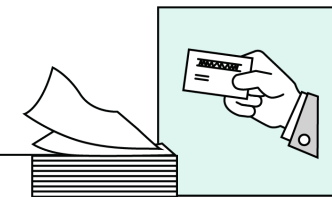


Custom DC plan benchmarks

Professional, scientific and technical services



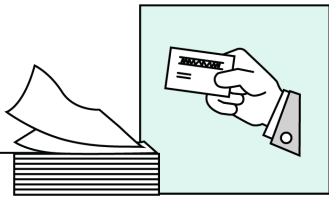


Benchmark population

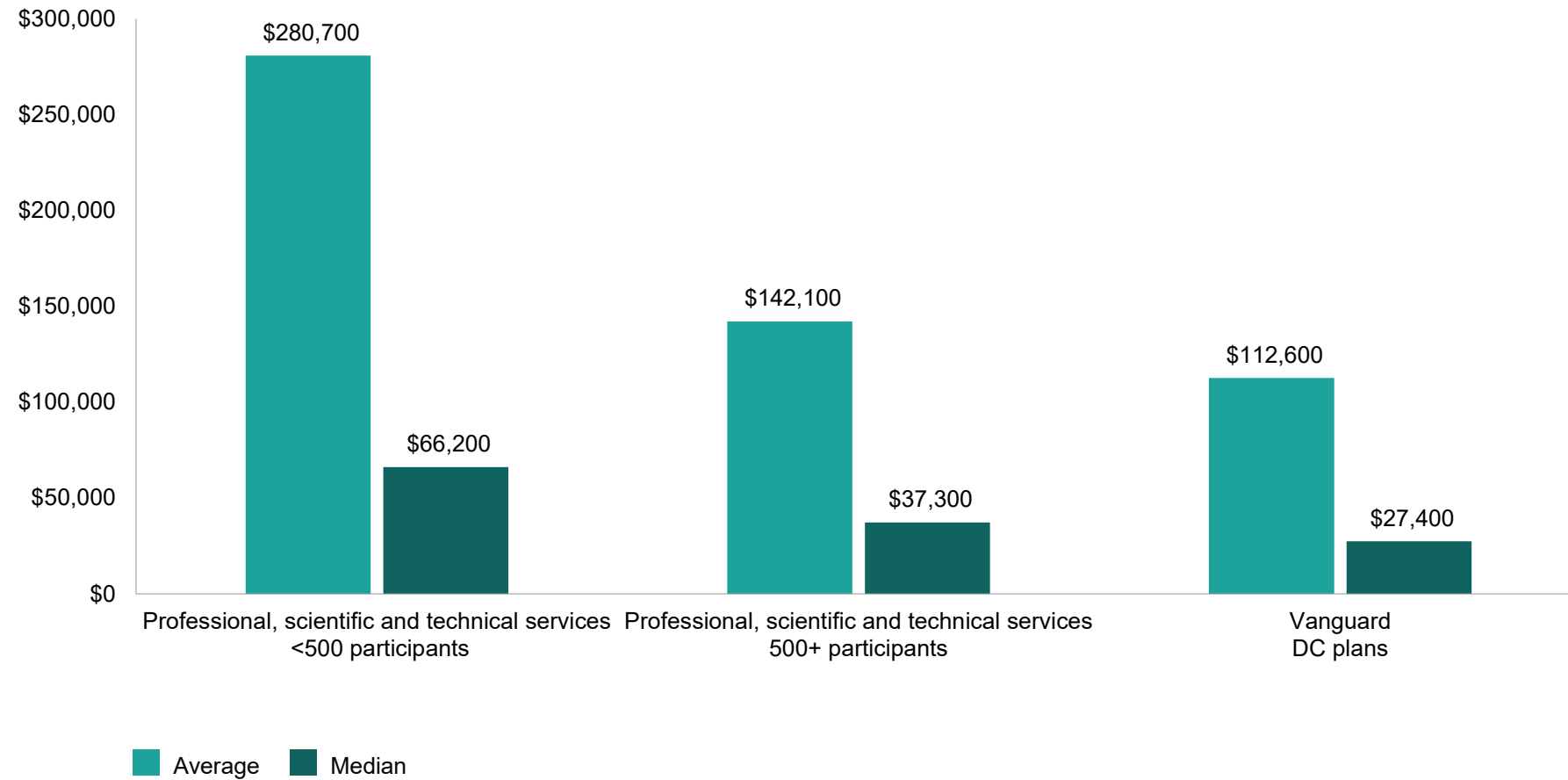
	Professional, scientific and technical services <500 participants	Professional, scientific and technical services 500+ participants	Vanguard DC plans
Number of plans	187	142	1,650
Number of participants	30,418	743,381	4.9 million
Average number of participants	163	5,235	2,950
Median number of participants	124	1,707	565
Amount of assets	\$8.5 billion	\$105.5 billion	\$550.2 billion
Average assets	\$45.7 million	\$743 million	\$333.9 million
Median assets	\$34.7 million	\$251.6 million	\$65.5 million

The professional, scientific and technical services industry is defined by NAICS (North American Industry Classification System) subsector 54.

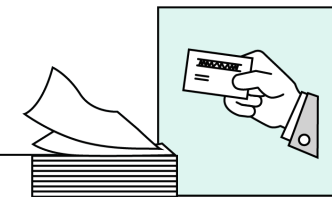
Source: Vanguard, as of December 31, 2022.



Participant balances

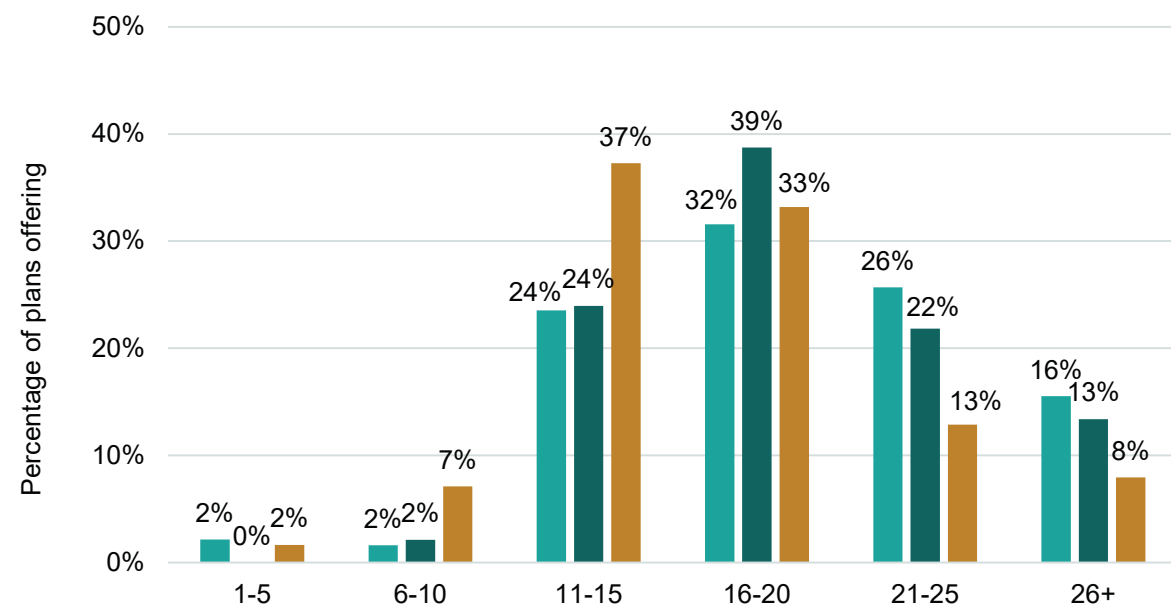


Source: Vanguard, as of December 31, 2022.
Bar chart may not align precisely with percentages due to rounding.

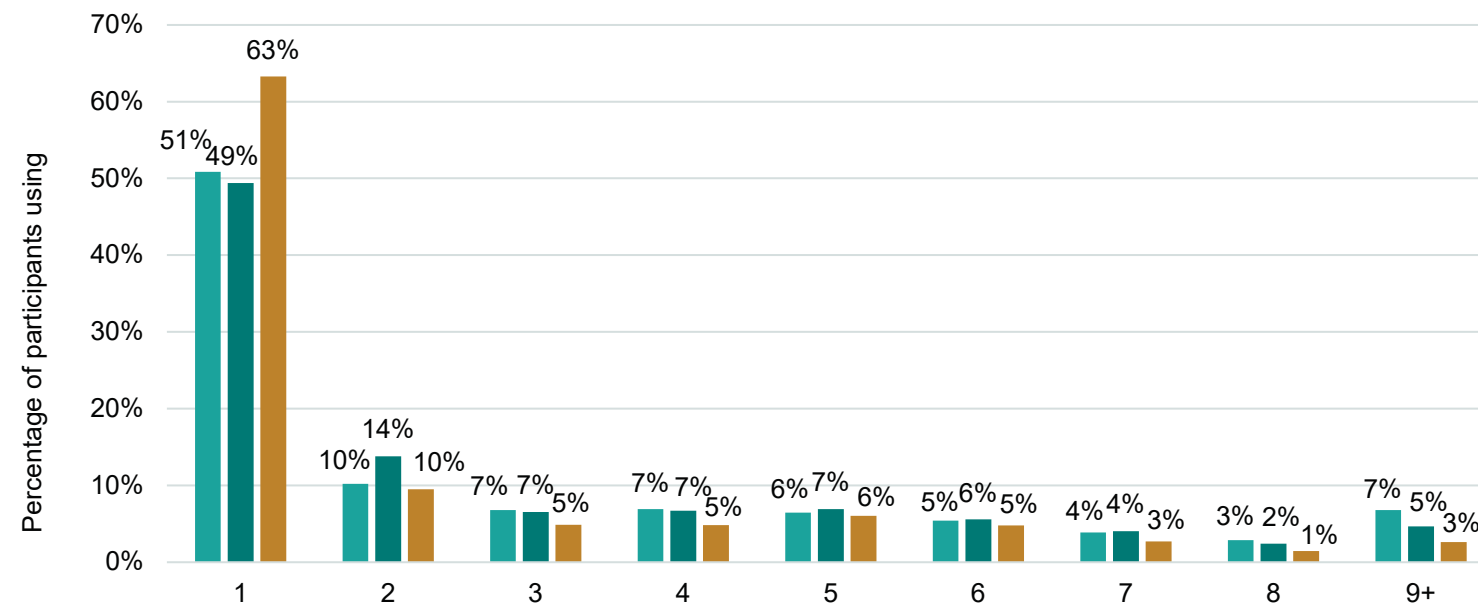


Number of fund options offered and used

Funds offered per plan (all life-cycle funds counted as one)



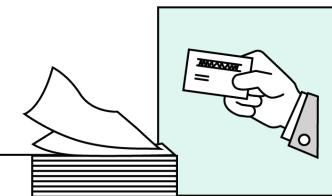
Funds used per participant



	Average funds offered	Median funds offered	Average funds used	Median funds used
Professional, scientific and technical services <500 participants	19.9	19	3.1	1
Professional, scientific and technical services 500+ participants	21.3	18	3.0	2
Vanguard DC plans	17.4	16	2.4	1

Source: Vanguard, as of December 31, 2022.

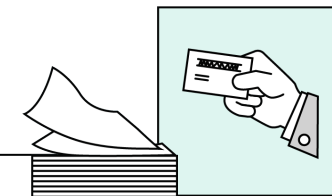
Bar chart may not align precisely with percentages due to rounding.



Types of investment options offered and used*

	Professional, scientific and technical services <500 participants		Professional, scientific and technical services 500+ participants		Vanguard DC plans	
	Percentage of plans offering	Percentage of participants using*	Percentage of plans offering	Percentage of participants using*	Percentage of plans offering	Percentage of participants using*
Cash	98%	17%	100%	15%	99%	12%
Money market	79	11	71	7	70	6
Stable value / GIC	61	14	74	12	68	10
Bond	99%	24%	100%	22%	98%	17%
Active	82	14	95	8	80	7
Index	94	16	92	18	89	14
Inflation-protected securities	43	6	57	4	35	3
Multisector	5	9	11	3	8	2
High-yield	27	8	25	4	17	3
International	24	3	21	5	19	3
Emerging markets	1	3	2	<0.5	1	2
Balanced funds	99%	78%	100%	85%	99%	87%
Traditional balanced	78	19	57	10	62	12
Target-risk	25	22	6	4	13	10
Target-date	91	69	99	83	96	83
Company stock	1%	20%	6%	49%	8%	36%
Self-directed brokerage	26%	4%	36%	1%	20%	1%

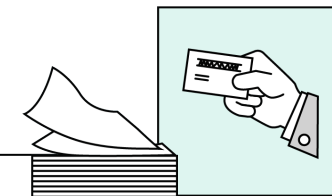
*Among participants offered the option.
Source: Vanguard, as of December 31, 2022.



Types of investment options offered and used* (continued)

	Professional, scientific and technical services <500 participants		Professional, scientific and technical services 500+ participants		Vanguard DC plans	
	Percentage of plans offering	Percentage of participants using*	Percentage of plans offering	Percentage of participants using*	Percentage of plans offering	Percentage of participants using*
Equity funds	99%	45%	100%	40%	99%	30%
Domestic equity funds	99%	43%	100%	39%	99%	29%
Large-cap index	98	32	100	32	98	23
Large-cap active	94	26	94	21	90	16
Large-cap value	94	16	89	11	87	9
Large-cap growth	92	20	96	17	91	13
Large-cap blend	98	31	100	31	98	23
Mid-cap index	87	16	91	17	83	14
Mid-cap active	66	15	63	12	52	7
Small-cap index	74	15	61	15	63	11
Small-cap active	70	13	78	9	63	7
Socially responsible	15	4	25	4	15	5
International equity funds	98%	25%	100%	24%	97%	19%
Index international	80	14	95	17	79	14
Active international	84	18	93	13	83	10
Emerging markets	41	9	43	7	35	8
Global equity funds	27%	10%	18%	6%	17%	3%

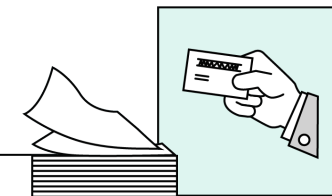
*Among participants offered the option.
Source: Vanguard, as of December 31, 2022.



Types of investment options offered and used* (continued)

	Professional, scientific and technical services <500 participants		Professional, scientific and technical services 500+ participants		Vanguard DC plans	
	Percentage of plans offering	Percentage of participants using*	Percentage of plans offering	Percentage of participants using*	Percentage of plans offering	Percentage of participants using*
Sector funds	48%	11%	50%	6%	38%	6%
REIT	41	9	46	4	32	5
Health care	15	12	8	6	8	7
Energy	7	12	5	3	5	5
Precious metals	2	4	6	2	2	2
Technology	6	7	6	5	3	5
Utilities	1	4	3	1	1	2
Natural resources	1	6	1	1	1	4
Financials	1	1	1	1	<0.5	1
Communications	0	0	2	<0.5	<0.5	1
Consumer	1	2	3	1	<0.5	2
Industrials	0	0	1	<0.5	<0.5	1

*Among participants offered the option.
Source: Vanguard, as of December 31, 2022.



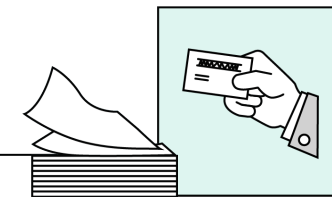
Target-date funds availability and use

	Professional, scientific and technical services <500 participants	Professional, scientific and technical services 500+ participants	Vanguard DC plans
Percentage of plans offering	91%	99%	96%
Plan assets invested*	28%	37%	40%
Percentage of plan assets*			
<10%	14%	1%	5%
10–19%	22%	5%	10%
20–29%	27%	16%	17%
30–39%	15%	24%	21%
40–49%	9%	25%	17%
50%+	13%	29%	30%
Percentage of participants using *	69%	83%	83%
Percentage of participant assets**	54%	54%	61%
Percentage of participant assets in target-date funds**			
1–24%	13%	15%	10%
25–49%	8%	12%	8%
50–74%	5%	8%	4%
75–99%	6%	7%	6%
100%	68%	58%	72%
Percentage of participants owning**			
One target-date fund only	64%	55%	71%
One target-date fund plus other funds	27%	33%	23%
Two or more target-date funds only	3%	4%	2%
Two or more target-date funds plus other funds	5%	8%	4%

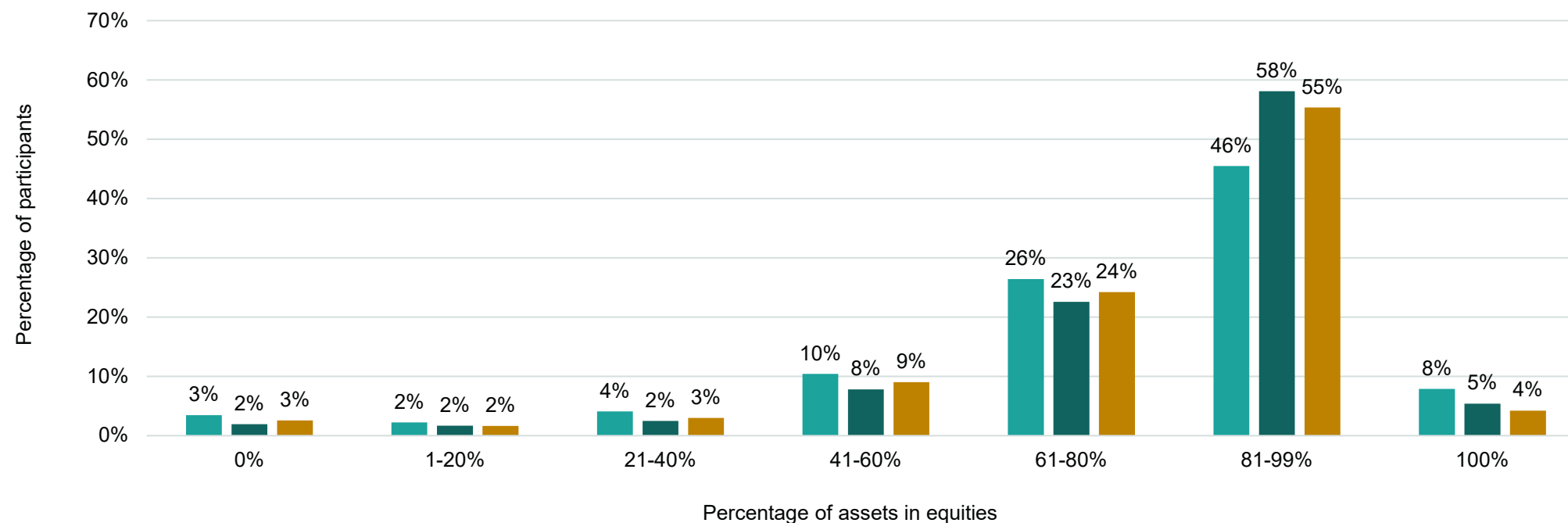
*Among plans offering target-date options.

**Among participants owning target-date options.

Source: Vanguard, as of December 31, 2022.



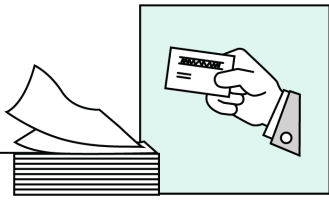
Participant equity exposure



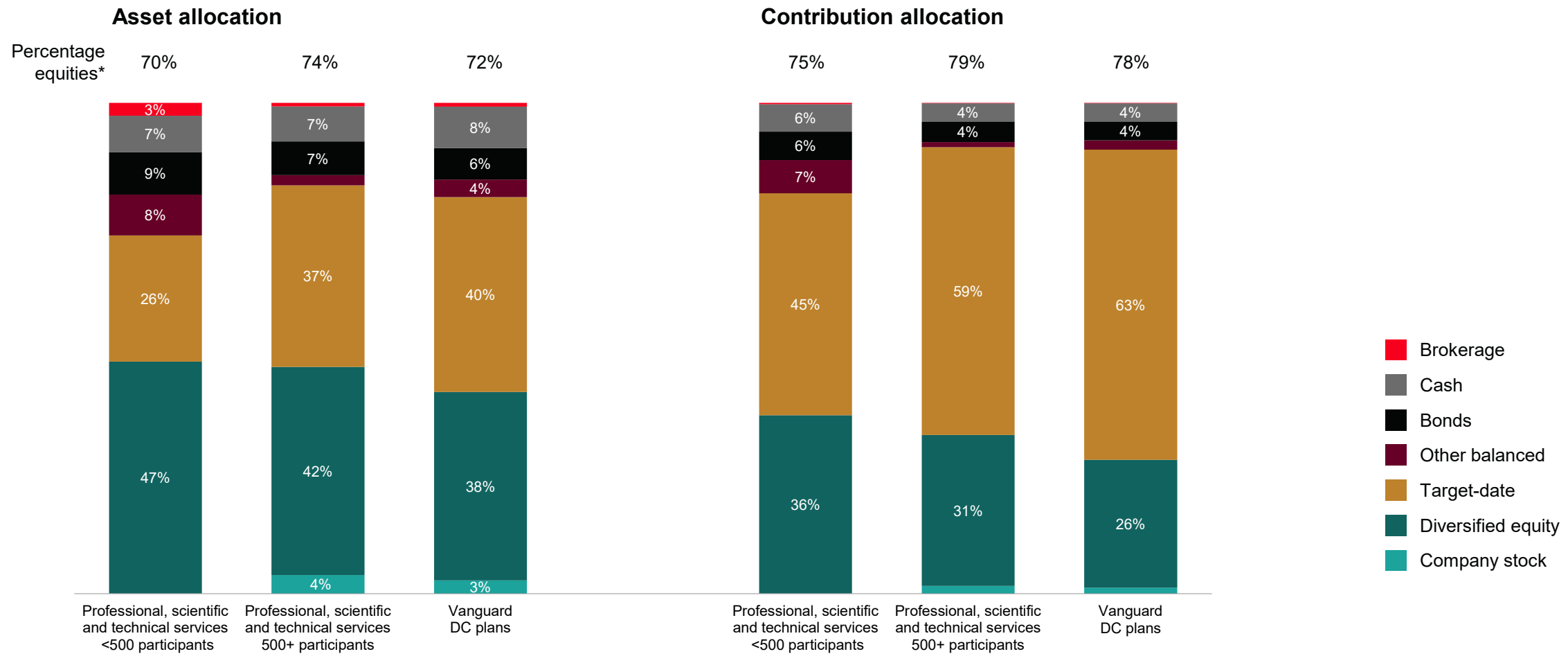
	Average percentage in equities	Median percentage in equities
Professional, scientific and technical services <500 participants	75%	84%
Professional, scientific and technical services 500+ participants	79%	89%
Vanguard DC plans	77%	86%

Source: Vanguard, as of December 31, 2022.

Bar chart may not align precisely with percentages due to rounding.



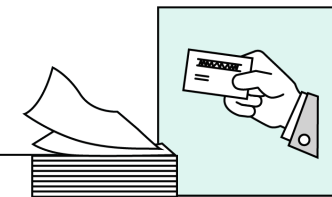
Asset and contribution allocations



*Equities include company stock, diversified equity, and the equity portion of balanced funds.

Source: Vanguard, as of December 31, 2022.

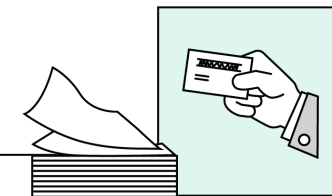
Bar chart may not align precisely with percentages due to rounding.



Participants with professionally managed allocations

	Professional, scientific and technical services <500 participants	Professional, scientific and technical services 500+ participants	Vanguard DC plans
All participants			
Single target-date fund	42%	45%	59%
Single balanced fund	3%	<0.5%	<0.5%
Managed account program	2%	6%	7%
Total	47%	51%	66%
New plan entrants during the year			
Single target-date fund	73%	67%	87%
Single balanced fund	4%	<0.5%	<0.5%
Managed account program	1%	2%	2%
Total	78%	69%	89%

Source: Vanguard, as of December 31, 2022.

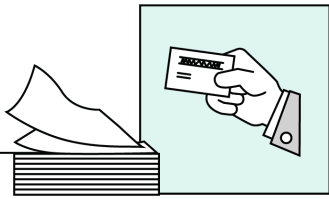


Automatic enrollment options*

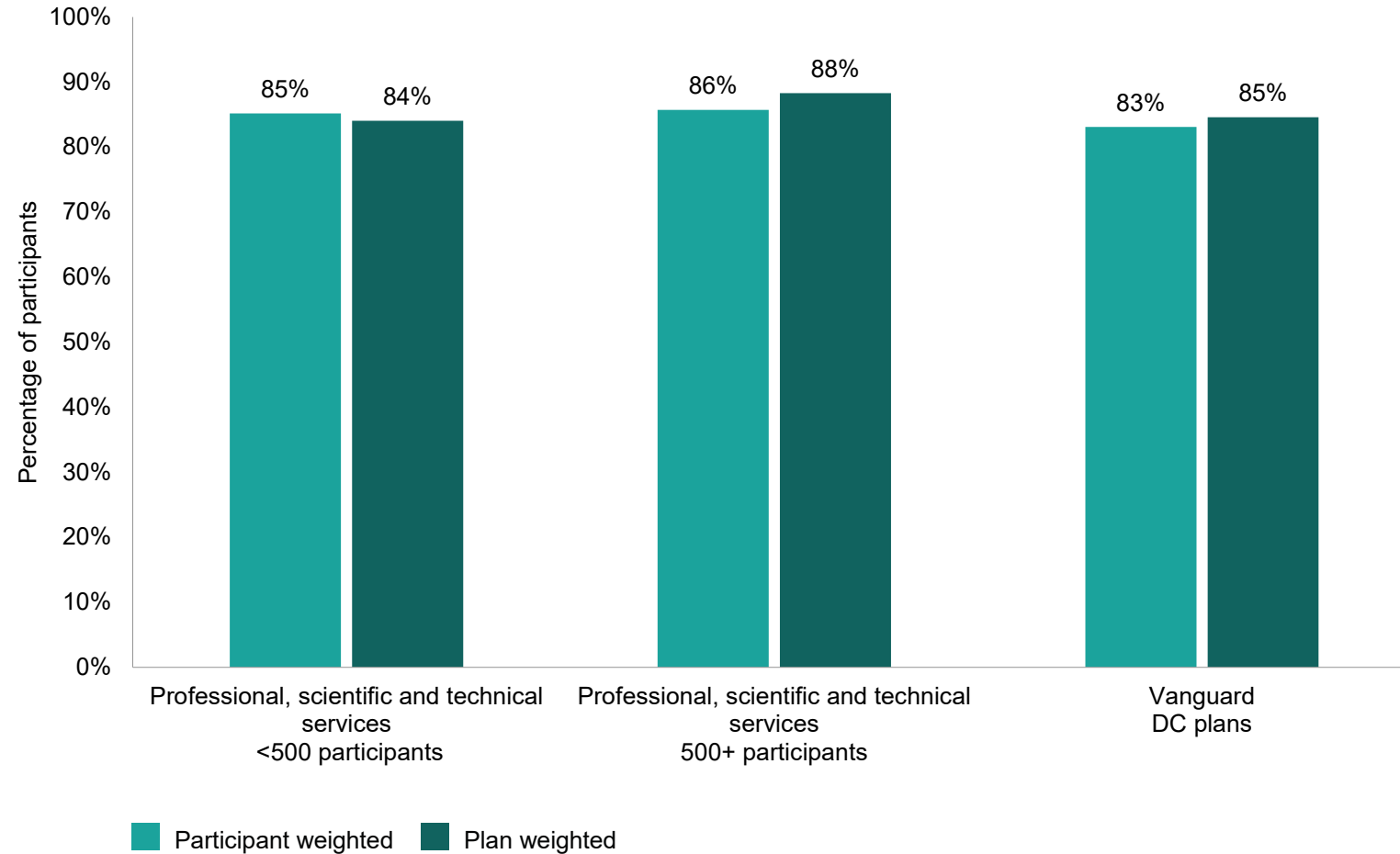
	Professional, scientific and technical services <500 participants	Professional, scientific and technical services 500+ participants	Vanguard DC plans
Automatic enrollment*			
Number of plans	57	90	884
Percentage of plans	33%	68%	58%
Default automatic enrollment rate			
1 percent	2%	2%	2%
2 percent	5%	3%	5%
3 percent	32%	36%	34%
4 percent	21%	16%	14%
5 percent	16%	11%	17%
6 percent or more	25%	32%	28%
Default automatic increase rate			
1 percent	49%	69%	66%
2 percent	9%	2%	3%
Voluntary election	19%	27%	25%
Service feature not offered	23%	2%	6%
Default automatic increase cap			
<6 percent	6%	2%	2%
6 to 9 percent	15%	14%	17%
10 to 14 percent	48%	55%	48%
15 to 19 percent	18%	20%	22%
20+ percent	3%	5%	6%
No cap	9%	5%	5%
Default fund			
Target-date fund	89%	99%	98%
Other balanced fund	5%	1%	1%
Money market or stable value fund	4%	0%	1%

*Limited to plans using Vanguard's automatic enrollment service.

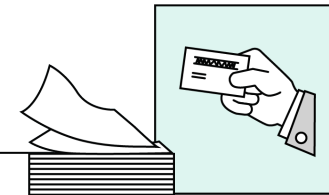
Source: Vanguard, as of December 31, 2022.



Participation rates



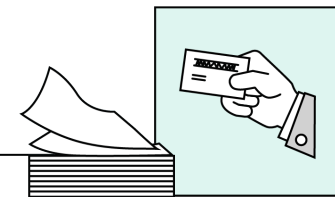
Source: Vanguard active plans with nondiscrimination testing completed during the past two years. Bar chart may not align precisely with percentages due to rounding.



Participant deferral rates

	Professional, scientific and technical services <500 participants	Professional, scientific and technical services 500+ participants	Vanguard DC plans
Deferral rates			
Average	7.9%	8.2%	7.4%
Median	6.7%	7.0%	6.4%
Distribution of rates			
<4.0%	17%	17%	25%
4.0% – 6.0%	18%	20%	19%
6.1% – 9.9%	42%	35%	32%
10.0% – 14.9%	15%	19%	17%
15.0%+	8%	8%	7%

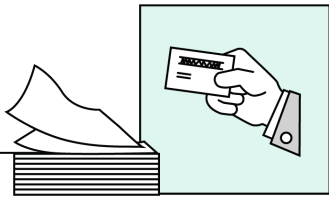
Source: Vanguard active plans with nondiscrimination testing completed during the past two years.



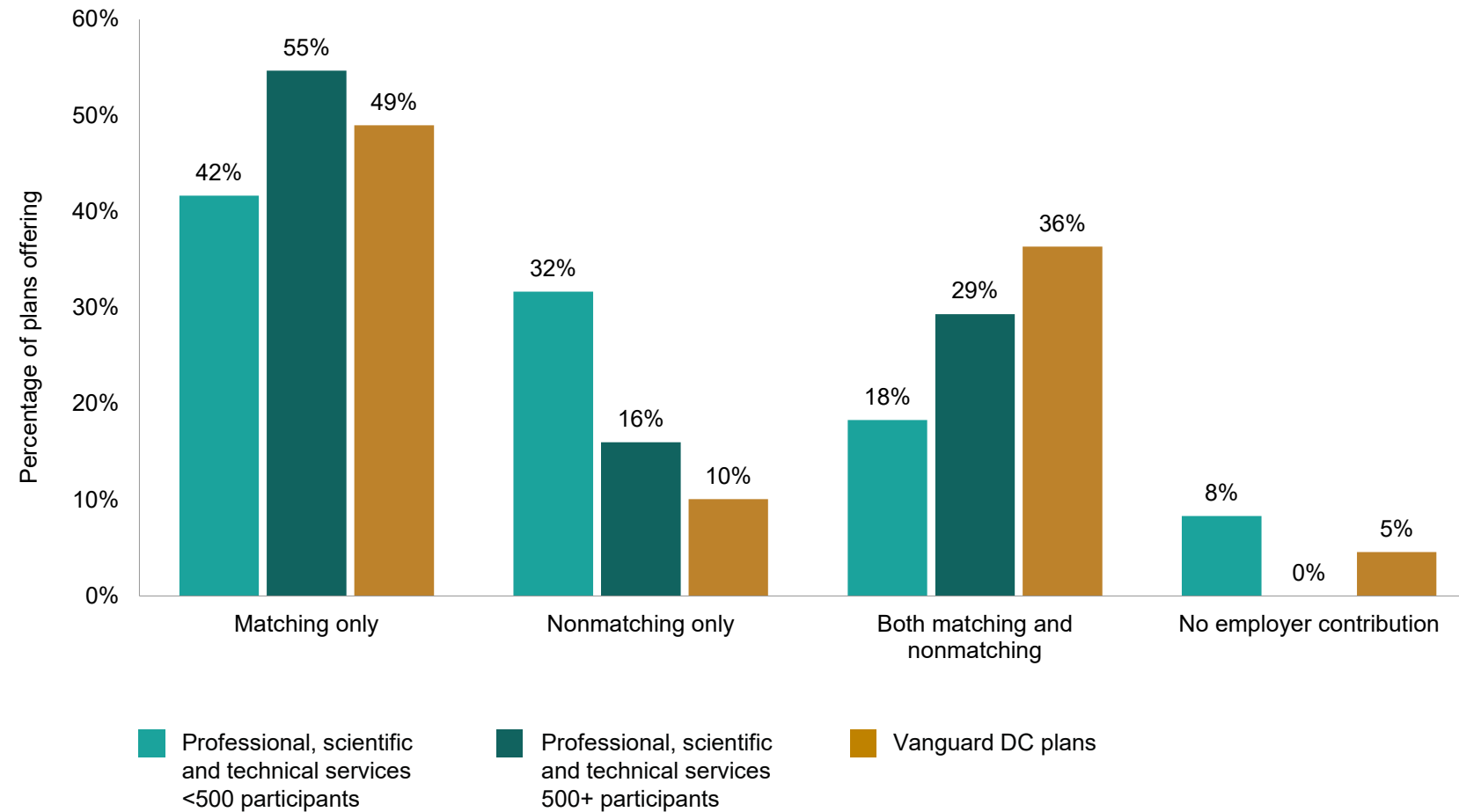
Aggregate participant and employer contribution rates

	Professional, scientific and technical services <500 participants	Professional, scientific and technical services 500+ participants	Vanguard DC plans
Total saving rate			
Average	12.1%	11.9%	11.3%
Median	11.0%	10.9%	10.6%
Distribution of rates			
<5.0%	10%	10%	18%
5.0% – 8.9%	22%	24%	20%
9.0% – 11.9%	23%	24%	21%
12.0% – 14.9%	17%	17%	17%
15.0% +	29%	25%	23%

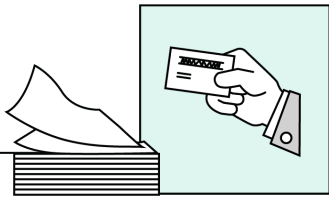
Source: Vanguard active plans with nondiscrimination testing completed during the past two years.



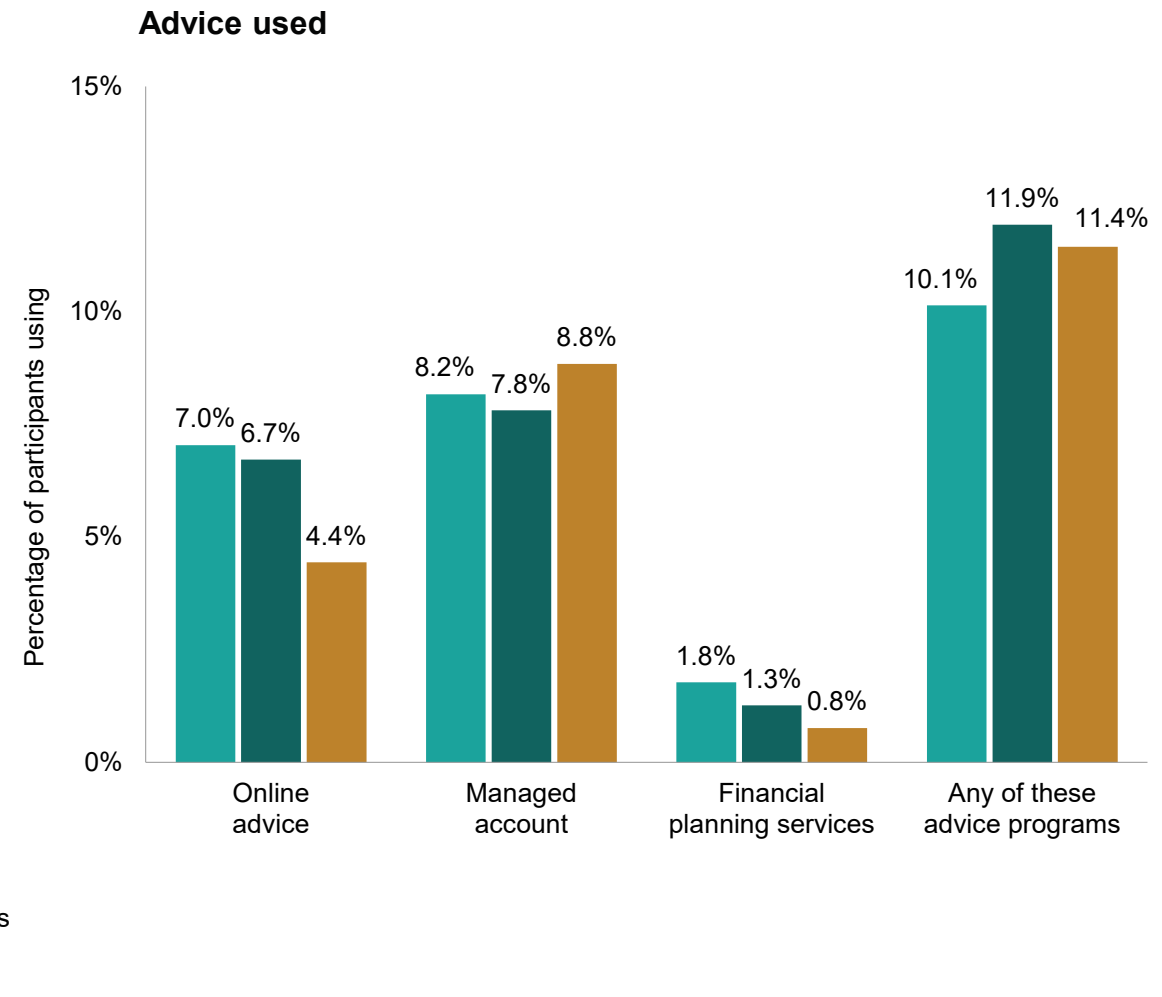
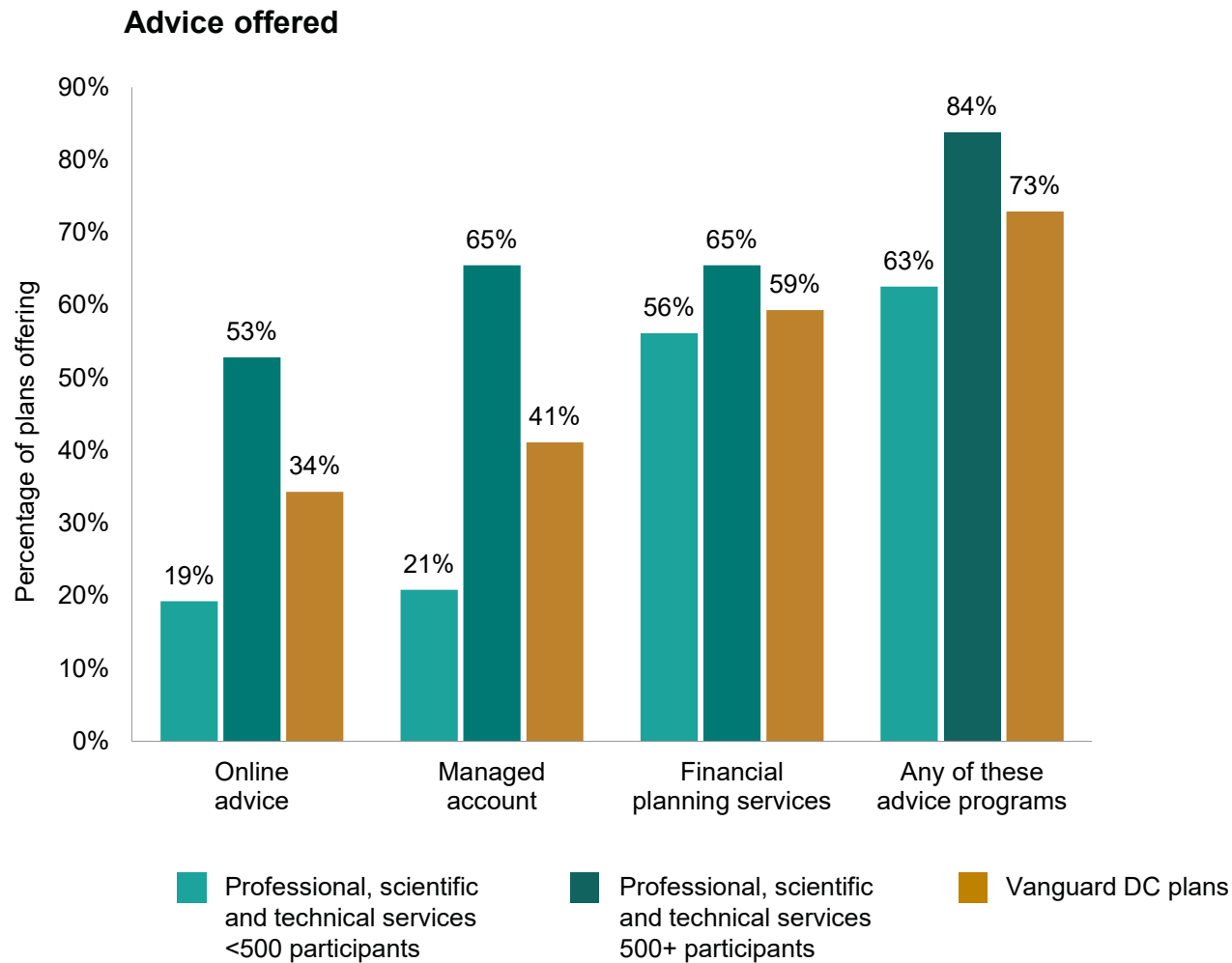
Types of employer contributions



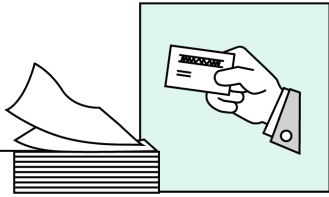
Source: Vanguard active plans with nondiscrimination testing completed during the past two years. Bar chart may not align precisely with percentages due to rounding.



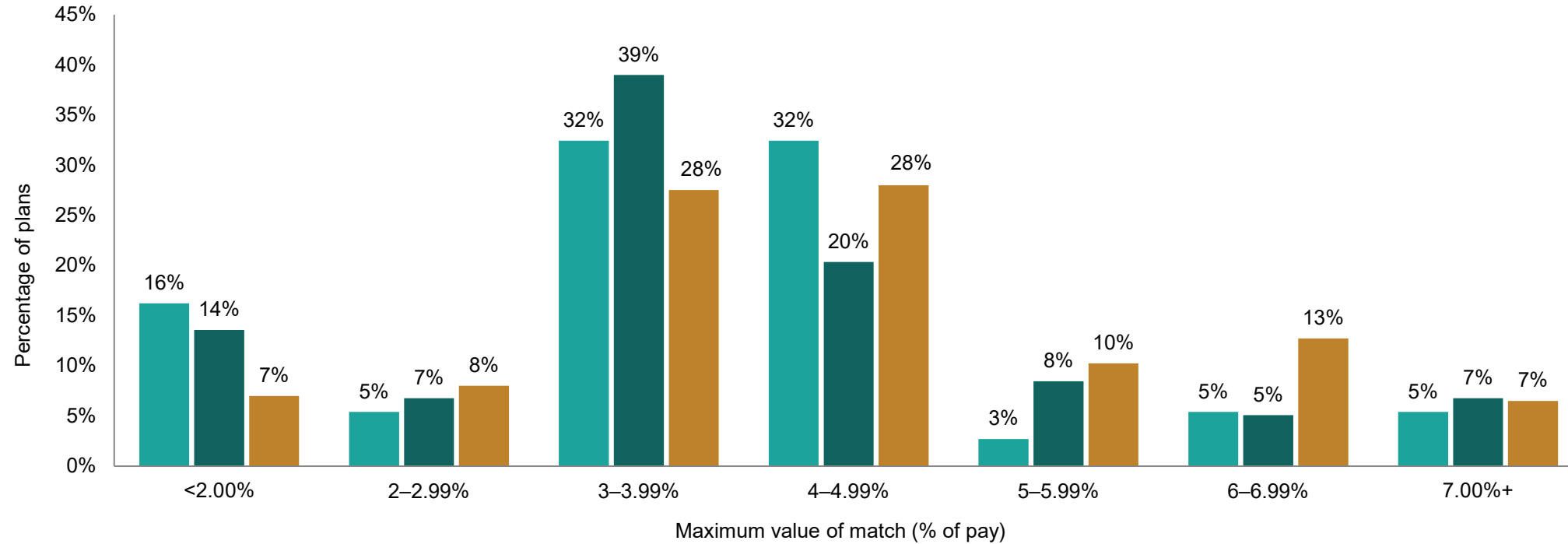
Advice services



Source: Vanguard, as of December 31, 2022.
 Bar chart may not align precisely with percentages due to rounding.

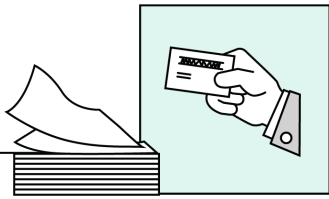


Matching contributions

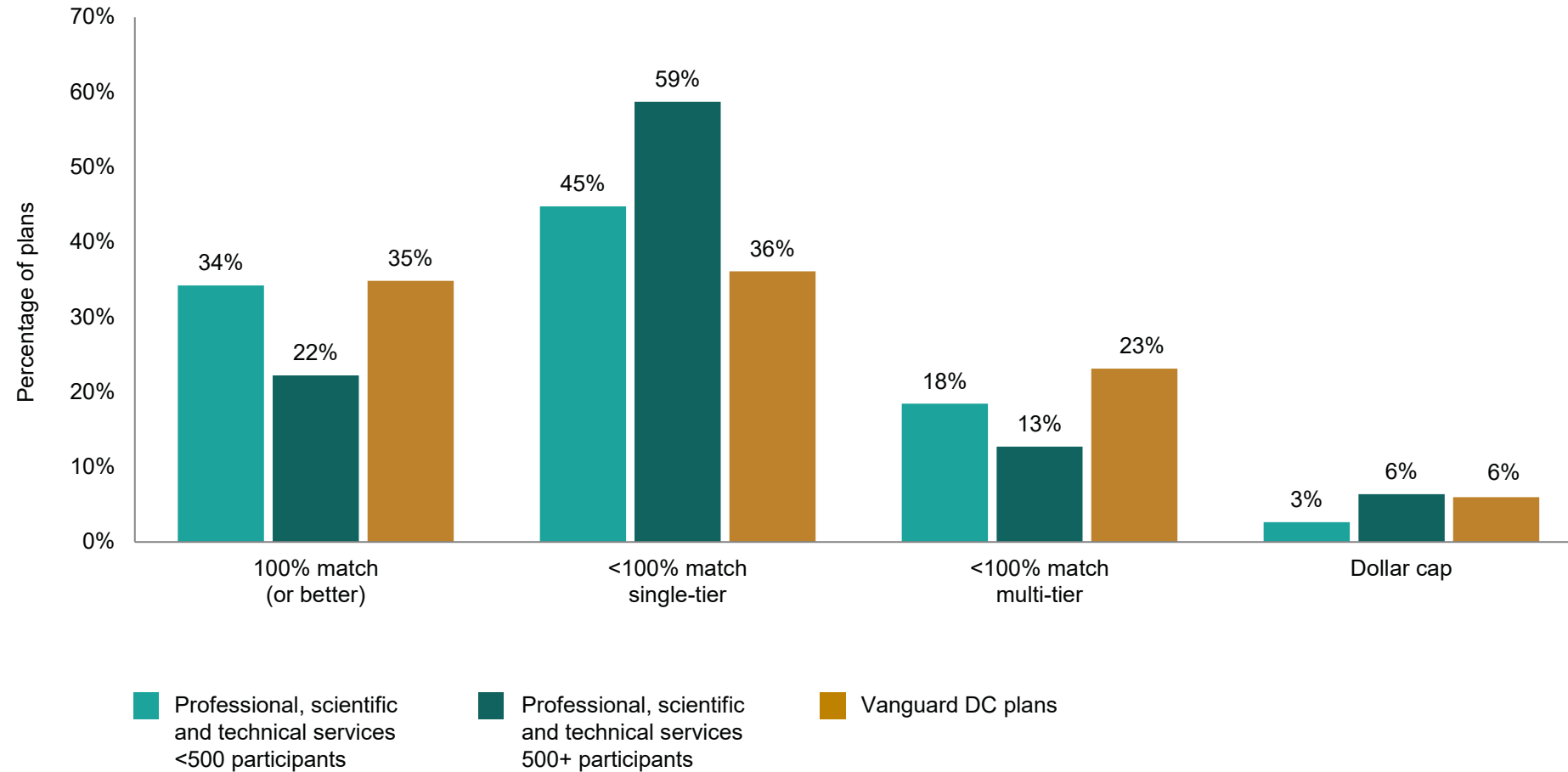


	Average value	Median value
Professional, scientific and technical services <500 participants	4.0%	3.6%
Professional, scientific and technical services 500+ participants	4.1%	3.0%
Vanguard DC plans	4.5%	4.0%

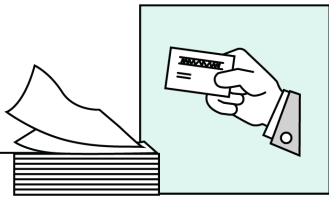
Source: Vanguard active plans with nondiscrimination testing completed during the past two years. Bar chart may not align precisely with percentages due to rounding.



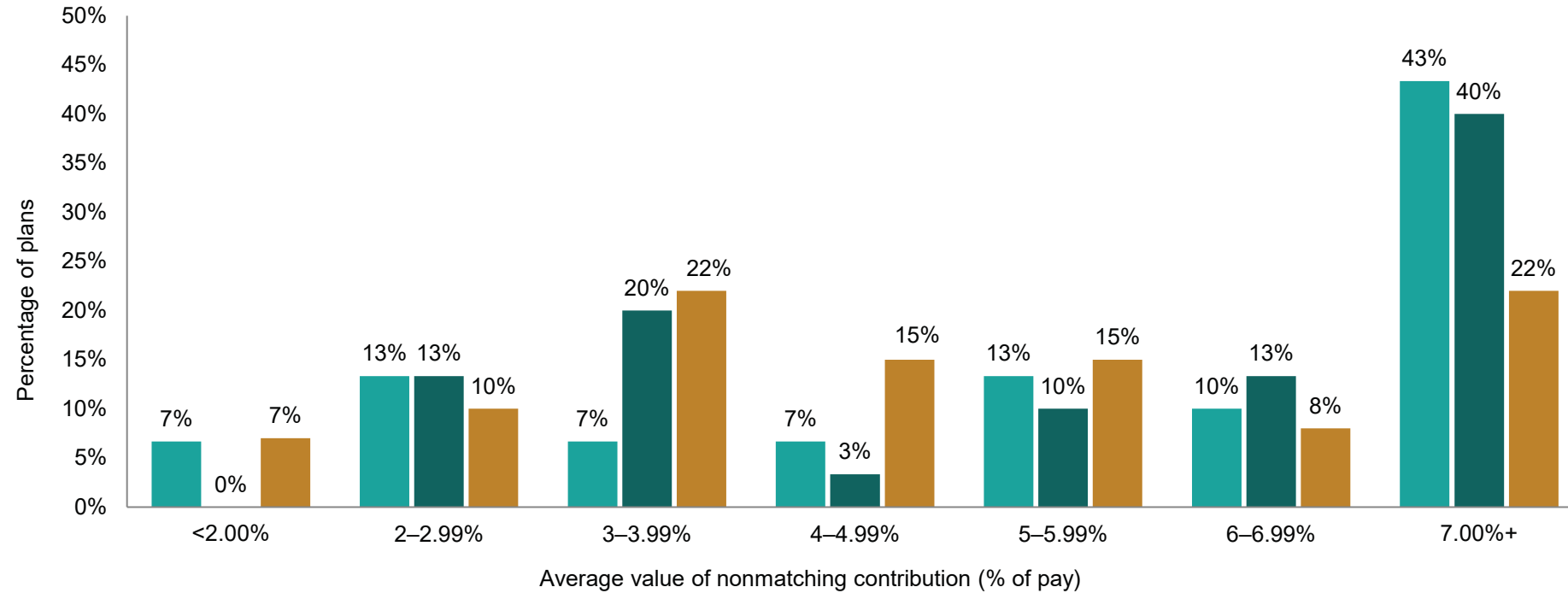
Matching formulas



Source: Vanguard active plans with nondiscrimination testing completed during the past two years. Bar chart may not align precisely with percentages due to rounding.

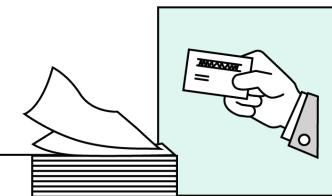


Nonmatching/Profit-sharing employer contributions



	Average value	Median value
Professional, scientific and technical services <500 participants	6.9%	6.7%
Professional, scientific and technical services 500+ participants	6.3%	6.2%
Vanguard DC plans	5.1%	4.1%

Source: Vanguard active plans with nondiscrimination testing completed during the past two years. Bar chart may not align precisely with percentages due to rounding.



Roth availability and use

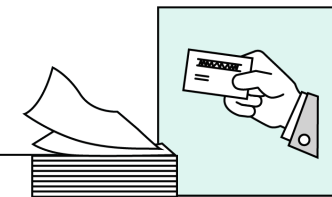
	Professional, scientific and technical services <500 participants	Professional, scientific and technical services 500+ participants	Vanguard DC plans
Percentage of plans offering Roth (among plans with elective deferrals)	84%	98%	80%
Percentage of plan assets invested in Roth*	3.9%	5.3%	3.8%
Distribution of percentage of plan assets in Roth			
<1%	22%	3%	19%
1–2%	28%	25%	36%
3–5%	25%	43%	27%
6–9%	22%	22%	13%
10–14%	2%	6%	4%
15%+	1%	1%	2%
Percentage of participants with assets in Roth*	23%	26%	16%
Percentage of participant assets in Roth**	16%	21%	17%
Distribution of participant assets in Roth			
1–24%	48%	41%	54%
25–49%	24%	24%	23%
50–74%	16%	17%	14%
75–99%	7%	13%	6%
100%	5%	5%	3%
Percentage of participants making Roth contributions (past 12 mo)***	23%	26%	15%
Percentage of participant contributions going to Roth**	67%	61%	55%
Distribution of percentage of participant contributions to Roth			
1–24%	13%	17%	22%
25–49%	19%	22%	26%
50–74%	18%	16%	15%
75–99%	5%	8%	7%
100%	45%	36%	30%

*Among plans offering Roth.

**Among participants using Roth.

***Among participants making elective deferrals.

Source: Vanguard, as of December 31, 2022.



Participant loans and in-service withdrawals

	Professional, scientific and technical services <500 participants	Professional, scientific and technical services 500+ participants	Vanguard DC plans
Outstanding loans*			
Percentage of participants with outstanding loans	8%	6%	12%
Percentage of account balance in loans	6%	9%	11%
Average loan balance	\$15,089	\$12,181	\$10,369
Number of outstanding loans per participant*			
No loans	92%	94%	88%
One loan	5%	6%	10%
Two loans	2%	1%	2%
Three+ loans	1%	0%	0%
Loans issued past 12 months*			
Average per 1,000 active participants	57	53	93
Average loan amount	\$14,795	\$13,750	\$10,701
Nonhardship withdrawals taken past 12 months**			
Average per 1,000 active participants	86	53	93
Average withdrawal amount	\$66,101	\$33,573	\$17,560
Hardship withdrawals taken past 12 months**			
Average per 1,000 active participants	11	21	49
Average withdrawal amount	\$11,822	\$5,830	\$5,126

*Among plans allowing loans.

**Among participants allowed in-service withdrawals.

Source: Vanguard, as of December 31, 2022.

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