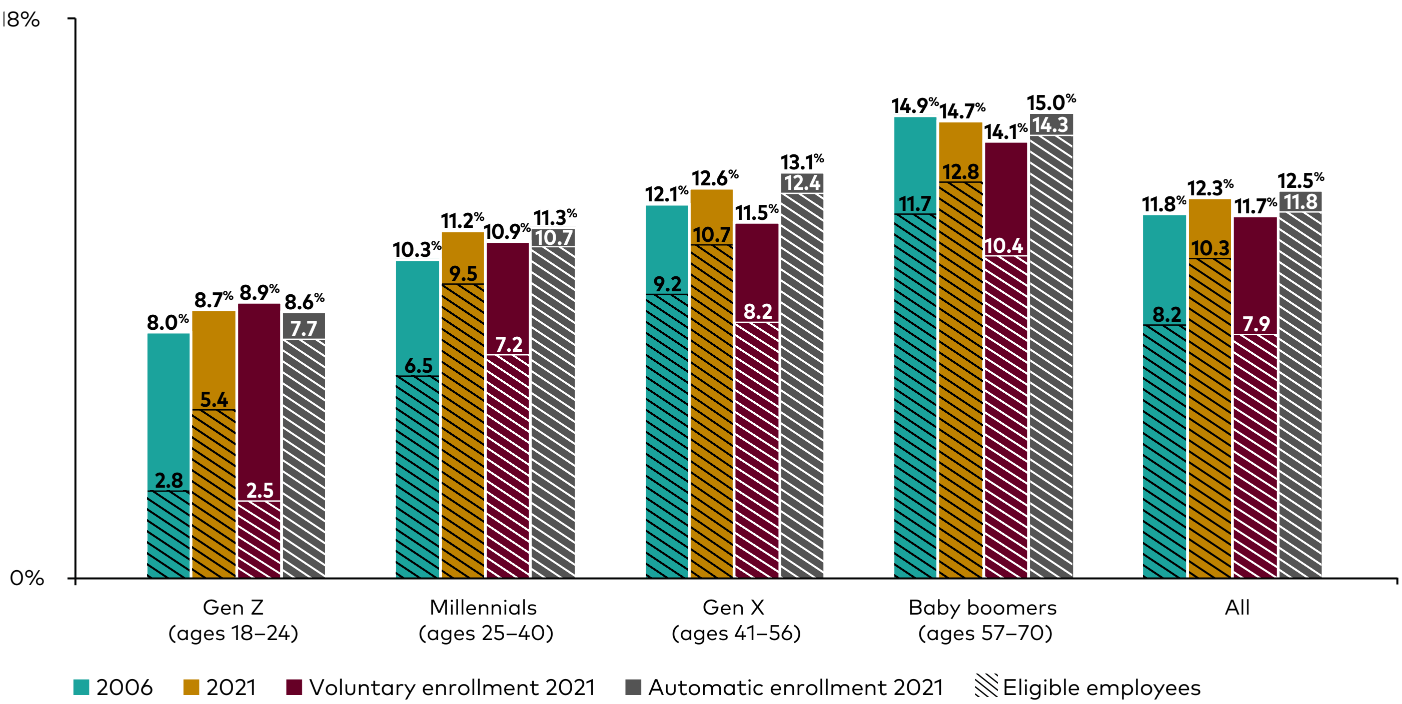
2 Source: Vanguard, 2022. Ninety-five percent of plans had employer contributions in 2021. Eighty-five percent of plans had a matching contribution. Nearly half of plans also had a nonmatching employer contribution, with 36% of plans having both matching and nonmatching employer contributions.

In 2006, the average aggregate contribution rate was 11.8%; it was 12.3% in 2021 (**Figure 5**). For participants subject to automatic enrollment in 2021, the aggregate contribution rate was 12.5%, and the rate for those in voluntary enrollment plans was 11.7%.

Including employees not contributing to the plan, the eligible employee aggregate contribution rate was 8.2% in 2006; it was 10.3% in 2021. It reached 11.8% for employees subject to automatic enrollment in 2021, compared with 7.9% for eligible employees in a voluntary enrollment design.

Over the 15-year period, eligible employee aggregate contribution rates increased for all cohorts. Younger generations saw the largest improvement, with aggregate contribution rates almost doubling for employees ages 18 to 24.

Figure 5. Average total saving rates (employee and employer)



Source: Vanguard, 2023.

Account balances

In this section, we compare account balances over time. All figures are in 2021 dollars, so the 2006 values have been adjusted for inflation.

Overall, the median participant account balance increased from $44,524 in 2006 to $48,365 in 2021 (**Figure 6**). Reflecting higher contribution rates, older participants' median account balances were 44% higher in 2021. In all age cohorts observed, median balances increased from 2006. In addition, because of higher total saving rates, participants across all age cohorts who were automatically enrolled in 2021 had higher median account balances than those in voluntary enrollment.

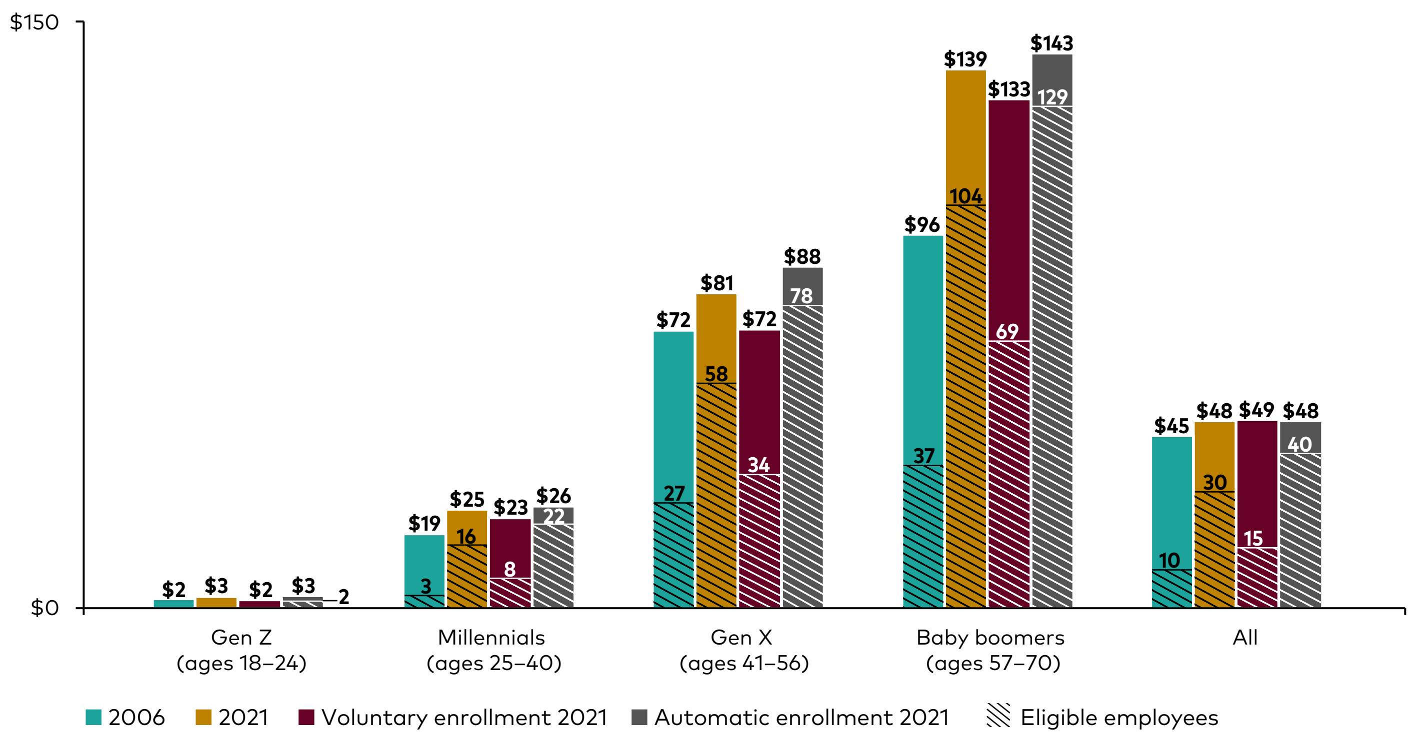
But when both participants and eligible nonparticipants who are not contributing are included, a different perspective emerges. At the median, overall employee account balances tripled from $9,680 in 2006 to $29,762 in 2021. Millennial employees in plans with automatic enrollment increased their assets seven-fold compared with the same age cohort 15 years earlier. Generation X and baby boomers also experienced strong account balance gains during this period.

Investments

In 2006, the median equity allocations were similar for the age cohorts 18 to 24, 25 to 40, and 41 to 56 (**Figure 7**). The oldest cohort, ages 57 to 70, held a 70% equity allocation in 2006, and the spread between the youngest and oldest cohorts was only 11 percentage points. In 2021, the difference in the equity allocation held by each generation was much sharper. Generation Z and millennials had a median equity allocation of 89%, compared with 61% to 65% for the baby-boomer generation—based on whether participants were subject to automatic enrollment, a 24%-to-28% spread.

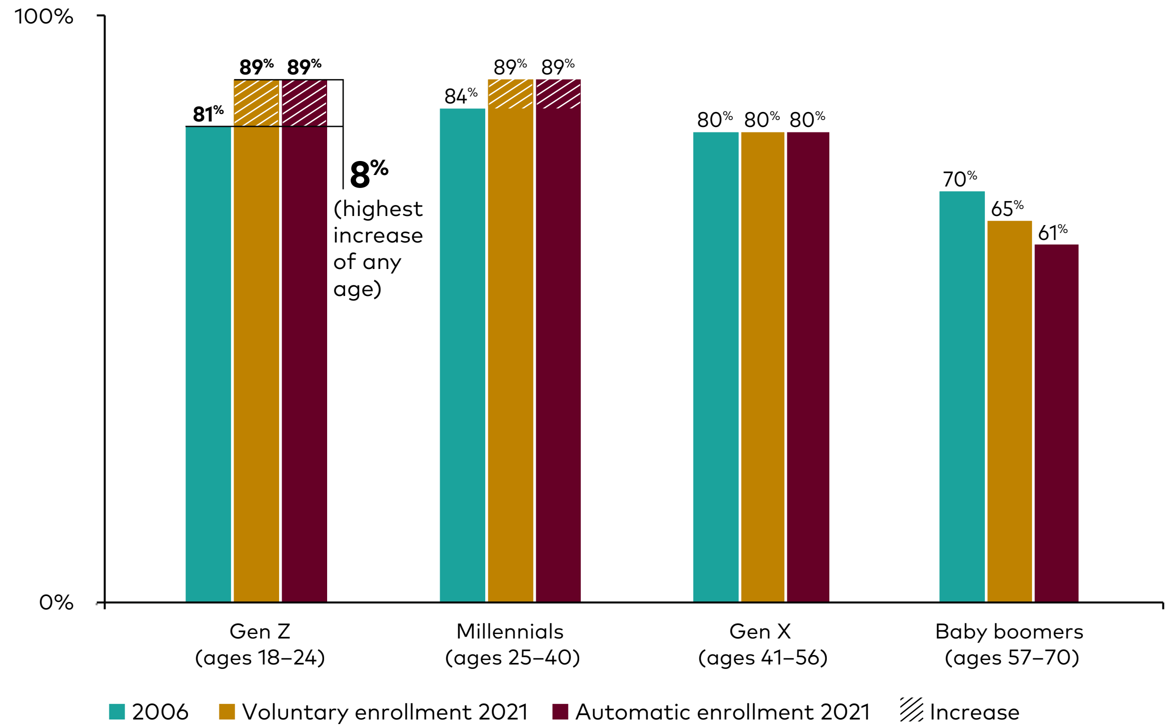
The distribution of equity exposure also shifted between 2006 and 2021 (**Figure 8**). In 2006, the distribution of equity exposure for the four age cohorts was similar. Surprisingly, the highest percentage of participants without equities were those younger than 25. Thirty-seven percent of the youngest age group held extreme portfolios (defined as all equity or zero equity), and 36% of the oldest age group held extreme portfolios.

Figure 6. Median participant and eligible employee account balances (all dollar figures in thousands)



Source: Vanguard, 2023.

Figure 7. Participant-weighted equity allocation (median)



Source: Vanguard, 2023.

In 2021, only 3% of Generation Z participants in automatic enrollment plans held extreme portfolios, and more than 9 in 10 held portfolios with an equity allocation between 41% and 90%. More than 8 in 10 millennials, Generation X, and baby boomers in plans with automatic enrollment designs held equity allocations between 41% and 90% in 2021, compared with less than half in 2006.

Our research shows that the use of target-date funds (TDFs), especially when chosen as an automatic enrollment default, has changed the composition of retirement assets. Moreover, TDFs introduce a simplified portfolio choice in plans offering voluntary enrollment—namely, a portfolio based on retirement age.

TDFs are the main type of professionally managed allocations in DC plans. Participants with professionally managed allocations have invested their entire account balance in a single TDF, a single traditional balanced fund, or a managed account advisory service. In 2006, only 8% of all age cohorts were invested in a professionally managed allocation (**Figure 9**). Participants were about six to seven times more likely to have adopted professionally managed allocations by 2021, when 56% of millennial participants in voluntary enrollment plans and 68% in automatic enrollment plans were invested in a professionally managed allocation. In other words, about 6 in 10 millennial participants have turned portfolio construction over to an investment professional vetted by the plan sponsor fiduciary.

Figure 8. Distribution of equity exposure

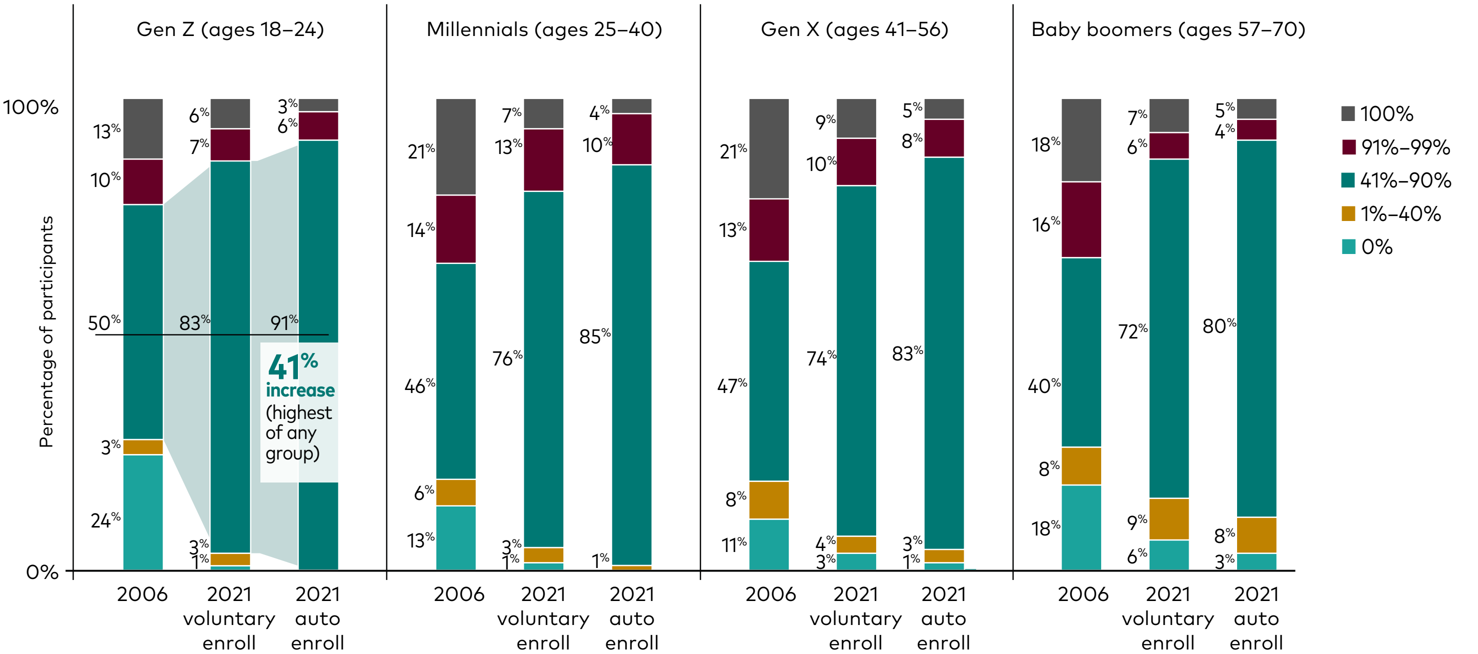
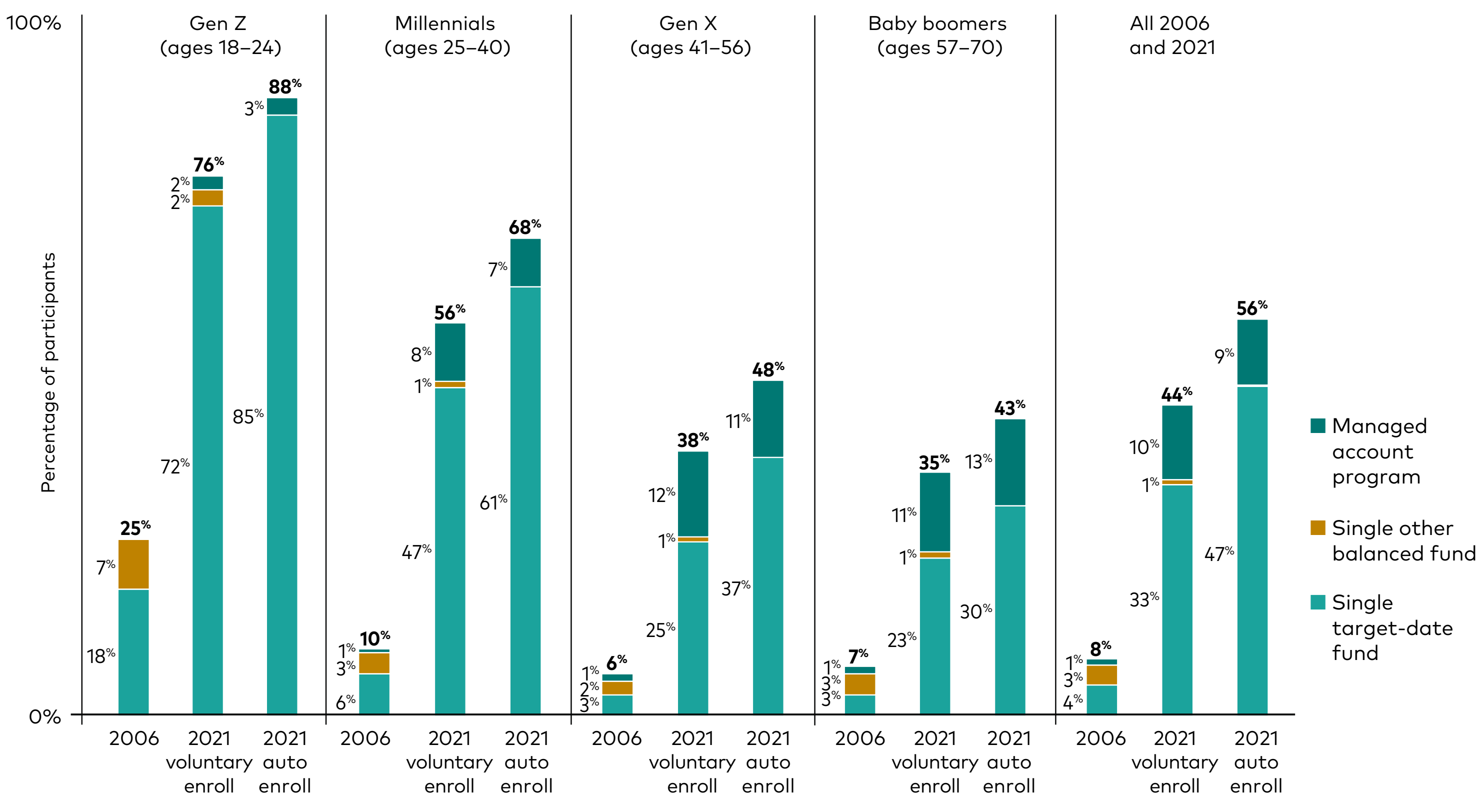


Figure 9. Adoption of professionally managed allocations



Source: Vanguard, 2023.

Implications

Our data suggests that automatic solutions and the rise of TDFs have played substantial roles in changing DC saving and investment behavior. For example, while the 2008 global financial crisis has shaped millennials' income and job prospects, those who are working are, on the aggregate, saving more because of automatic enrollment. Although millennials have lived through two significant equity bear markets, their allocation to equities was higher in 2021 than in 2006 because they use TDFs.

While these effects are most pronounced for the youngest workers, the greater use of automatic solutions will continue to improve allocations and savings outcomes for all generations.

But within all generational cohorts, some participants are saving and investing better than others. All participants are individuals, and participants within the various generational cohorts display a broad array of distinct retirement plan saving behaviors. All generational cohorts would benefit from higher saving rates and higher adoption of professionally managed allocations.

Appendix

Population demographics

		2006	2021
Median eligible employee tenure	Ages 18–24	1	1
	Ages 25–40	4	4
	Ages 41–56	12	11
	Ages 57–70	20	17
	All	7	7
Percentage male	Ages 18–24	67%	65%
	Ages 25–40	67%	67%
	Ages 41–56	69%	69%
	Ages 57–70	72%	68%
	All	68%	68%
Median eligible employee income ($2021)	Ages 18–24	$30,602	$36,555
	Ages 25–40	$59,999	$66,604
	Ages 41–56	$77,828	$81,589
	Ages 57–70	$78,160	$79,732
	All	$68,136	$72,007
Median eligible employee account balance ($2021)	Ages 18–24	$0	$5,939
	Ages 25–40	$3,059	$34,856
	Ages 41–56	$27,018	$83,889
	Ages 57–70	$36,630	$69,366
	All	$9,680	$24,949

Note: 2006 income and account balances are adjusted to 2021 dollars.

Source: Vanguard, 2023.

All investing is subject to risk, including the possible loss of the money you invest Diversification does not ensure a profit or protect against a loss.

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.

There is no guarantee that any particular asset allocation or mix of funds will meet your investment objectives or provide you with a given level of income.

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