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Automatic enrollment: The power of the default

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- The default decisions made by plan sponsors under automatic enrollment have a powerful influence on participant saving and investment behavior. Among new hires, participation rates more than double to 91% under automatic enrollment compared with 42% under voluntary enrollment. Over time, 8 in 10 participants increase contribution rates, either automatically or on their own, while 7 in 10 participants remain exclusively invested in the default investment fund.

- Sponsors can use the inertia inherent in participant retirement savings decisions to improve retirement outcomes in defined contribution (DC) plans. Strategies include increasing minimum default contribution rates, including an automatic increase feature with a cap of at least 10%, and "sweeping" eligible nonparticipants into the default design periodically.

Introduction

Automatic enrollment is now a well-known strategy by which eligible employees are automatically enrolled in a DC plan at a given contribution rate, with the right to opt out of the arrangement at any time. Automatic enrollment is emerging as a pivotal strategy to improve retirement outcomes in DC plans in the United States and around the world.

In this report, we provide updated statistics drawn from Vanguard recordkeeping data of the effects of automatic enrollment on participants' saving and investing behaviors. Our study is based on more than 500,000 eligible newly hired employees in 460 plans (**Figure 1**). Our data sample consists of newly eligible employees who were hired between January 1, 2010, and December 31, 2012, and who were still employed by the plan sponsor as of June 30, 2013.[1] The maximum time period of our analysis thus spans 42 months or 3½ years.

We examine the effects of automatic enrollment on new hires because it is the most common way that the feature is first introduced into DC plans. Participants in the sample are younger, have shorter tenure (an average of about one year), and have median account balances of generally less than $4,000. Our sample includes automatic enrollment plans with no annual increase feature and those with such a feature. The automatic enrollment plans with an annual increase feature have participants with generally lower wages and account balances than the participants in voluntary enrollment plans or in automatic enrollment plans with no increase feature.

Among all plans with an automatic enrollment feature in our sample, 8 in 10 plans specifically have implemented automatic enrollment with annual increases and 2 in 10 plans have no automatic increases (**Figure 2**). However, three-quarters of these latter plans permit participants to voluntarily sign up for annual increases. All of the plans in our sample selected a balanced investment strategy as the default investment, with 97% choosing target-date funds.

Figure 1. Study sample
As of June 30, 2013

		Automatic enrollment plans			
	Voluntary enrollment plans	With an annual increase	With no annual increase	All	Total
Number of plans	*201*	*204*	*55*	*259*	*460*
Number of eligible employees hired between January 1, 2010, and December 31, 2012	*284,390*	*182,700*	*46,963*	*229,663*	*514,053*
Number of eligible employees hired between January 1, 2010, and December 31, 2012, and active as of June 30, 2013	*176,683*	*110,582*	*29,285*	*139,867*	*316,550*
Participation rate	42%	92%	87%	91%	63%
Participant demographic characteristics					
Median participant account balance	$3,792	$2,226	$4,133	$2,500	$2,866
Median employee income	$41,449	$42,288	$57,470	$45,202	$43,269
Median employee age	33.2	34.9	36.0	35.2	34.0
Median employee tenure	1.1	1.0	1.0	1.0	1.0
Percentage male	65%	66%	64%	66%	65%

Source: Vanguard, 2014.

1 We are examining a subset of the 3.4 million participants on our platform in plans for which we have completed compliance testing in 2010, 2011, and 2012. In addition, we limit our sample to those plans where we also provide payroll deferral rate tracking.

Figure 2. Automatic enrollment plan features
As of December 31, 2012

	Automatic enrollment plans		
	With an annual increase	With no annual increase	All
Number of plans	*204*	*55*	*259*
Default percentage for automatic enrollment			
1 percent	0%	7%	2%
2 percent	9	9	9
3 percent	62	35	56
4 percent	12	5	11
5 percent	7	11	7
6 percent	10	31	15
7 percent	0	2	0
Total	100%	100%	100%
Default for automatic increases			
1 percent	99%		
2 percent	1		
Voluntary election		76%	
Feature not available		24	
Total	100%	100%	
Default fund			
Target-date fund	96%	100%	97%
Other balanced fund	4	0	3
Total	100%	100%	100%
Automatic enrollment plan implementation			
New hires only	50%	58%	51%
Swept all nonparticipants	50	42	49
Total	100%	100%	100%
Eligibility for elective employee contributions			
Immediate	77%	78%	77%
1 month	7	7	7
2–3 months	11	13	11
4–6 months	3	2	3
1 year	2	0	2
Total	100%	100%	100%
Eligibility for employer match *Number of plans with employer match*	*185*	*51*	*236*
Immediate	64%	61%	63%
1 month	5	6	6
2–3 months	11	10	11
4–6 months	6	4	5
1 year	14	19	15
Total	100%	100%	100%

Source: Vanguard, 2014.

Half of plans implementing automatic enrollment without annual increases default participants to a deferral rate of 4% or higher. Seven in 10 plans implementing automatic enrollment with annual increases default participants to a deferral rate of 3% or less—but these plans do increase the deferral rate annually, typically by 1 percentage point per year.

Among plans with automatic enrollment and annual increases, 4 in 10 plans cap the annual increase at 10% (**Figure 3**). Two in 10 plans have a cap between 12% and 25% and 2 in 10 have a cap of 6%. Seven percent of plans have no cap—likely an error. We recommend plan sponsors set the cap at a level where participants are saving 12% to 15% or more, factoring in employer contributions.

Half of the plans implementing automatic enrollment applied the feature to new hires only. Half of the plans in our sample did sweep existing nonparticipants, although the focus of our analysis is exclusively on the new-hire effects.

Interpreting our results

Throughout this report, we present results in two ways. The "average over the entire period" results are average results for the 2010–2012 period reported as of June 30, 2013. Because new hires in our sample enter the data set each and every month throughout this period, this "average period" statistic is the equivalent of reporting results after approximately 21 months.

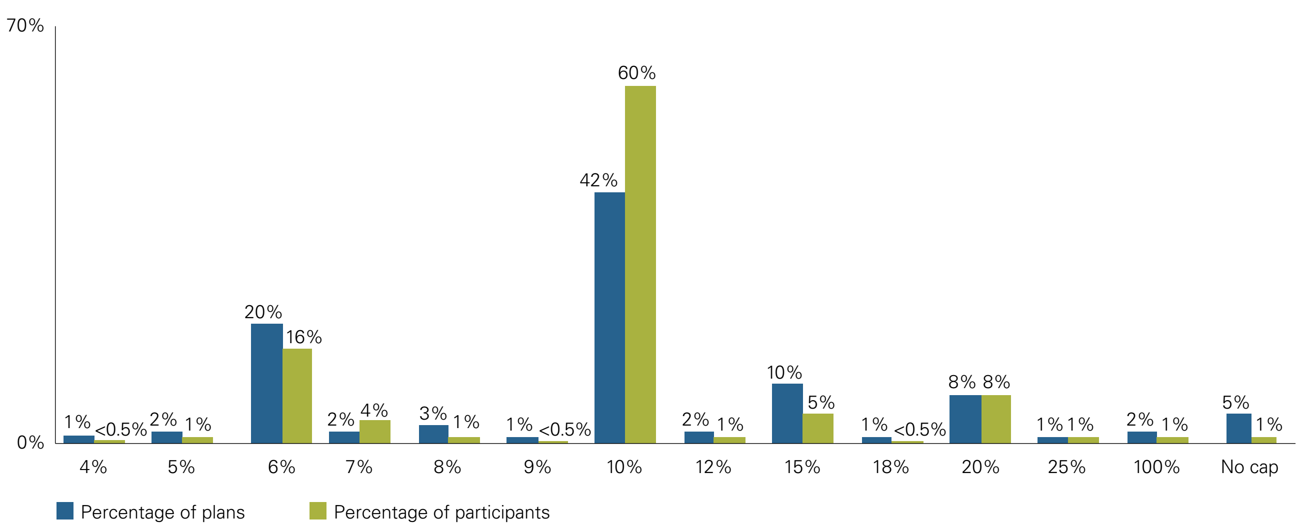
We also report on results after a given calendar time period has passed, such as one, two, or three years. Each of these time-period statistics represents an average of multiple overlapping periods. For example, the results for "after one year" are an average of many different one-year periods: employees hired in January 2010 and evaluated in January 2011, those hired in February 2010 and evaluated in February 2011, and so on through the June 2012 to June 2013 group of new hires. Two- and three-year periods are structured in a similar way. There are 30 distinct groups of new hires in the one-year period; 18 for the two-year periods; and 6 for the three-year periods.

Participation rates

Automatic enrollment more than doubles participation rates among new hires. Over the entire period of our study, the participation rate for new hires was 91% under automatic enrollment versus 42% under voluntary enrollment (**Figure 4**). After three years, 89% of participants hired under automatic enrollment were still participating versus 51% of participants under voluntary enrollment who had chosen to join the plan.

Figure 3. Automatic increase plan caps

Automatic enrollment plans with automatic annual increases as of December 31, 2012



Source: Vanguard, 2014.

Automatic enrollment raises plan participation rates most dramatically among young and low-income workers, groups for whom participation rates are traditionally very low under voluntary enrollment designs (**Figure 5**). Employees earning less than $30,000 had a participation rate of 87% under automatic enrollment versus 22% under voluntary enrollment. Similarly, 9 of every 10 employees younger than 25 were plan participants under automatic enrollment, versus one-quarter under voluntary enrollment.

Figure 4. Participation rates and automatic enrollment

Employees hired between January 1, 2010, and December 31, 2012, as of June 30, 2013

	Average over entire period	Point-in-time results after: 1 year	2 years	3 years
Eligible employees	*316,500*	*294,319*	*126,006*	*29,639*
Plan participation rates				
Voluntary enrollment	42%	40%	46%	51%
Automatic enrollment all	91	89	89	89
Automatic enrollment no annual increase	87	86	87	88
Automatic enrollment with an annual increase	92	90	89	89

Source: Vanguard, 2014.

Figure 5. Participation rates by employee demographics over period

Employees hired between January 1, 2010, and December 31, 2012, as of June 30, 2013

	Voluntary enrollment	Automatic enrollment	Total
Number of eligible employees	*176,683*	*139,867*	*316,550*
Overall	42%	91%	63%
Income			
<$30,000	22%	87%	46%
$30,000–$49,999	41	90	66
$50,000–$74,999	49	93	70
$75,000–$99,999	65	94	79
$100,000+	72	94	81
Age			
<25	26%	90%	50%
25–34	43	91	64
35–44	47	91	67
45–54	48	91	69
55–64	47	91	68
65+	34	82	52
Gender			
Male	42%	90%	64%
Female	42	91	65

Source: Vanguard, 2014.

Although the effects are strongest for these demographic groups, even the affluent benefit from automatic enrollment. Among those earning more than $100,000 a year, new-hire participation rates are also higher under automatic enrollment than voluntary enrollment.

Does plan design—specifically, the initial contribution rate—influence the likelihood an employee will quit an automatic enrollment plan? Intuitively, we might expect that plans with lower initial contribution rates of 2% or 3% would mean a lower chance of employees quitting the plan, given that 2% or 3% contributions have little impact on take-home pay. Conversely, we might think that contribution rates of 5% or 6% would lead to a higher opt-out rate because of their larger impact.

Our results suggest that employee quit rates do not appear to vary in response to a plan sponsor's choice of the initial contribution rate (**Figure 6**). The participation rate among employees earning less than $30,000 is around 80%—regardless of whether the initial contribution rate is 2% or 6%.

The effects of time vary depending on the type of plan design (**Figure 7**). With voluntary enrollment, there is a slight tendency for plan participation rates to rise with time. After three years, the average participation rate under voluntary enrollment is 50%, up from 33% initially. Meanwhile, participation rates remain quite high among automatic enrollment plans, with the participation rates remaining steady at about 90% after the first six months and 90% after three years.

Figure 6. Opt-out rates by plan design over period

Employees hired between January 1, 2010, and December 31, 2012, as of June 30, 2013

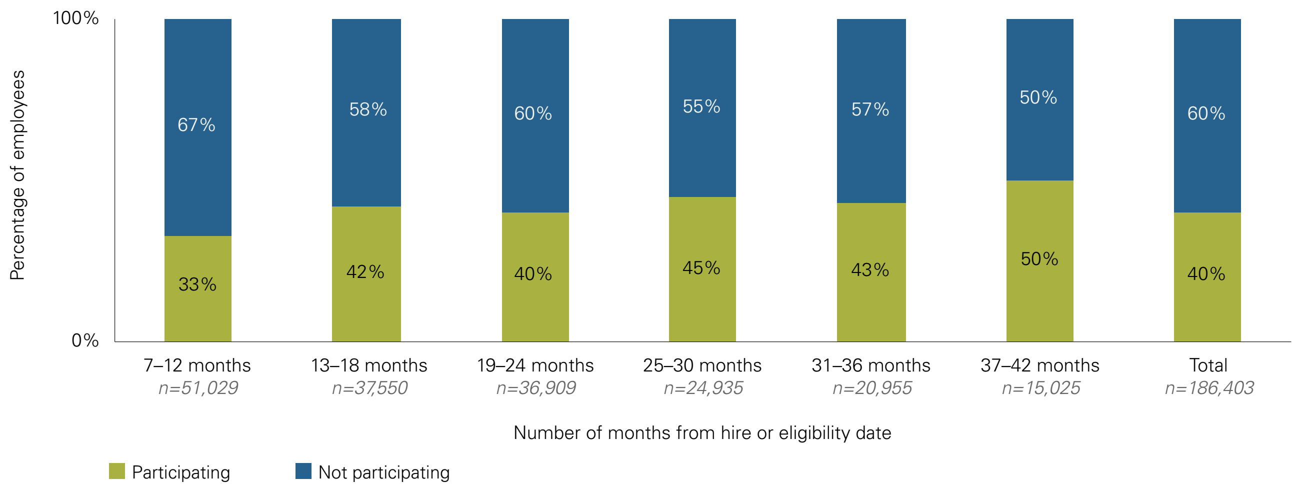
	Hired under automatic enrollment		
	All	Income <$30,000	Age 25–34
Number of eligible employees	*139,867*	*40,045*	*47,789*
Aggregate	9%	13%	9%
Default percentage for automatic enrollment			
1 percent	*	*	*
2 percent	13%	16%	13%
3 percent	8	11	8
4 percent	13	27	12
5 percent	10	15	9
6 percent	10	19	10
7 percent	*	*	*
Value of employer match as a percentage of wages			
0 percent	10%	21%	10%
Greater than 0 percent but less than 3 percent	9	14	8
3 percent to 3.9 percent	8	10	8
4 percent to 4.9 percent	10	19	10
5 percent or more	10	18	9
Type of employer contributions			
Matching only	8%	10%	8%
Match plus other employer contribution	11	18	9
Other employer contribution only	9	17	10
No employer contribution	12	23	13

* Cells with fewer than 5 plans are omitted.
Source: Vanguard, 2014.

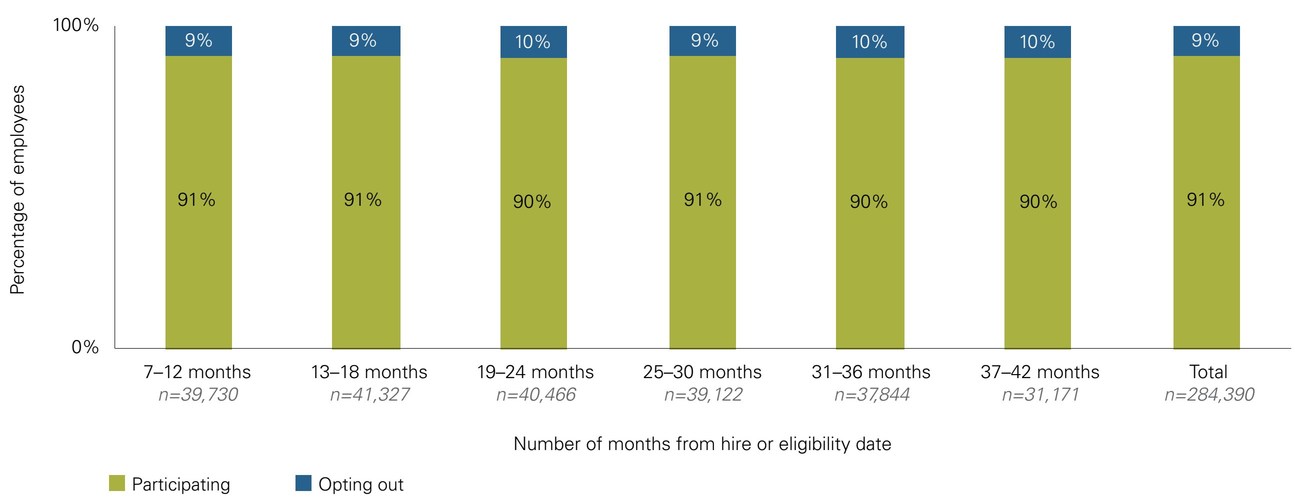
Figure 7. Participation rates over time

Employees hired between January 1, 2010, and December 31, 2012, as of June 30, 2013

A. Voluntary enrollment



B. Automatic enrollment all



Source: Vanguard, 2014.

In these participation rates for new hires, it is important to remember that we are reporting only on those eligible employees who remain with the employer. Among new hires, employee turnover rates are quite high (**Figure 8**). Over our sample period, 40% of eligible employees have left the sample due to job change.[2]

Contribution rates

We next consider the effects of automatic enrollment on plan contribution rates over time.

In automatic enrollment plans with no increase feature, the fraction of participants who remain at the default contribution rate set by the employer declines over time—from 56% after 12 months to 46% after three years (**Figure 9**, **Panel B**). Nearly one-third of participants after three years have chosen to override the employer's default and raise contribution rates, and another 9% have signed up for a contribution rate increase. In total, around 9 in 10 eligible participants after three years remain at the default deferral rate or higher.

A more complex dynamic is at work in automatic enrollment plans with an increase feature. Participants may choose to raise or lower their contribution rate while ending or continuing the automatic increase feature. After three years, 57% of participants remain in the original automatic plan design, including the automatic increase feature (**Figure 9**, **Panel A**). Another 8% have increased their contribution rate while retaining the increase feature, for a total of 7 in 10 retaining the automatic increase feature. Another 21% have boosted contributions while dropping the automatic increase feature. So while just over half remain in the original deferral rate design, about 9 in 10 participants have taken some action that leaves deferral rates above the initial default design.

Employee versus participant contributions

Default contribution rates do tend to be somewhat sticky, though less enduring than the overall effect of defaults on participation rates. One criticism of automatic enrollment is that because employers set contribution rates at too low a level, participants who would have voluntarily enrolled at a higher level instead remain at a reduced contribution rate.

Figure 8. Employee turnover rates

Employees hired between January 1, 2010, and December 31, 2012, as of June 30, 2013

		Point-in-time results after:		
	Average over entire period	1 year	2 years	3 years
Voluntary enrollment	38%	30%	46%	56%
Automatic enrollment all	39	27	42	52
Automatic enrollment no annual increase	38	24	39	50
Automatic enrollment with an annual increase	39	27	43	53

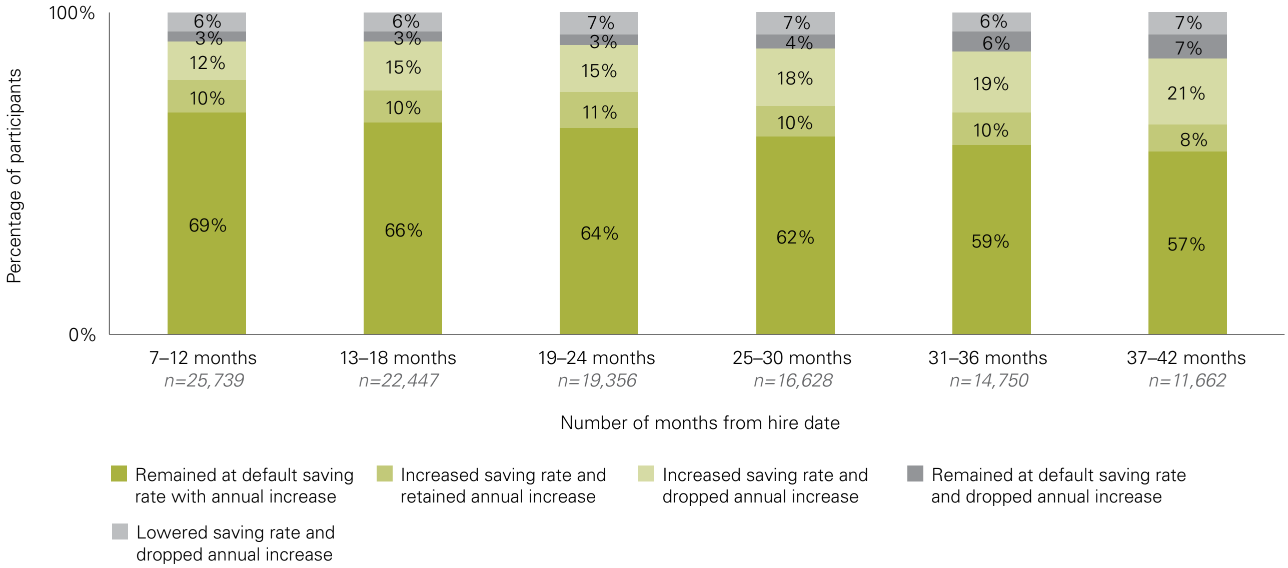
Source: Vanguard, 2014.

2 Most job changes are a result of individual employees changing employers. However, a small fraction includes the sale of a division by an employer.

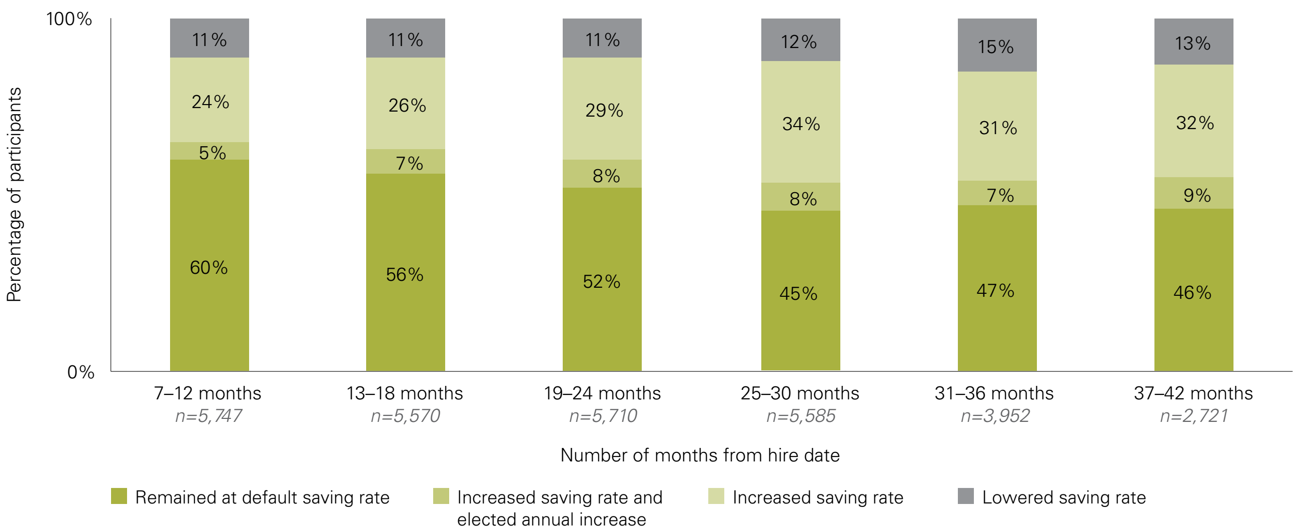
Figure 9. Participant contribution rates under automatic enrollment over time

Participants hired between January 1, 2010, and December 31, 2012, as of June 30, 2013

Panel A. Automatic enrollment with an annual increase
n=101,448



Panel B. Automatic enrollment with no annual increase
n=25,527



Source: Vanguard, 2014.

While this may be true for individual participants, in the aggregate, automatic enrollment still raises total contribution levels. In our sample, it is true that the average participant contribution rate for new hires in voluntary plans is higher, at 6.3%, than the 5.4% rate for those in automatic enrollment plans (**Figure 10**). However, we also calculate contribution rates for the eligible employee population—which includes both the contributing participants as well as the nonparticipants contributing at 0%. When these zero-contributing employees are included, voluntary enrollment yields much lower contribution rates than automatic enrollment—2.6% versus 5.0% over the three-year period.

Over time, contribution rates rise among voluntary enrollment participants and participants automatically enrolled with an automatic increase (**Figure 11**). The same is true of the entire employee population, including zero-contributors. Most notable is the fact that among all eligible employees, automatic enrollment plus an automatic increase feature leads to higher employee contributions over time.

Figure 10. Contribution rates and automatic enrollment

Employees hired between January 1, 2010, and December 31, 2012, as of June 30, 2013

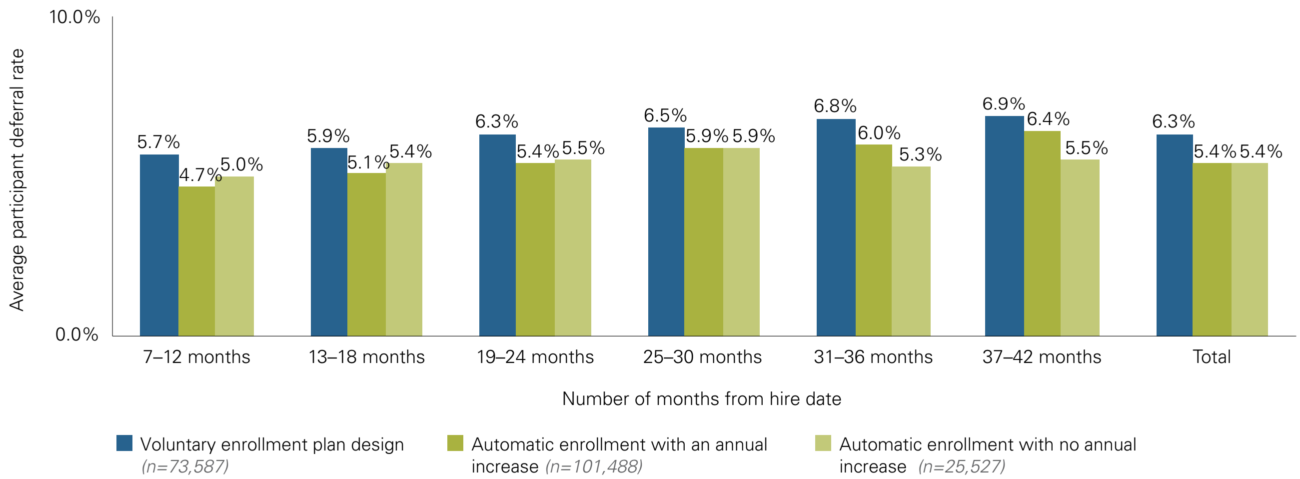
		Point-in-time results after:		
	Average over entire period	1 year	2 years	3 years
Annual increase feature				
n=	*105,508*	*97,369*	*43,711*	*10,690*
Remained in annual increase feature with no changes	62%	68%	62%	57%
Remained in annual increase feature with an increase in deferral rate	12	12	12	12
Remained in annual increase feature with a decrease in deferral rate	3	4	4	3
Opted out with an increase in contribution rate	15	12	16	19
Opted out with no contribution rate changes	5	2	3	5
Opted out with a decrease in contribution rate	3	2	3	4
Average participant contribution rates				
n=	*200,602*	*185,876*	*84,964*	*20,662*
Voluntary enrollment	6.3%	6.2%	6.7%	7.0%
Automatic enrollment all	5.4	4.9	5.7	6.3
Automatic enrollment no increase	5.4	5.2	5.5	5.5
Automatic enrollment with an increase	5.4	4.9	5.8	6.5
Average employee contribution rates				
n=	*316,550*	*294,290*	*126,010*	*29,640*
Voluntary enrollment	2.6%	2.5%	3.1%	3.6%
Automatic enrollment all	5.0	4.4	5.1	5.6
Automatic enrollment no increase	4.8	4.4	4.8	4.9
Automatic enrollment with an increase	5.1	4.3	5.1	5.8

Source: Vanguard, 2014.

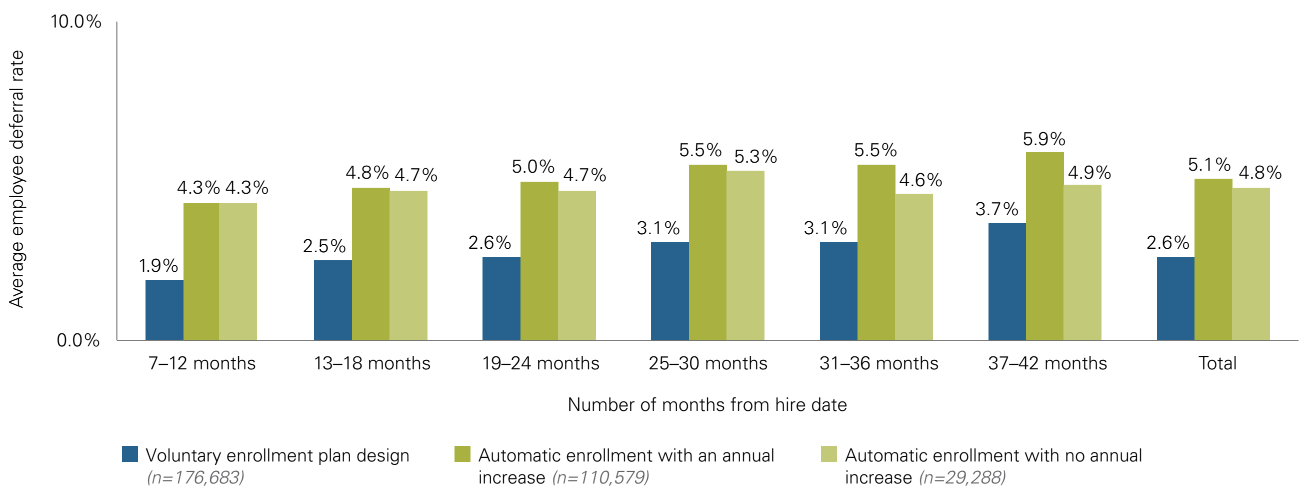
Figure 11. Employee average contribution rates over time

Employees hired between January 1, 2010, and December 31, 2012, as of June 30, 2013

Panel A. Plan participants



Panel B. Eligible employees



Source: Vanguard, 2014.

Default investment fund

We turn finally to the impact of automatic enrollment on investment behavior. Averaged over our entire study period, participants in automatic enrollment plans are up to three times more likely to remain in the default investment option designated by the employer—78% of participants under automatic enrollment remain 100% invested in the default option versus 27% of participants under voluntary enrollment who happen to have chosen to invest their entire account in the designated default (**Figure 12**).

The effects are sticky over time. After three years, about 8 in 10 participants are still directing 100% of their contributions to the default investment option and another 15% are using the default investment in combination with other plan investment options (**Figure 13, Panel A).**

Figure 12. Default fund option and automatic enrollment

Employees hired between January 1, 2010, and December 31, 2012, as of June 30, 2013

Employee elective sources only

		Point-in-time results after:		
	Average over entire period	1 year	2 years	3 years
n =	*200,602*	*185,876*	*84,964*	*20,662*
Voluntary enrollment				
100% in default option	26%	23%	25%	27%
Automatic enrollment				
100% in default option	84%	86%	82%	78%
Partial investment in default option	11	9	12	15
100% opt out of default option	5	5	6	7

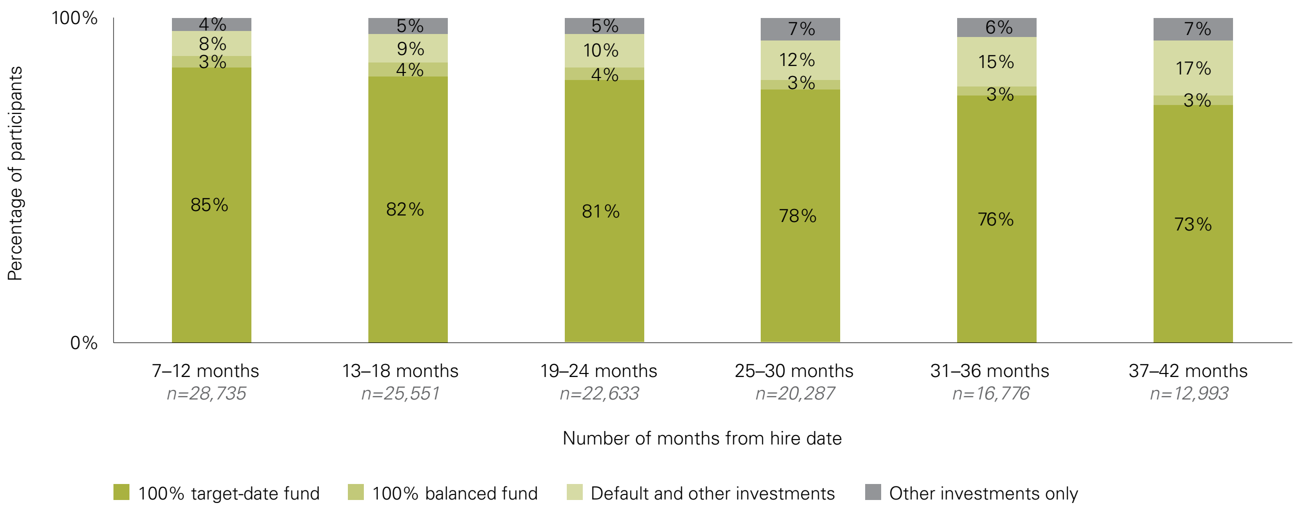
Source: Vanguard, 2014.

Figure 13. Default fund utilization over time

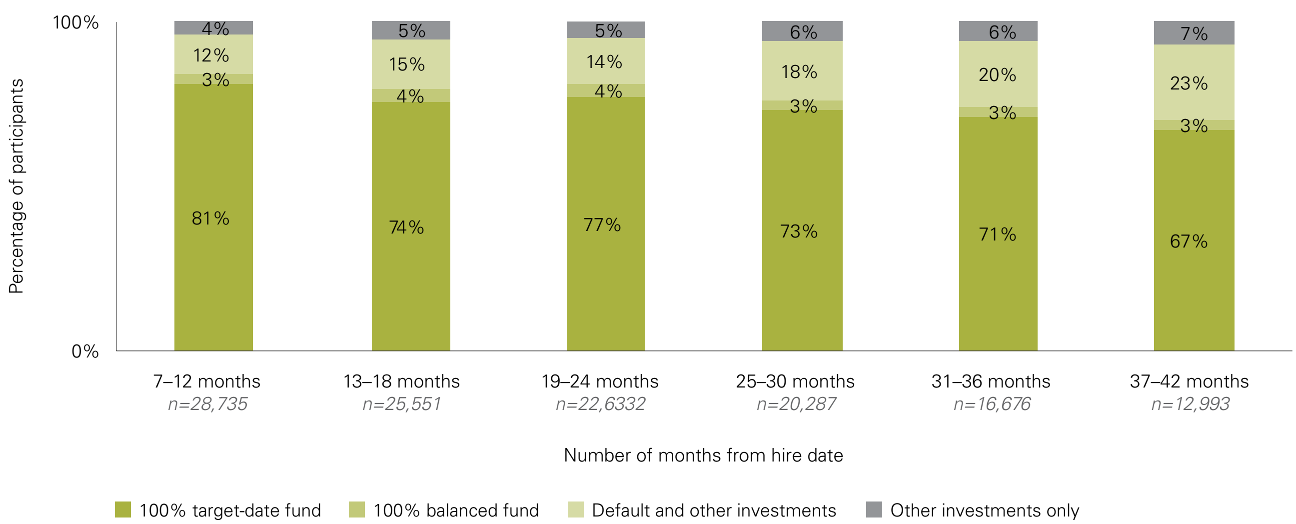
Participants hired between January 1, 2010, and December 31, 2012, as of June 30, 2013

n=126,975

Panel A. Employee sources only



Panel B. Employer and employee sources



Source: Vanguard, 2014.

Implications

Automatic enrollment has emerged as a pivotal strategy to improve plan participation and employee saving rates in 401(k) and other DC retirement plans. Our analysis suggests that the default effect on participation rates is the strongest, with 9 in 10 automatically enrolled new hires remaining in their employer plan after three years. The default effect on portfolio choice is not quite as strong, with 8 in 10 participants contributing exclusively to the default option after three years and another 15% contributing to the default and other plan investment options. The default effect for an automatic increase feature (in plans offering the feature) is somewhat weaker as well. After three years, about 7 in 10 eligible participants remain in the automatic escalation default, although a sizable minority has raised contribution rates while ending the automatic increase feature.

Automatic enrollment raises the minimum or "floor" contribution rate in a DC plan, by replacing zero-contributors with participants saving generally at 3% or higher. Sponsors can seek to improve retirement outcomes through automatic enrollment combined with higher initial contribution rates, an automatic increase feature, and a total participant contribution cap of at least 10%.

Another important way to improve outcomes is to extend the automatic enrollment design from new hires only to all eligible nonparticipants. About half of the plans in our sample already "sweep" eligible nonparticipants today.

This analysis underscores the importance of plan design defaults, the role of inertia in retirement savings decisions, and the impact of employer plan design decisions on retirement adequacy among DC plan participants. All things being equal, stronger default designs will contribute to improved retirement outcomes because of the effect of inertia. Sponsors should seek to take advantage of this behavioral bias when designing their DC retirement programs.

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