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Comparing the saving behaviors of women and men in DC plans

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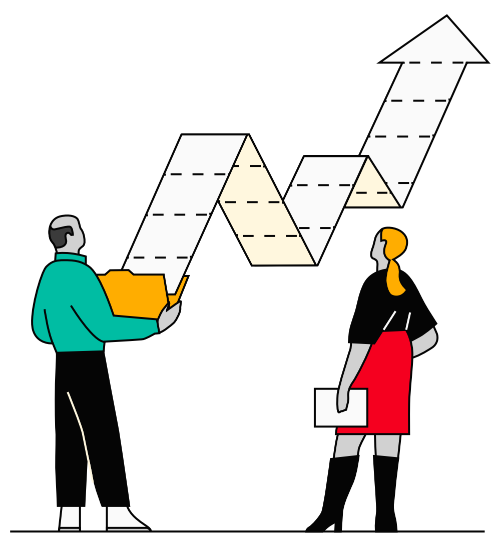
- **In 2021, women and men had similar overall participation rates in their workplace saving plan. However, in voluntary enrollment plans at nearly all income levels, women had participation rates 9 to 13 percentage points higher than men.**
- **Women and men assumed similar levels of portfolio risk, in part because of the growing use of target-date funds. Men had slightly higher equity exposure and were more likely to trade.**
- **In the aggregate, men's account balances were 44% higher than women's balances. However, this difference reflects men's higher average wages, not retirement saving behavior.**
- **The rising adoption of automatic enrollment is mitigating the differences in participation, saving rates, and portfolio construction between men and women.**

Introduction

Are men and women really all that different when it comes to participating in a retirement saving plan? There's certainly a difference in wealth accumulation, but does that mean one group is saving more than the other? And what about investment behavior? Does one gender favor a professionally managed allocation more than the other? Topical questions, for sure. In this paper, we'll attempt to answer them.

A note on the data before we begin: The data for our analysis are drawn from Vanguard's recordkeeping systems in 2021.[1] Fifty-seven percent of participants in Vanguard-recordkept plans were men. Men and women had comparable job tenures (median of five years for women, six years for men) and have identical median ages of 44.



[1] The data are drawn from a subset of Vanguard recordkeeping clients for whom we perform nondiscrimination testing. The subset includes approximately 1,000 plans and 2.5 million participants and eligible nonparticipants. We are not able to identify the gender for 200,000 individuals, leaving us with 2.3 million participants and eligible nonparticipants.

Participation rates

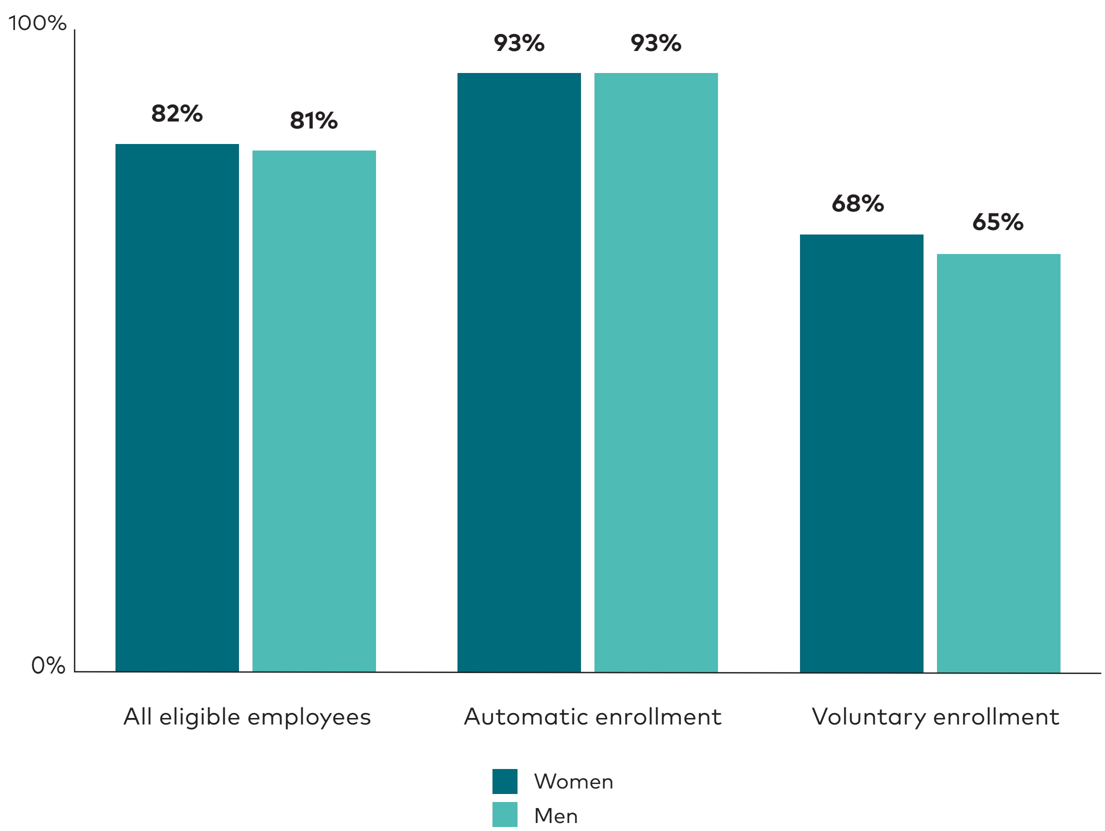
Women and men had similar participation rates (**Figure 1**). Automatic enrollment, an increasingly popular plan design feature that leads to stronger participation, has helped all eligible employees save for retirement. In plans with automatic enrollment, 93% of women and men participated in their plans. In voluntary enrollment plans, women were slightly more likely to join the plan than men.

A different picture emerges when income is considered. Women earning less than $100,000 had participation rates between 4 and 8 percentage points higher than men (**Figure 2**). Even at incomes of $100,000 or more, women were more likely to be participants. While the overall participation rates were nearly identical between women and men, 45% of women had wages of less than $50,000, compared with 28% of the male population. About 60% more women fell into the lower-income groups than men.

In voluntary enrollment plans, women earning less than $100,000 had participation rates between 9 and 13 percentage points higher than men. The rising adoption of automatic enrollment, however, is mitigating the differences in participation rates between men and women. At all income levels below $150,000, women participated at slightly higher rates than men in automatic enrollment plans.

Figure 1. Participation, 2021 estimated

Vanguard defined contribution plans permitting employee-elective deferrals



Source: Vanguard, 2022.

Figure 2. Participation by income, 2021 estimated

Vanguard defined contribution plans permitting employee-elective deferrals

All employees	**Distribution of population**		**Participation rate**	
	Women	**Men**	**Women**	**Men**
Median age	44	44		
Median tenure	5	6		
Income level				
<$15,000	7%	4%	50%	42%
$15,000–$29,999	13%	7%	63%	57%
$30,000–$49,999	25%	17%	78%	74%
$50,000–$74,999	22%	25%	88%	81%
$75,000–$99,999	13%	18%	92%	85%
$100,000–$149,999	12%	17%	94%	90%
$150,000+	8%	12%	96%	95%

Voluntary enrollment				
Median age	45	45		
Median tenure	8	8		
Income level				
<$15,000	10%	6%	32%	23%
$15,000–$29,999	15%	8%	43%	30%
$30,000–$49,999	25%	16%	63%	51%
$50,000–$74,999	20%	25%	81%	67%
$75,000–$99,999	12%	19%	87%	74%
$100,000–$149,999	11%	16%	91%	82%
$150,000+	7%	10%	94%	90%

Automatic enrollment				
Median age	43	43		
Median tenure	4	5		
Income level				
<$15,000	5%	2%	78%	75%
$15,000–$29,999	12%	6%	87%	85%
$30,000–$49,999	25%	18%	91%	89%
$50,000–$74,999	24%	25%	94%	92%
$75,000–$99,999	14%	17%	95%	94%
$100,000–$149,999	12%	18%	96%	95%
$150,000+	8%	14%	98%	98%

Source: Vanguard, 2022.

Deferral rates

Overall, men had higher employee-elective deferral rates than women (**Figure 3**). In addition, men saved at higher rates in both automatic and voluntary enrollment plan designs.

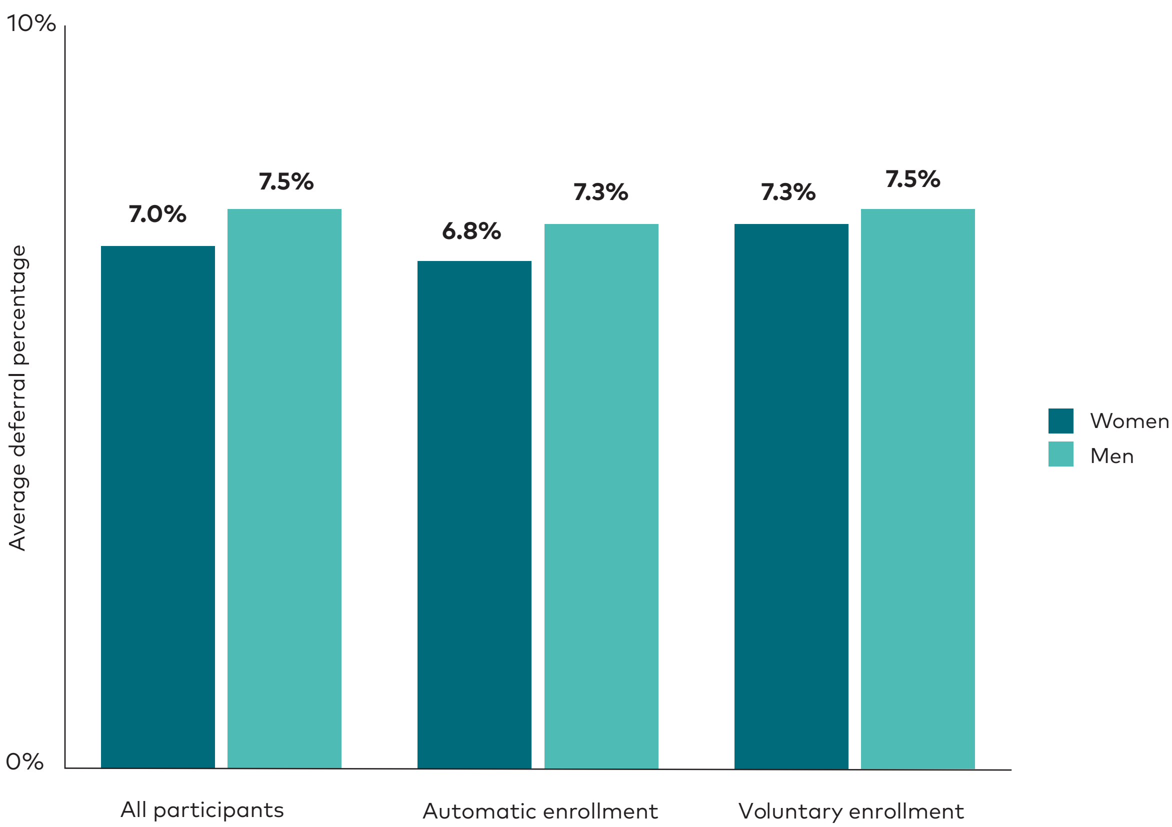
However, women with wages above $30,000 had slightly higher deferral rates than men (**Figure 4**). This trend is found in both voluntary and automatic enrollment designs, where men saved at higher rates with lower income and women typically saved more in higher income brackets. Women who earned more than $100,000 and who voluntarily enrolled in their plan saved 7% more than men at similar income levels.

Our research shows that plan design defaults have a strong impact on participant behavior.[2] However, higher-income participants are more likely to override the default. The men in our population had wages about one-third higher than those of the women (**Figure 5**), which accounted for the overall higher contribution rates by men in both voluntary and automatic enrollment plans.

Many factors affect deferral rates. We modeled the relationship between deferral rates and several factors using linear regression models.[3] These factors included wages, age, tenure, plan design, and gender. Each of these factors was significant. Deferral rates rose with wages, age, and tenure. Participants in plans with automatic enrollment had lower deferral rates because of the common default rate of 3%. When controlling for these factors, women had predicted deferral rates nearly identical to those of men.

Figure 3. Participant employee-elective deferral rates, 2021 estimated

Vanguard defined contribution plans permitting employee-elective deferrals



Source: Vanguard, 2022.

[2] See *Automatic Enrollment: The Power of the Default*. Vanguard, February 2021.

[3] Complete regression results, including coefficients, standard errors, and predicted marginal effects, are available from the author.

Figure 4. Participant employee-elective deferral rates by income, 2021 estimated

Vanguard defined contribution plans permitting employee-elective deferrals

All participants	Women	Men
<$15,000	5.1%	6.1%
$15,000–$29,999	4.7%	5.1%
$30,000–$49,999	5.8%	5.7%
$50,000–$74,999	7.2%	7.1%
$75,000–$99,999	8.4%	8.2%
$100,000–$149,999	9.3%	9.0%
$150,000+	8.1%	7.8%

Voluntary enrollment	Women	Men
<$15,000	6.5%	7.6%
$15,000–$29,999	5.5%	6.0%
$30,000–$49,999	5.9%	5.9%
$50,000–$74,999	7.2%	7.1%
$75,000–$99,999	8.3%	7.9%
$100,000–$149,999	9.2%	8.6%
$150,000+	8.1%	7.6%

Automatic enrollment	Women	Men
<$15,000	4.1%	5.2%
$15,000–$29,999	4.2%	4.7%
$30,000–$49,999	5.5%	5.5%
$50,000–$74,999	7.0%	7.0%
$75,000–$99,999	8.4%	8.3%
$100,000–$149,999	9.5%	9.4%
$150,000+	8.4%	8.2%

Source: Vanguard, 2022.

Figure 5. Income, 2021 estimated

Vanguard defined contribution plans

All participants	Women	Men	Women vs. Men
Average	$70,037	$93,152	+33%
Median	$53,999	$72,259	+34%
Voluntary enrollment			
Average	$66,252	$87,903	+33%
Median	$49,726	$70,400	+42%
Automatic enrollment			
Average	$73,496	$97,141	+32%
Median	$57,315	$73,982	+29%

Source: Vanguard, 2022.

Investments

There is a commonly held view that women are more risk averse than men. However, in 2021, average equity allocations in DC plans were similar: 75% for women, 77% for men (**Figure 6**). Men were more likely to hold diversified equity, while women were more likely to have target-date funds (TDFs).

TDFs were the largest exposure for participants in both voluntary and automatic enrollment designs. However, participants in automatic enrollment plans had average TDF allocations that were about 10 percentage points higher than those in voluntary enrollment plans. Participants in voluntary enrollment plans tended to have higher cash and diversified equity positions.

Also in 2021, 64% of participants were invested in a professionally managed allocation, including 56% in a single TDF, 7% in a managed account service, and 1% in a single balanced fund.[4] The use of professionally managed allocations in DC plans has grown significantly over the last 10 years and is drastically improving participant investment allocations

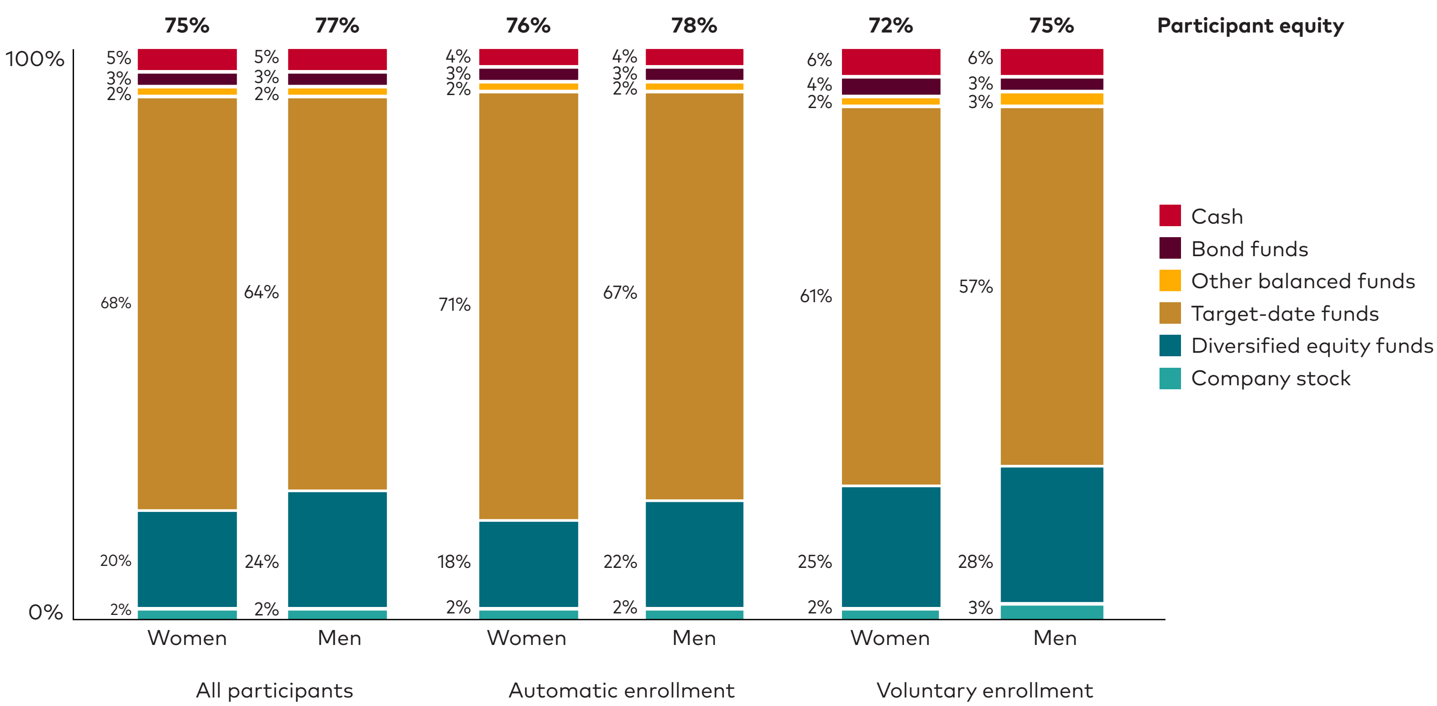
Six in 10 women in voluntary enrollment plans and 7 of 10 in automatic enrollment plans have adopted professionally managed allocations (**Figure 7**). Women were more likely than men to have turned the portfolio construction task over to an investment professional. Importantly, our research shows that participants using professionally managed allocations have better age-appropriate portfolios than those who construct their own portfolios.[5]

Reflecting the similar equity holdings of women and men, annualized five-year investment returns were similar as well, with men holding a slight edge (**Figure 8**). Returns for men at the 75th percentile in plans with voluntary enrollment were 13.9%, compared with 13.7% for women. On average, men in voluntary enrollment plans had total returns of 12.3%, compared with 12.2% for women. Returns were very similar in plans with automatic enrollment—underscoring the power of plan defaults. At the margin, men were more likely to hold higher equity exposure. During this period, that strategy worked well.

Participant trading or exchange activity is the movement of existing account assets from one plan investment option to another. Few non-advised participants traded in 2021, and women traded about one-third less frequently than men (**Figure 9**). Participants who are single TDF investors (holding all their assets in only one TDF) traded very infrequently, and women were more likely than men to hold a single TDF.

Figure 6. Average asset class exposure, 2021

Vanguard defined contribution plans
Participant weighted



Source: Vanguard, 2022.

[4] See *The Value of Professionally Managed Allocations*. Vanguard, May 2022.
[5] See *How America Saves 2022*. Vanguard, June 2022.

Figure 7. Participants with professionally managed allocations, 2021

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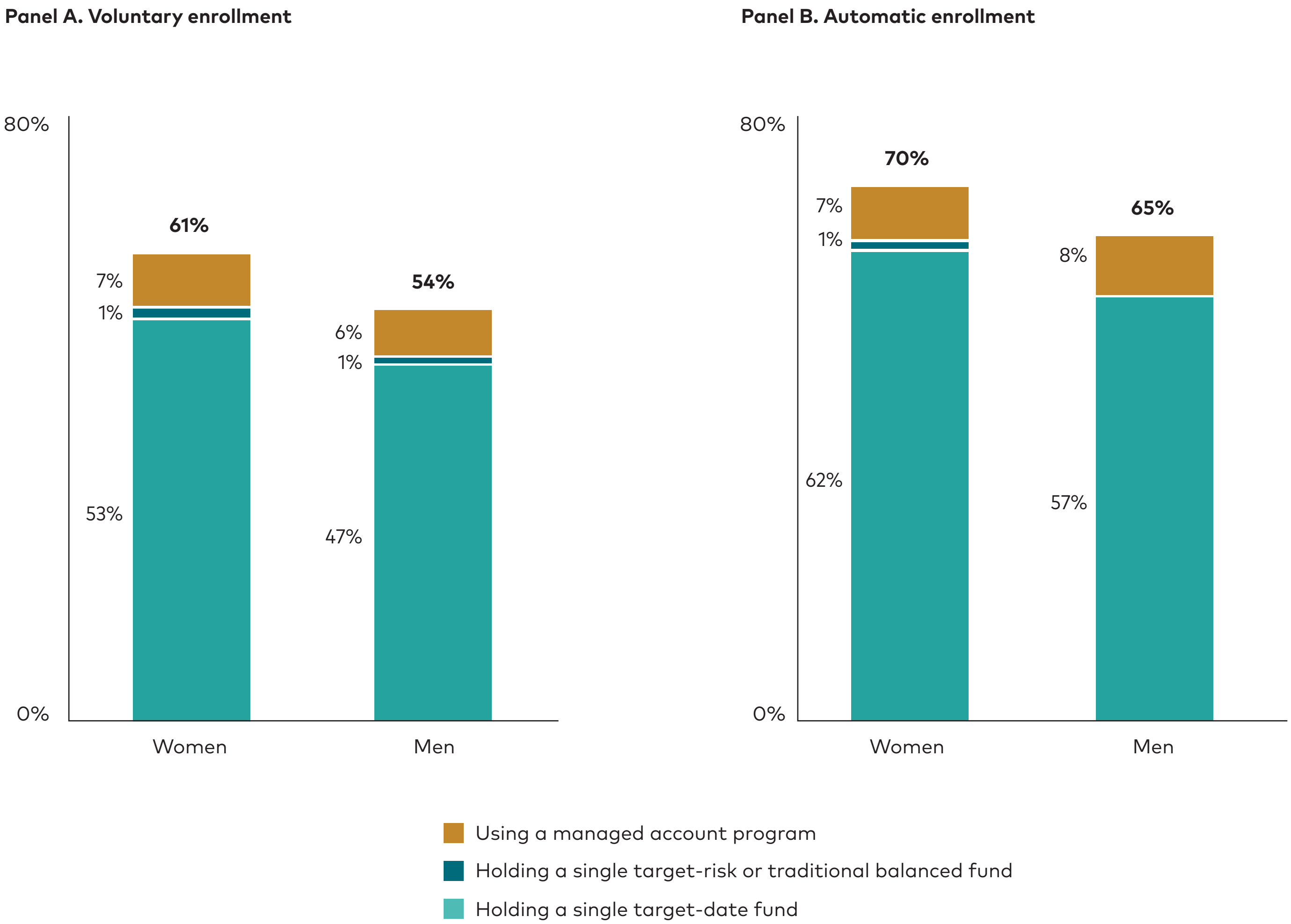

Note: Less than 0.5% of men in automatic enrollment plans held a single target-risk or traditional balanced fund.

Source: Vanguard, 2022.

Figure 8. Distribution of 5-year total returns, 2021

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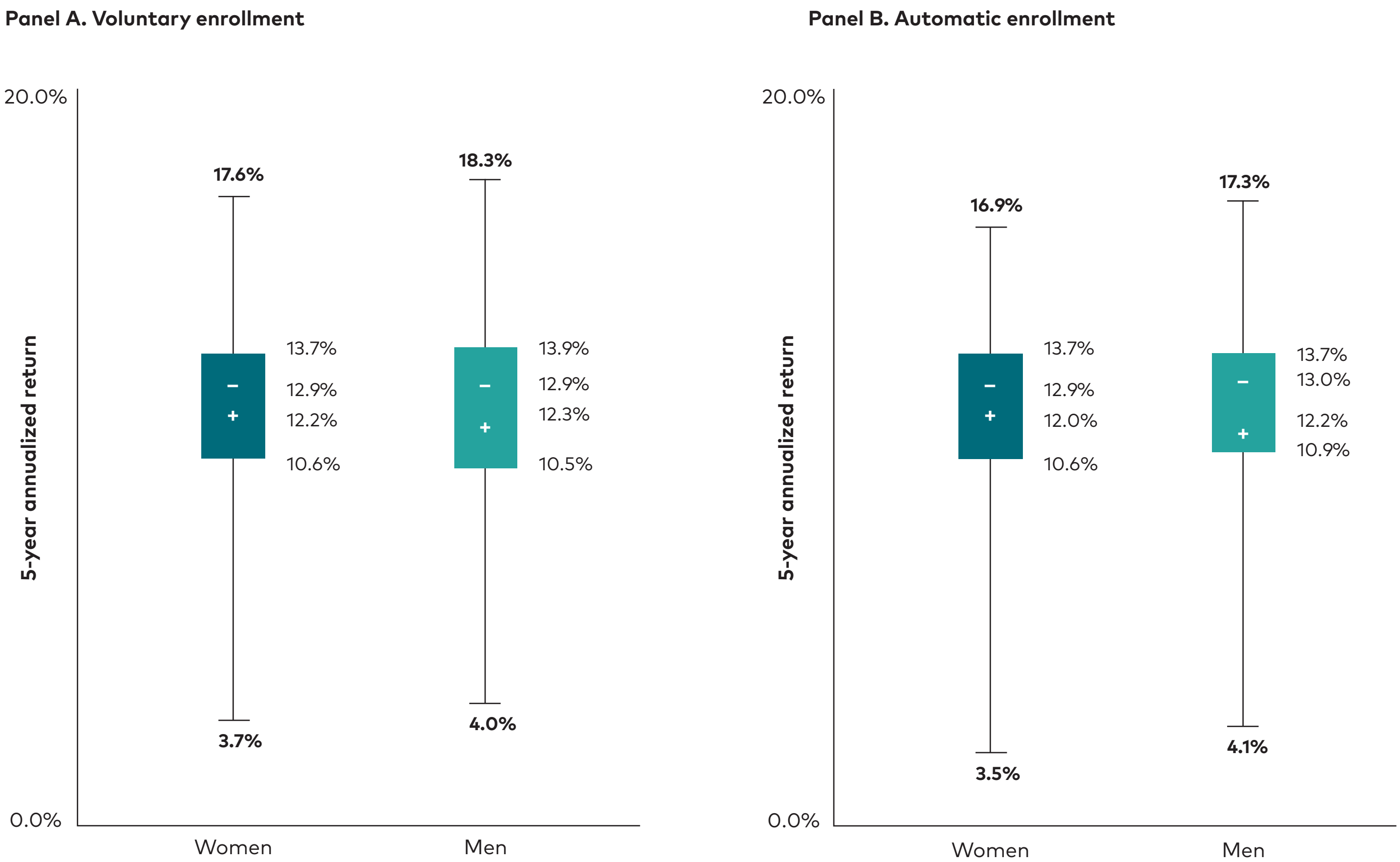
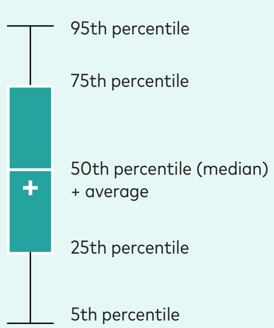


Note: Based on 237,000 observations for female investors and 345,000 for male investors in voluntary enrollment plans, and 568,000 observations for female investors and 798,000 for male investors in automatic enrollment plans. **Past performance is not a guarantee of future results. For the most recent performance, visit our website at www.vanguard.com/performance.**

Source: Vanguard, 2022.



How to read a box and whisker chart:

This box and whisker chart shows the range of outcomes. Plot values represent the 95th, 75th, 50th, 25th, and 5th percentile values. The average value is represented by a white + and the median value by a white line. An example of how to interpret the data in Figure 8 is: For the five-year period, 5% of participants had total return rates (TRRs) greater than 17.6%; 25% had TRRs greater than 13.7%; half had TRRs greater than 12.9%; 75% had TRRs greater than 10.6%; 95% had TRRs greater than 3.7%. The average TRR was 12.2%.

Figure 9. Participant-directed trading, 2021

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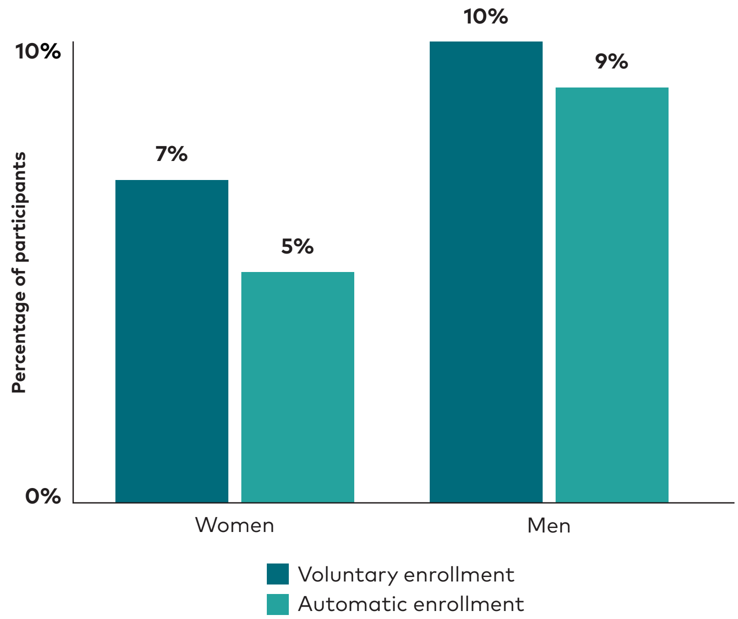

Source: Vanguard, 2022.

Account balances

Although women were more likely to save in DC plans, men had larger account balances (**Figure 10**). Men's average account balance was $170,942, with a median of $45,106. Women's average account balance was $118,849 with a median of $31,291. Men's average and median account balances were 44% higher than women's balances.

Why do men have higher balances? The primary difference is income. As noted previously, men's wages were about one-third higher than women's income. A more nuanced picture emerges when comparing men's and women's account balances by income bands (**Figure 11**). Controlling for income differences, we found that account balances were similar for women and men at lower and midrange income bands, but at higher income levels, men had higher account balances. This is due to higher wages and slightly longer tenure among men at these wage levels.

Figure 10. Account balances, 2021

Vanguard defined contribution plans

All participants	**Women**	**Men**	**Women vs. Men**
Average	$118,849	$170,942	+44%
Median	$31,291	$45,106	+44%
Voluntary enrollment			
Average	$113,645	$171,085	+51%
Median	$29,375	$42,879	+46%
Automatic enrollment			
Average	$122,797	$170,844	+39%
Median	$32,923	$46,738	+42%

Source: Vanguard, 2022.

Figure 11. Account balances by income, 2021

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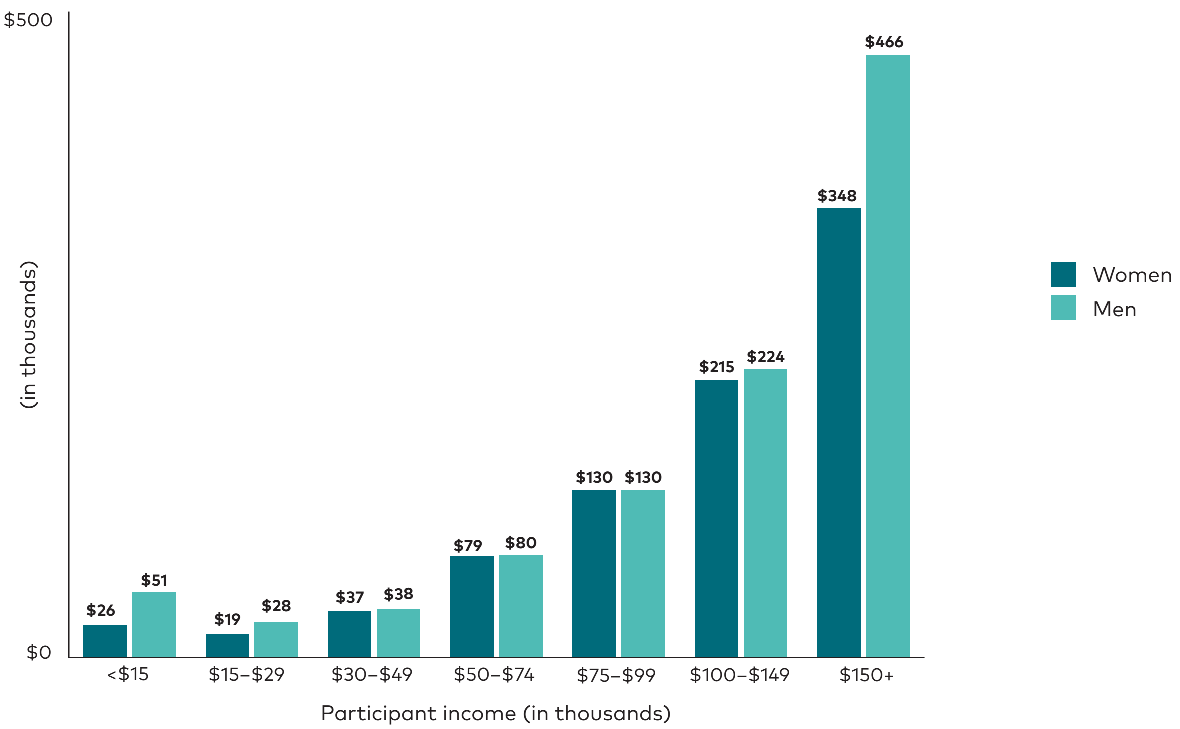
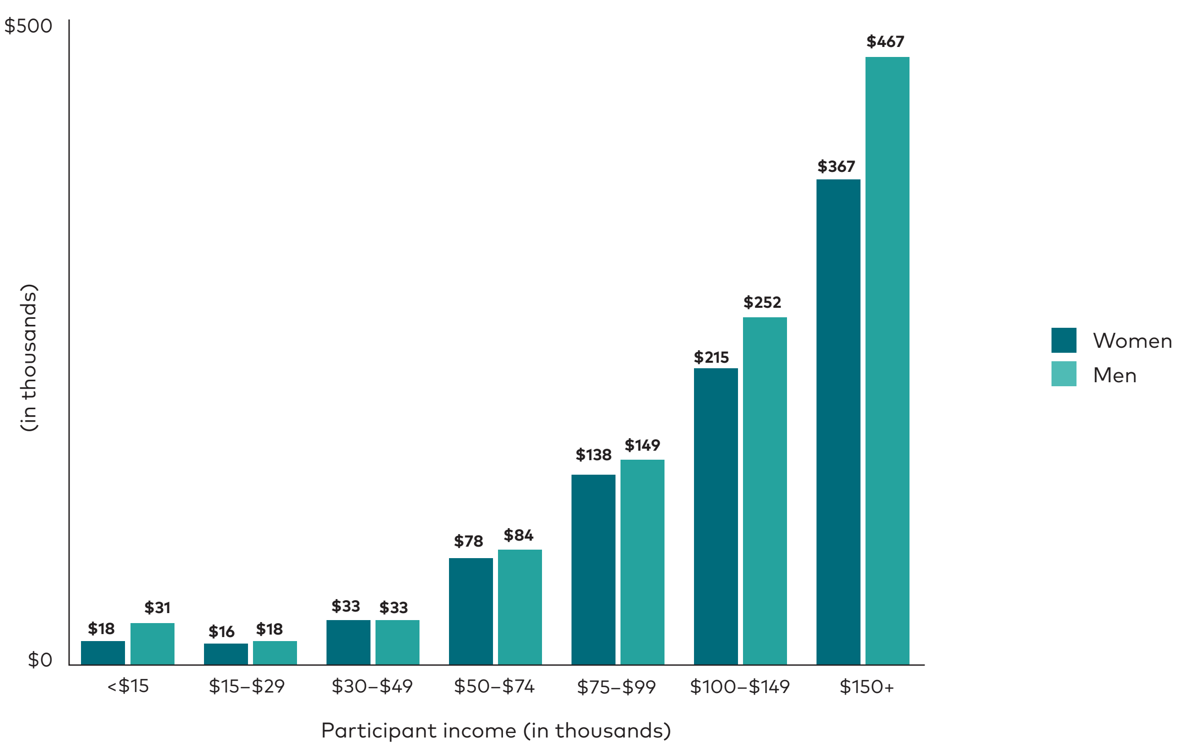
Panel A: Voluntary enrollment average participant account balances (in thousands)



Source: Vanguard, 2022.

Panel B: Automatic enrollment average participant account balances (in thousands)



Source: Vanguard, 2022.

Panel C: Voluntary enrollment median participant account balances (in thousands)

	Distribution of population		Median account balance		Median tenure	
	Women	Men	Women	Men	Women	Men
<$15,000	1%	1%	$3	$4	1	1
$15,000–$29,999	1%	1%	$6	$6	3	2
$30,000–$49,999	4%	2%	$13	$13	6	4
$50,000–$74,999	3%	4%	$33	$33	7	7
$75,000–$99,999	2%	3%	$63	$60	7	8
$100,000–$149,999	2%	4%	$111	$115	8	9
$150,000+	2%	3%	$178	$255	8	9

Source: Vanguard, 2022.

Panel D: Automatic enrollment median participant account balances (in thousands)

	Distribution of population		Median account balance		Median tenure	
	Women	Men	Women	Men	Women	Men
<$15,000	1%	1%	$3	$4	1	1
$15,000–$29,999	2%	2%	$4	$6	2	2
$30,000–$49,999	7%	7%	$11	$11	3	3
$50,000–$74,999	7%	9%	$35	$37	6	5
$75,000–$99,999	4%	6%	$70	$77	7	7
$100,000–$149,999	4%	7%	$118	$143	6	7
$150,000+	4%	7%	$225	$286	7	7

Source: Vanguard, 2022.

Implications

So yes, our 2021 data suggests that women and men may be different when it comes to retirement plan saving behavior. Based on income, women are more likely to participate in their plans and tend to save more. Women are also more likely to use professionally managed allocations than men, although, on average, men and women take similar risk levels and hold similar types of portfolios. However, overall, men tend to have higher wealth accumulation than women, primarily because of higher wages.

The rising adoption of automatic enrollment is mitigating the differences in participation, saving rates, and portfolio construction between men and women. At first glance, it might appear that men are benefiting more from automatic enrollment than women. However, lower-wage individuals see the largest improvements in retirement savings from automatic enrollment, and a higher proportion of women have wages lower than men.

It is important to acknowledge that, within each gender, some individuals are doing better than others. So rather than focus on the differences between men and women, it may be more important to focus on behavioral differences regardless of gender. Those who save at low rates may need to boost their contributions—ideally through stronger automatic enrollment or behavioral nudges to higher saving rates. Similarly, those with poorly diversified portfolios could be encouraged to move to a professionally managed portfolio, whether by default or by choice.

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