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The auto savings generation: Steering millennials to better retirement outcomes

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- It may be that there are generational differences in saving and investment behavior arising from the unique life experiences that different demographic cohorts have experienced.
- Automatic enrollment and the rise of target-date funds are reshaping retirement plan outcomes for all generations. However, these innovations are having the greatest impact on millennials' retirement savings.
- In 2013, two-thirds of millennial plan participants had been subjected to automatic enrollment compared with 4 in 10 early boomers in 2013.
- While millennials' income and job prospects have been shaped by the Great Recession, those working are, in the aggregate, saving more due to automatic enrollment.
- Millennials are twice as likely to have been using professionally managed allocations, including target-date funds, than the early boomer cohort in 2013. Half of the millennial generation held a single target-date fund at the end of 2013.
- Millennials have lived through two significant bear markets in equities. However, their allocation to equities is higher due to the use of target-date funds.

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.

1 The author would like to thank Jeffrey W. Clark for his support of the data analysis.

Introduction

Baby boomers were the first generation with access to defined contribution (DC) plans throughout a meaningful part of their working careers. In a similar way, millennials are the first generation with access to automatic enrollment and automatic investment options in DC plans throughout the early years of their working lives. In this paper, we highlight some of the generational differences we observe in our recordkeeping data over a ten-year period as a result of these changes. How have generational patterns of saving and investing changed in DC retirement plans? This is the question we will explore in this research paper.

Our general approach is to compare cohorts of individuals based on their ages in 2013 and 2003. For example, the millennial generation would have been ages 18 to 34 in 2013. We compare these 2013 millennials with the population ages 18 to 34 in 2003. We make similar comparisons for the Gen Xer cohort (ages 35 to 49 in 2013), the late boomers (ages 50 to 59 in 2013), and the early boomers (ages 60 to 69 in 2013).

Our data comes from about 400 DC plans offered by the same set of companies in both 2003 and 2013, encompassing nearly 800,000 eligible employees in 2003 and nearly 1 million eligible employees in 2013 (**Figure 1**). This data is drawn from Vanguard's DC recordkeeping systems. Over this period, the demographic characteristics of the population shifted only modestly. See the Appendix for detail on the changes, or rather lack of changes, in population characteristics between 2003 and 2013.

Figure 1. Study sample

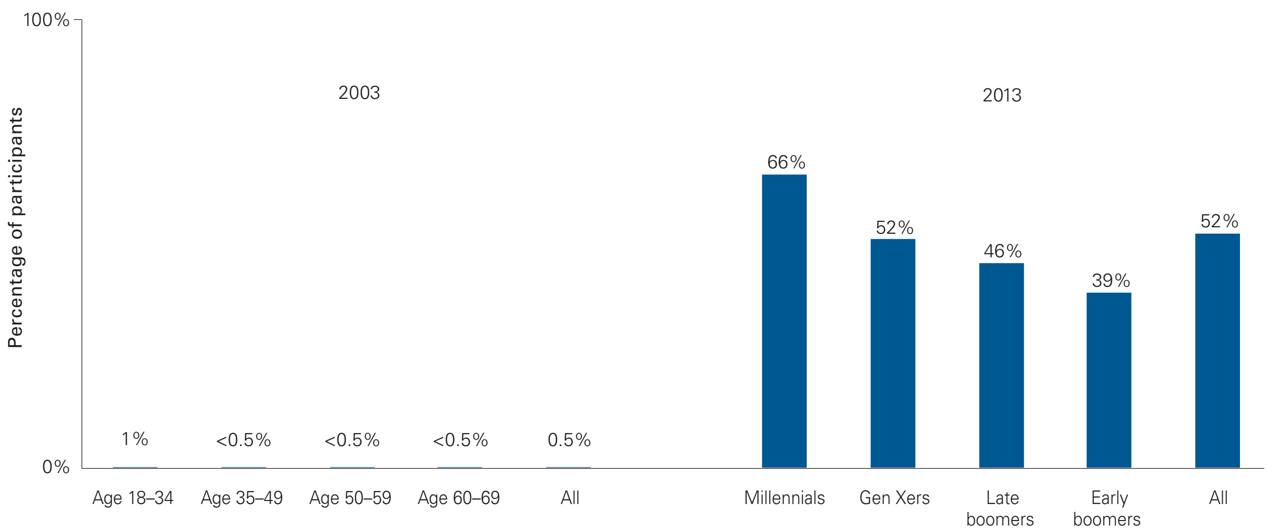
	2003	2013
Number of plans	*393*	*393*
Plans with voluntary enrollment	99%	60%
Plans with automatic enrollment	1%	40%
Number of eligible employees	*788,785*	*973,277*
Distribution of eligible employees		
Age 18–34	26%	25%
Age 35–49	46	39
Age 50–59	23	27
Age 60–69	5	9

Source: Vanguard, 2015.

One dramatic shift during this period was the rising adoption of automatic enrollment. In 2003, less than 1% of plans had adopted automatic enrollment, but by the end of 2013, 40% of plans had adopted the feature. About half of the plans at Vanguard implemented automatic enrollment for all eligible employees, by either "sweeping" the nonparticipants when automatic enrollment was initially adopted or at a later date. We define two separate populations of interest. Voluntarily enrolled participants are those who were hired under a voluntary enrollment design or, in an automatic enrollment plan, 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 who were an existing eligible nonparticipant when the plan "swept" all eligible employees.

In terms of contributing participants, less than 1% had been subjected to an automatic enrollment plan design in 2003. By the end of 2013, more than half of all contributing participants, including two-thirds of millennials, were in plans where they had been subject to automatic enrollment (Figure 2).

Figure 2. Participants with employee-elective deferrals joining the plan under automatic enrollment



Note: About half of the plans with automatic enrollment implemented it for all eligible employees, by either "sweeping" nonparticipants when automatic enrollment was initially adopted or at a later date. We are able to segregate individuals hired under a voluntary enrollment design and joining the plan before the implementation of automatic enrollment from those participants subjected to an automatic enrollment design. Participants in plans with automatic enrollment who were not subject to automatic enrollment are included in the voluntary enrollment category.

Source: Vanguard, 2015.

Participation rates

Between 2003 and 2013, aggregate participation rates across our sample rose—and much more dramatically among participants subjected to automatic enrollment (Figure 3). In 2003, the participation rate for our sample was 66%. Among voluntary enrollment designs, it rose to 72% by 2013. But among automatic enrollment designs, the increase was dramatic and participation reached 90%. This result reflects the powerful effects of automatic enrollment on plan participation.

All generational cohorts saw rising participation rates. However, millennials saw the largest increase. In 2003, just more than half of individuals ages 18 to 34 participated in their plan. In 2013, among voluntary enrollment designs, this rate rose to 60%. But among automatic enrollment designs, it reached 87%. That is a relative increase of more than 70% compared with 2003.

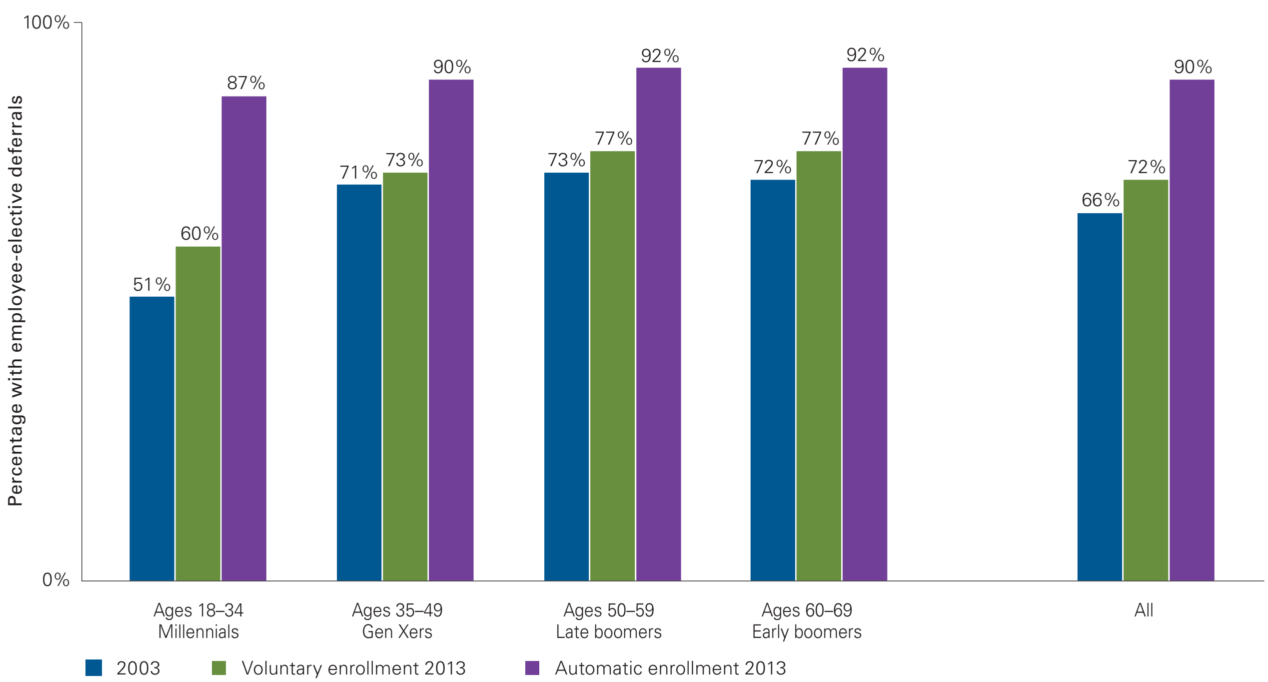
Two factors contribute to this larger millennial effect. One is that young participants typically have the lowest participation rates—so the impact of automatic enrollment is the largest in this group. The second is that half of employers introduced automatic enrollment for new hires only, and millennials have a median tenure of just two years.

Deferral rates

The average employee-elective deferral rate among plan participants, or the amount withheld from participant paychecks, was 7.3% in 2003 (Figure 4, Panel A). This data focuses on plan participants only, and so excludes those who are not saving (i.e., it excludes "0%" employee-elective deferral rates). In voluntary enrollment plans, the average deferral rate rose modestly to 7.6% in 2013. However, in automatic enrollment plans, it fell to 6.4% in 2013, a relative 12% decline. Our research shows that plan design defaults have a strong impact on participant behavior and the most common default deferral rate in plans with automatic enrollment is 3%.[2]

However, a different picture emerges when we calculate an average deferral rate for all eligible employees, including those who are plan participants and those who are not (i.e., including the "zeros"). Employee-elective deferral rates rose across the board between 2003 and 2013, and were highest in automatic enrollment designs in 2013 (Figure 4, Panel B). All generational cohorts saw an improvement in total saving rates and millennials had the strongest gains.

Figure 3. Participation rates: 2003 versus 2013

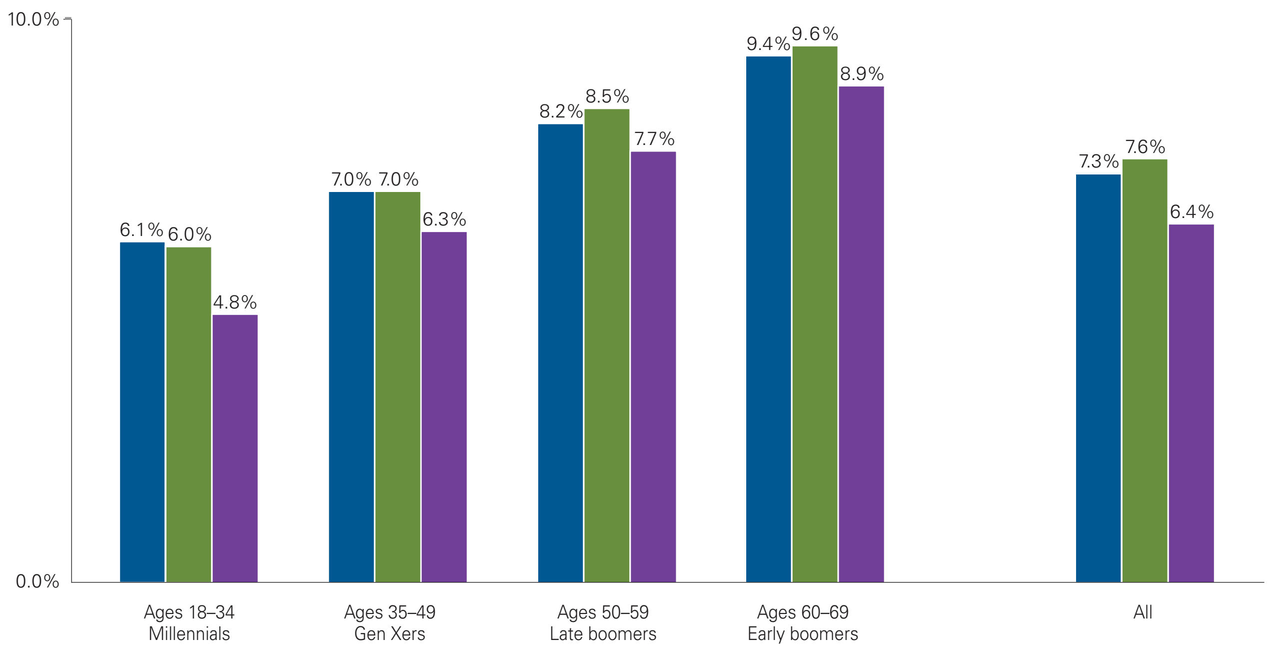


Source: Vanguard, 2015.

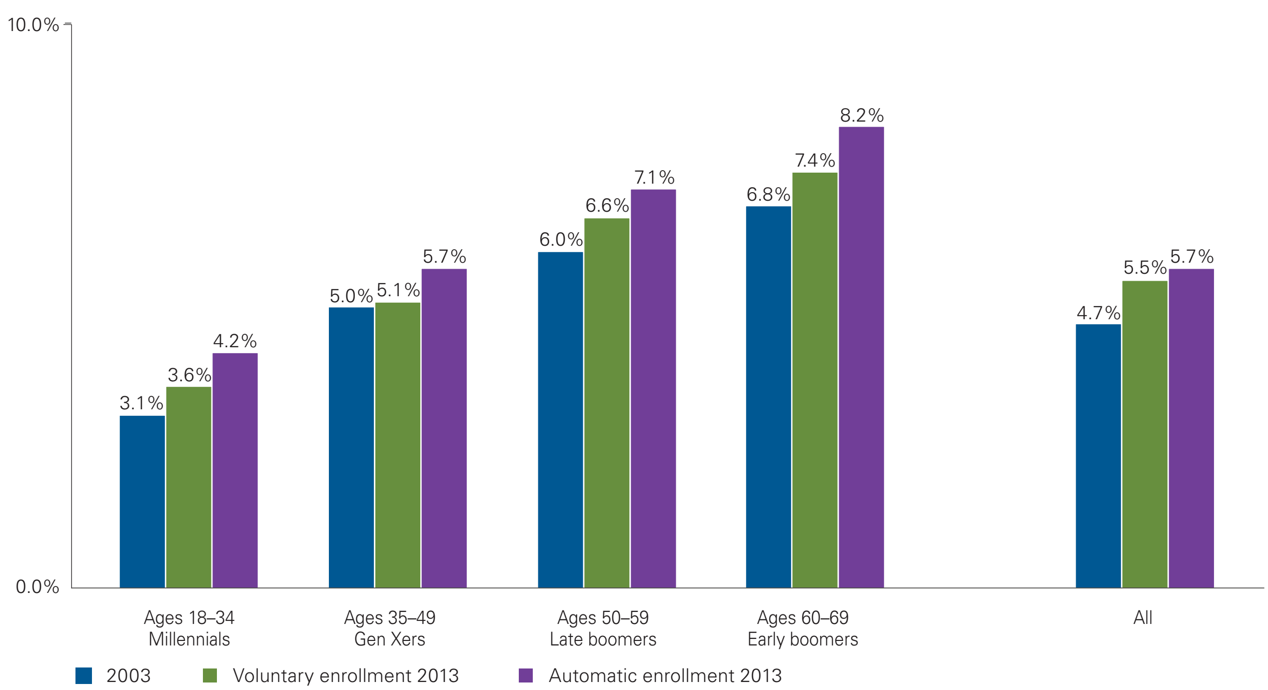
2 See Jeffrey W. Clark, Stephen P. Utkus, and Jean A. Young, 2015, *Automatic enrollment: The power of the default*, Vanguard research, institutional.vanguard.com.

Figure 4. Employee-elective deferral rates: 2003 versus 2013

Panel A: Participant employee-elective deferral rates (average)



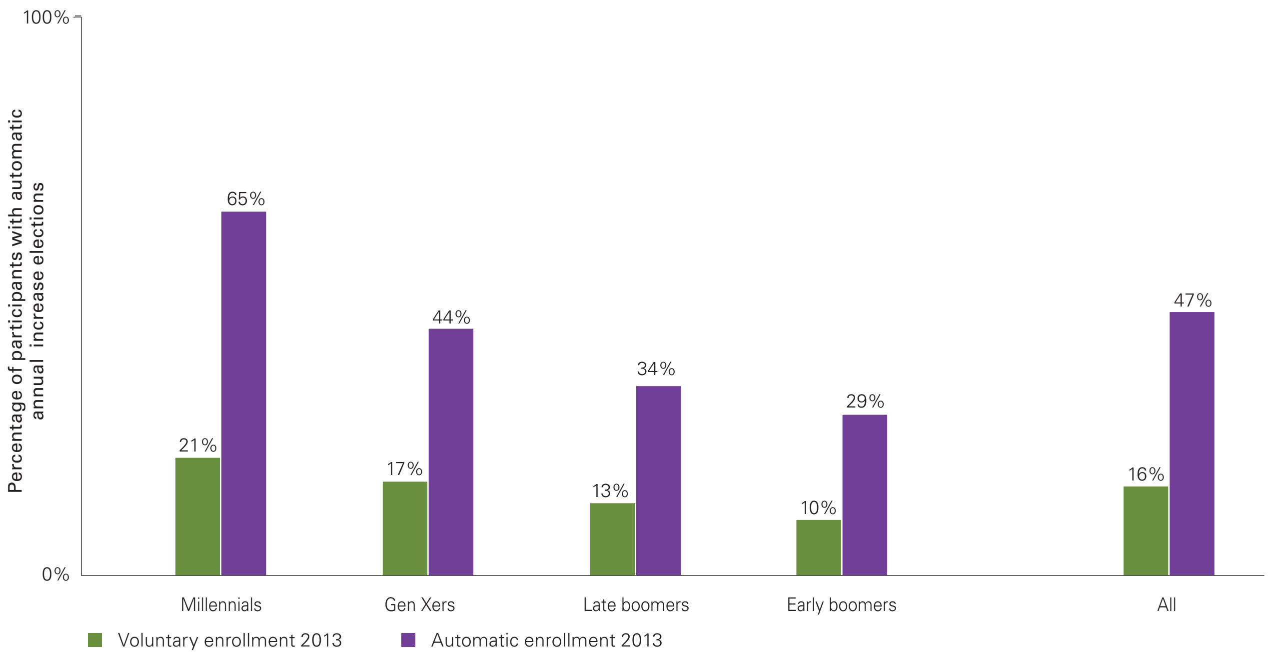
Panel B: Eligible employee-elective deferral rates (average)



Source: Vanguard, 2015.

Savings behavior may also be influenced by an automatic annual increase feature. In 2013, among voluntary enrollment plans, 16% of participants had chosen to sign up for such a service (Figure 5). There were some differences among generations, with millennials somewhat more likely to sign up than older generations. However, among automatic enrollment plans, nearly half of participants were part of such an arrangement, and nearly two-thirds of millennials were enrolled in an automatic increase feature. The higher figure for automatic enrollment plans reflects the fact that sponsors have introduced the feature as part of automatic enrollment and the automatic increase feature is a default for 70% of these plans.

Figure 5. Automatic annual increase



Source: Vanguard, 2015.

One way to summarize these effects is to examine the distribution of deferral rates for all eligible employees (Figure 6). Again this includes those who contribute and those who do not (i.e., with a 0% employee-elective deferral rate). While all cohorts have stronger employee-elective deferrals, millennials again show the strongest gains. Here we also observe the shift because of automatic enrollment—fewer participants not contributing and more participants with lower deferral rates.

Figure 6. Distribution of eligible employee-elective deferral rates

	0%	0.1%–3.9%	4.0%–6.0%	6.1%–9.9%	10.0%–14.9%	15%+
Ages 18–34 2003	49%	16%	14%	13%	6%	2%
Millennials voluntary enrollment 2013	40	21	16	15	6	2
Millennials automatic enrollment 2013	13	43	21	18	4	1
Ages 35–49 2003	29%	17%	19%	20%	11%	4%
Gen Xers voluntary enrollment 2013	27	18	17	22	12	4
Gen Xers automatic enrollment 2013	10	28	20	29	10	3
Ages 50–59 2003	27%	12%	17%	22%	15%	7%
Late boomers voluntary enrollment 2013	23	13	15	25	16	8
Late boomers automatic enrollment 2013	8	19	18	32	15	8
Ages 60–69 2003	28%	9%	15%	20%	17%	11%
Early boomers voluntary enrollment 2013	23	9	14	23	19	12
Early boomers automatic enrollment 2013	8	13	17	33	17	12

Source: Vanguard, 2015.

Incorporating employer matching contributions

We can also measure the sum of what the employee is contributing and what the employer is contributing through an employer matching contribution—we will refer to this as the aggregate contribution rate. Eight in 10 plans have an employer matching contribution[3].

In 2003, the average participant aggregate contribution rate was 9.5%, and in 2013, it was 9.6% for participants subjected to automatic enrollment (Figure 7, Panel A). For participants joining under a voluntary enrollment design, the average participant aggregate contribution rate was 10.4%.

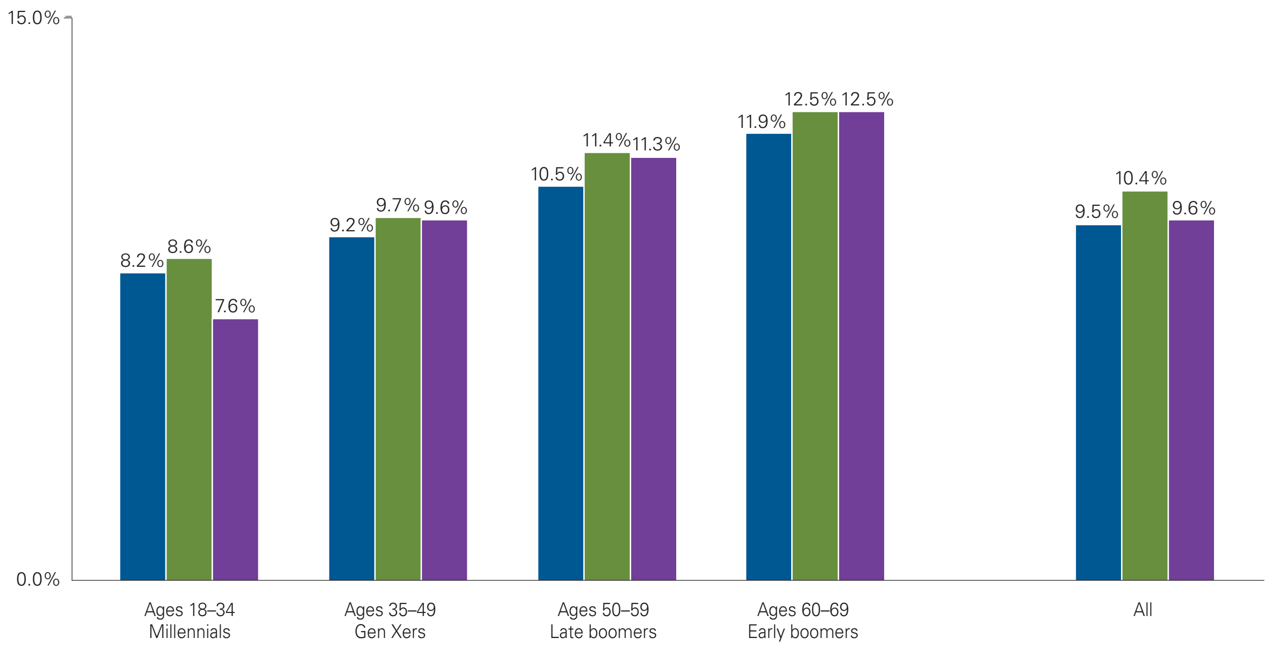
Including those employees not contributing to the plan, the eligible employee aggregate contribution rate was 6.2% in 2003 (Figure 7, Panel B). It reached 8.6% for employees subjected to automatic enrollment in 2013 and 7.5% for participants joining under a voluntary enrollment design.

Over the ten-year period, eligible employee aggregate contribution rates increased for all cohorts. Millennials saw the largest improvement with aggregate contribution rates rising by a relative 57% for individuals subjected to automatic enrollment and by a relative 21% for individuals with voluntary enrollment.

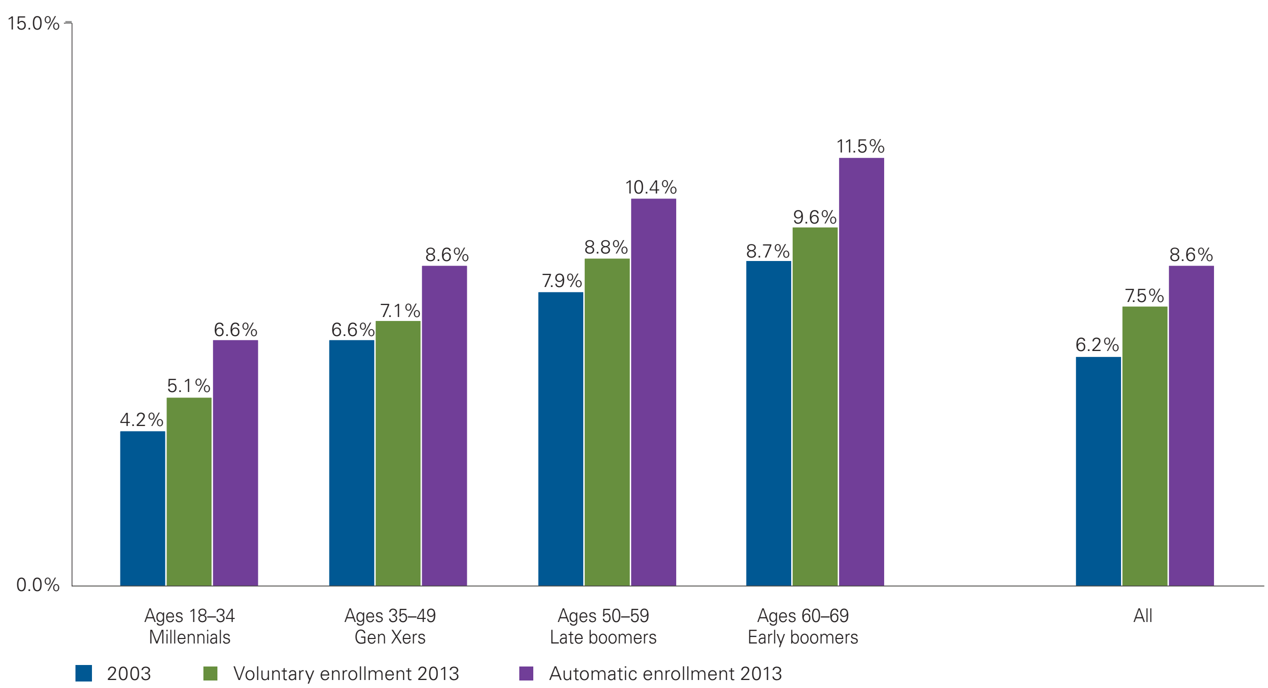
3 See Vanguard, *How America Saves 2015*, institutional.vanguard.com. Nearly half of plans also have a nonmatching employer contribution with 37% of plans having both matching and nonmatching employer contributions. In 2013, the average value of the nonmatching employer contribution was 4%. We began storing the value of the nonmatching employer contributions in 2005 and do not have the data for 2003. Accordingly, we limit this analysis to the additive value of the employer matching contributions.

Figure 7. Aggregate employee-elective and employer match contribution rate

Panel A: Participant employee-elective and employer match contribution rate (average)



Panel B: Eligible employee-elective and employer match contribution rate (average)



Source: Vanguard, 2015.

Account balances

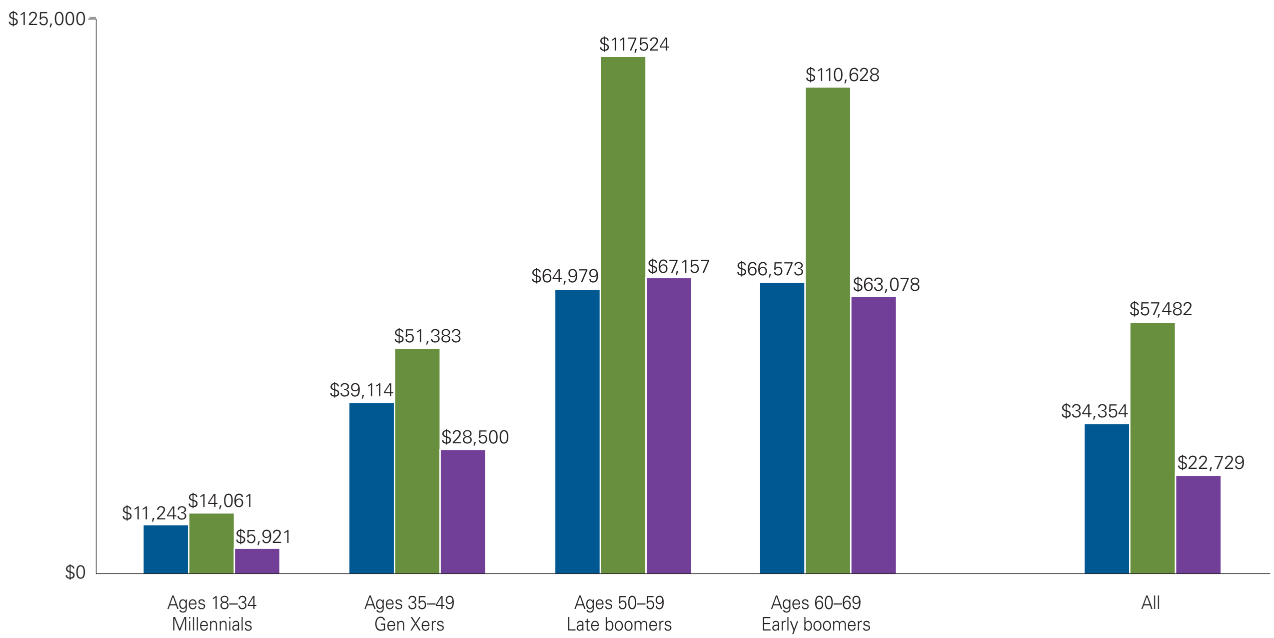
In this section, we compare accounts balances over time. All figures are in 2013 dollars—i.e., the 2003 values are adjusted for inflation.

Overall the median participant account balance rose modestly between 2003 and 2013, from $34,354 in 2003 to $35,851 in 2013. However, results were mixed for our four cohorts and our two plan designs (Figure 8, Panel A). Reflecting higher contribution rates, participants who joined under voluntary enrollment have median account balances that were about two-thirds higher in 2013 than 2003—$57,482 in 2013 compared with $34,354 in 2003. On the other hand, participants subjected to automatic enrollment had account balances that were about one-third lower in 2013 than 2003—$22,729 in 2013 compared with $34,354 in 2003. Again, this is because of the lower contribution rates that result from the default design.

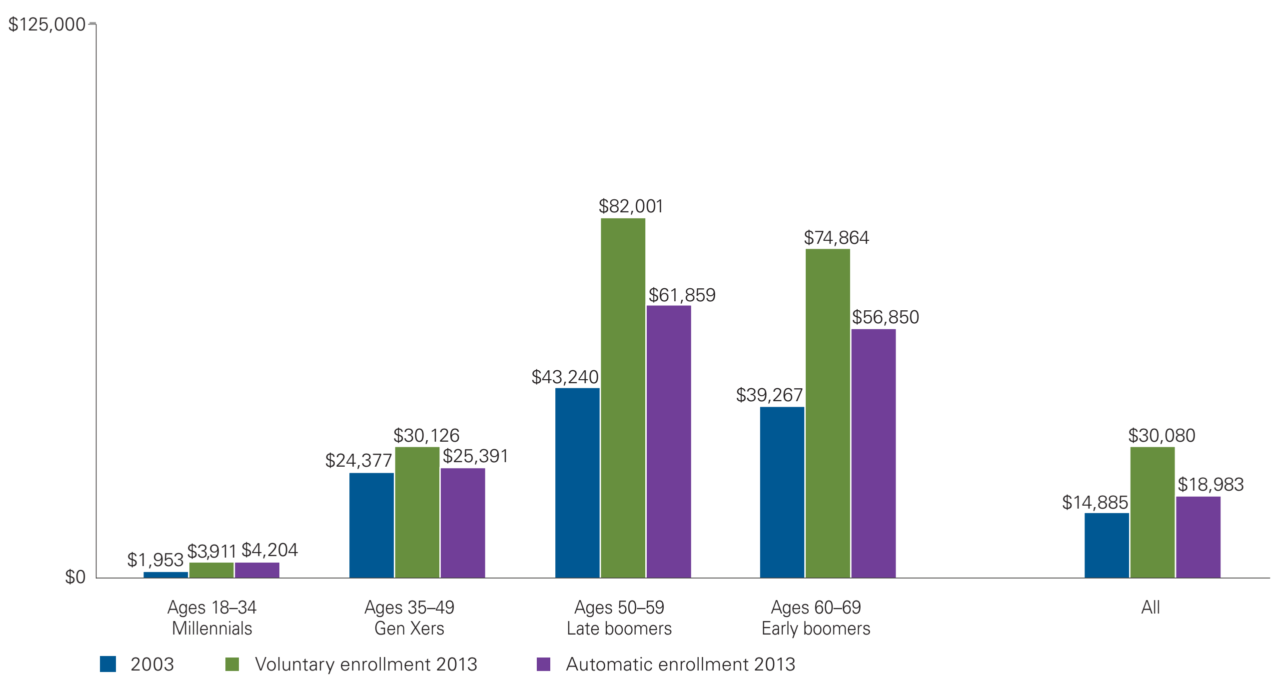
However, again, when you include both participants and eligible nonparticipants who are not contributing, a different perspective emerges. There was strong growth in employee account balances. At the median, overall employee account balances rose from $14,885 in 2003 to $23,556 in 2013. This is a relative growth of 58%. Millennial employees, under both voluntary and automatic enrollment designs, more than doubled their assets during this period as compared with the same age cohort ten years earlier (Figure 8, Panel B). Gen Xers experienced only modest account balance gains during this period while both boomer cohorts saw strong account balance growth.

Figure 8. Account balances: 2003 versus 2013

Panel A: Participant account balances (median $2013)



Panel B: Eligible employee account balances (median $2013)

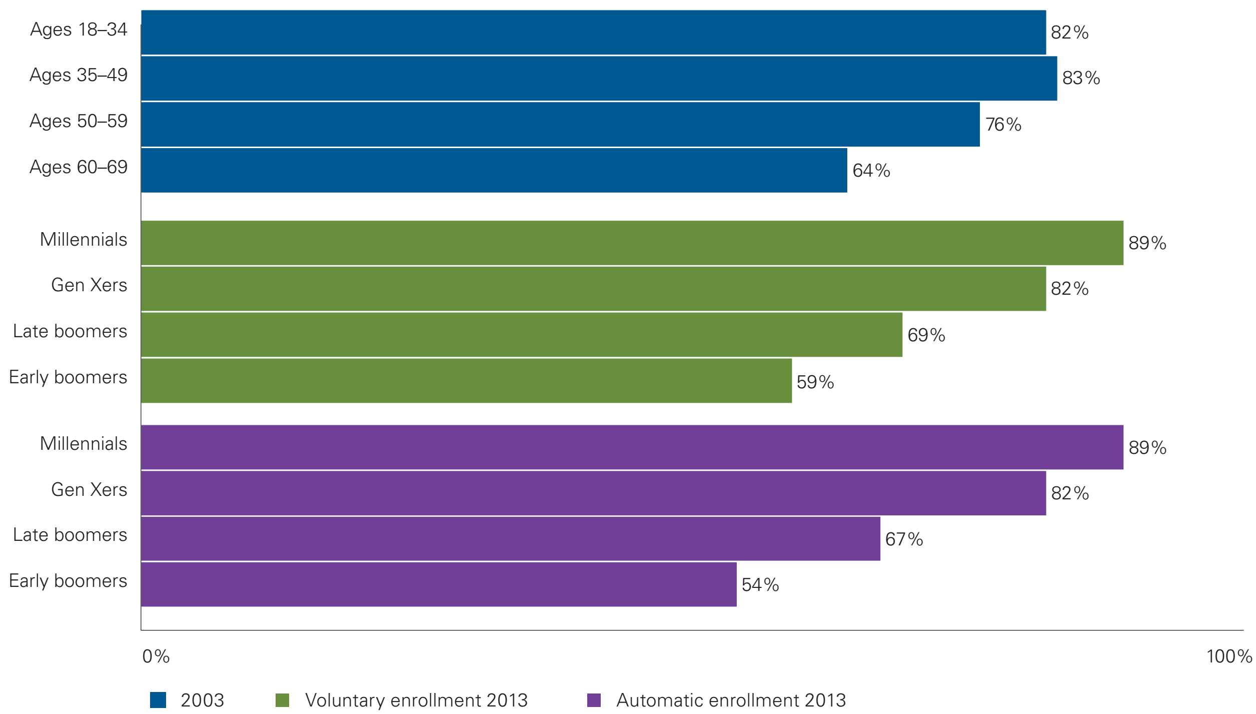


Note: 2003 account balances are adjusted to 2013 dollars.
Source: Vanguard, 2015.

Investments

In 2003, the median equity allocations were very similar for the cohorts ages 18 to 34 and 35 to 49 at slightly more than 80% (Figure 9). The oldest cohort, ages 60 to 69, held a 64% equity allocation in 2003. The spread between the youngest and oldest cohorts was only 18 percentage points. In 2013, there was much sharper differentiation in the equity allocation held by each generation. The millennial generation joining these plans under voluntary enrollment had a median equity allocation of 89% compared with 59% for the early boomers—a 30-percentage-point spread. For the millennial generation subjected to automatic enrollment, the median equity allocation was 89% compared with 54% for the early boomers—a 35-percentage-point spread.

Figure 9. Participant-weighted equity allocation (median)

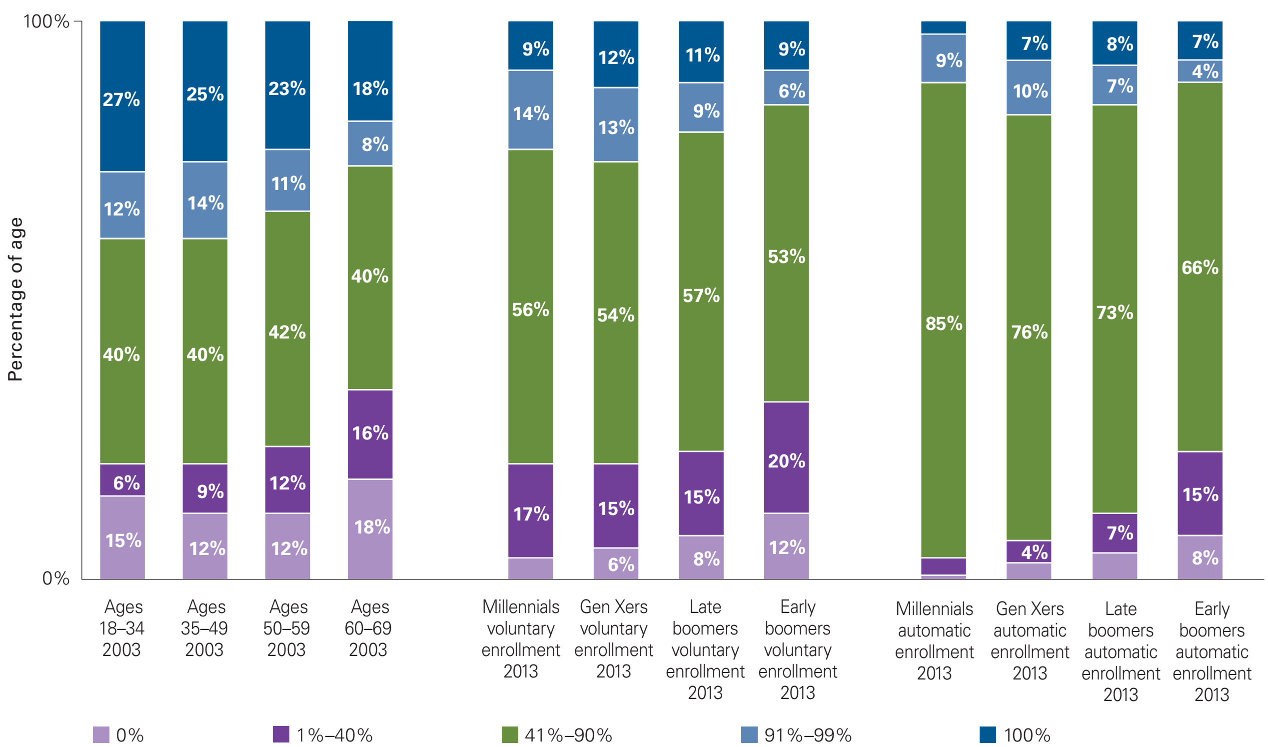


Source: Vanguard, 2015.

The distribution of equity exposure also shifted between 2003 and 2013 (**Figure 10**). In 2003, the distribution of equity exposure for the four age cohorts was fairly similar. Forty-two percent of the youngest age group held extreme portfolios (defined as all equity and zero equity), and 35% of the oldest age group also held extreme portfolios. In 2013, only 13% of millennials in voluntary enrollment plans held extreme portfolios and more than half held portfolios with an equity allocation between 41% and 90%. Millennials in automatic enrollment designs fare even better—only 3% held extreme portfolios and 85% held portfolios with an equity allocation between 41% and 90%.

Our research shows that the changing composition of DC plans is due to the behavioral effects arising from target-date fund usage. There is a strong default effect due to the funds being chosen as an automatic enrollment default. Moreover, target-date funds introduce a simplified portfolio choice heuristic (rule of thumb) in plans offering automatic enrollment—namely choice of portfolio based on retirement age.[4]

Figure 10. Distribution of equity exposure

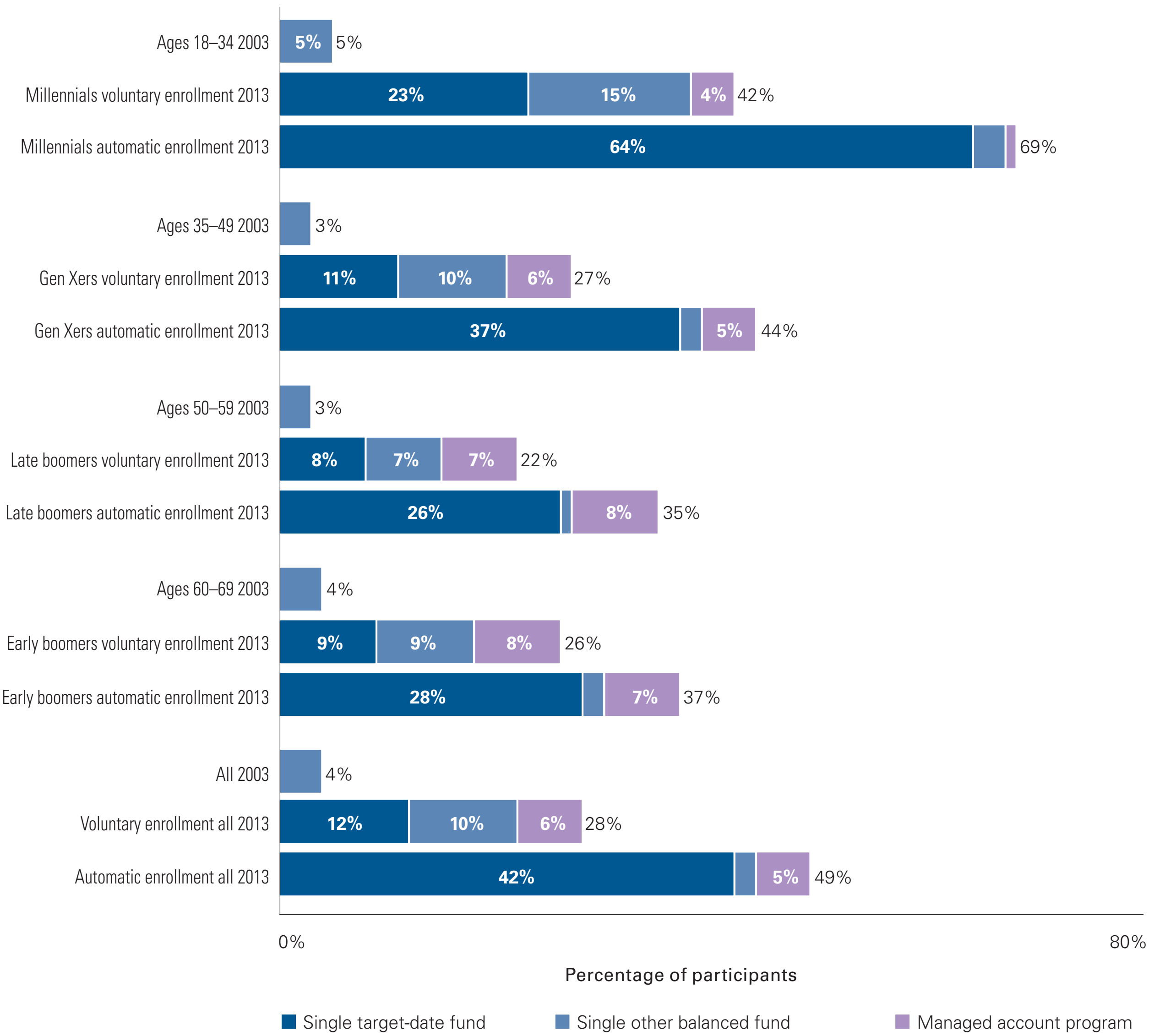


Source: Vanguard, 2015.

4 See Cynthia A. Pagliaro and Stephen P. Utkus, 2014, *Behavioral effects and indexing in DC participant accounts 2004–2012*, Vanguard research, institutional.vanguard.com.

Target-date funds are the main type of professionally managed allocations in use within DC plans. Participants with professionally managed allocations have their entire account balance invested in a single target-date fund, a single target-risk or traditional balanced fund, or a managed account advisory service. In 2003, only 4% of all age cohorts were invested in a professionally managed allocation (Figure 11). By 2013, millennials were about twice as likely as boomers to have adopted professionally managed allocations. In 2013, 42% of millennial participants in voluntary enrollment plans and 69% in automatic enrollment plans were invested in a professionally managed allocation. Only 26% of early boomers in voluntary designs and 37% in automatic designs were using professionally managed allocations. In other words, 7 in 10 millennial automatic enrollment participants have turned the portfolio construction task over to an investment professional vetted by the plan sponsor fiduciary. Importantly, our research shows that participants utilizing professionally managed allocations have better portfolio diversification than those participants constructing portfolios from the menu of plan options.[5]

Figure 11. Adoption of professionally managed allocations



Source: Vanguard, 2015.

5 See John A. Lamancusa, Stephen P. Utkus, and Jean A. Young, 2013, *Professionally managed allocations and the dispersion of participant portfolios*, Vanguard research, institutional.vanguard.com.

Implications

Survey data finds that millennials are more risk-averse than both Gen Xers and late boomers.[6] Our data does suggest that millennials may be behaving differently than other generational cohorts when it comes to retirement plan savings.

It may be that there are generational differences in saving and investment behavior arising from the unique life experiences that different demographic cohorts have experienced. Yet the data suggests that automatic enrollment and the rise of target-date funds have played substantial roles in changing DC saving and investment behavior. For example, while millennials' income and job prospects have been shaped by the Great Recession, those who are working are, in the aggregate, saving more due to automatic enrollment. While millennials have lived through two significant bear markets in equities, their allocation to equities is higher due to the use of target-date funds.

These effects are most pronounced for the youngest workers, namely millennials, because employers have chosen to introduce automatic enrollment among new hires first. Greater dissemination of these techniques to existing employees can help improve allocations and savings outcomes for older generations.

However, it is important to acknowledge that within all generational cohorts, some participants are doing better than others. At the end of the day, 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 potentially be better off with higher saving rates and higher adoption of professionally managed allocations.

Appendix. Population demographics

	2003	2013
Median eligible employee tenure		
Ages 18–34	3	2
Ages 35–49	8	8
Ages 50–59	17	15
Ages 60–69	15	16
All	7	8
Percentage male		
Ages 18–34	62%	64%
Ages 35–49	65	62
Ages 50–59	69	63
Ages 60–69	67	62
All	65	63
Median eligible employee income ($2013)		
Ages 18–34	$42,964	$44,418
Ages 35–49	$63,394	$65,903
Ages 50–59	$69,445	$70,207
Ages 60–69	$61,021	$70,099
All	$57,969	$61,258
Median eligible employee account balance ($2013)		
Ages 18–34	$1,953	$4,111
Ages 35–49	$24,377	$27,488
Ages 50–59	$43,240	$72,290
Ages 60–69	$39,267	$67,649
All	$14,885	$23,556

Note: 2003 income and account balances are adjusted to 2013 dollars.
Source: Vanguard, 2015.

6 See Kimberly Burham, Michael Bogdan, and Daniel Schrass, 2014, *Ownership of Mutual Funds, Shareholder Sentiment, and Use of the Internet, 2014*, ICI Research Perspective 20, no. 8, www.ici.org/pdf/per20-08.pdf.

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