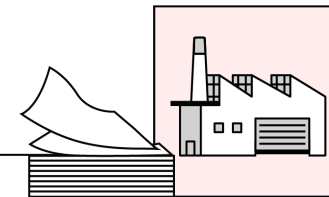


Custom DC plan benchmarks

# Manufacturing



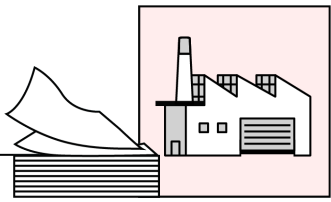


# Benchmark population

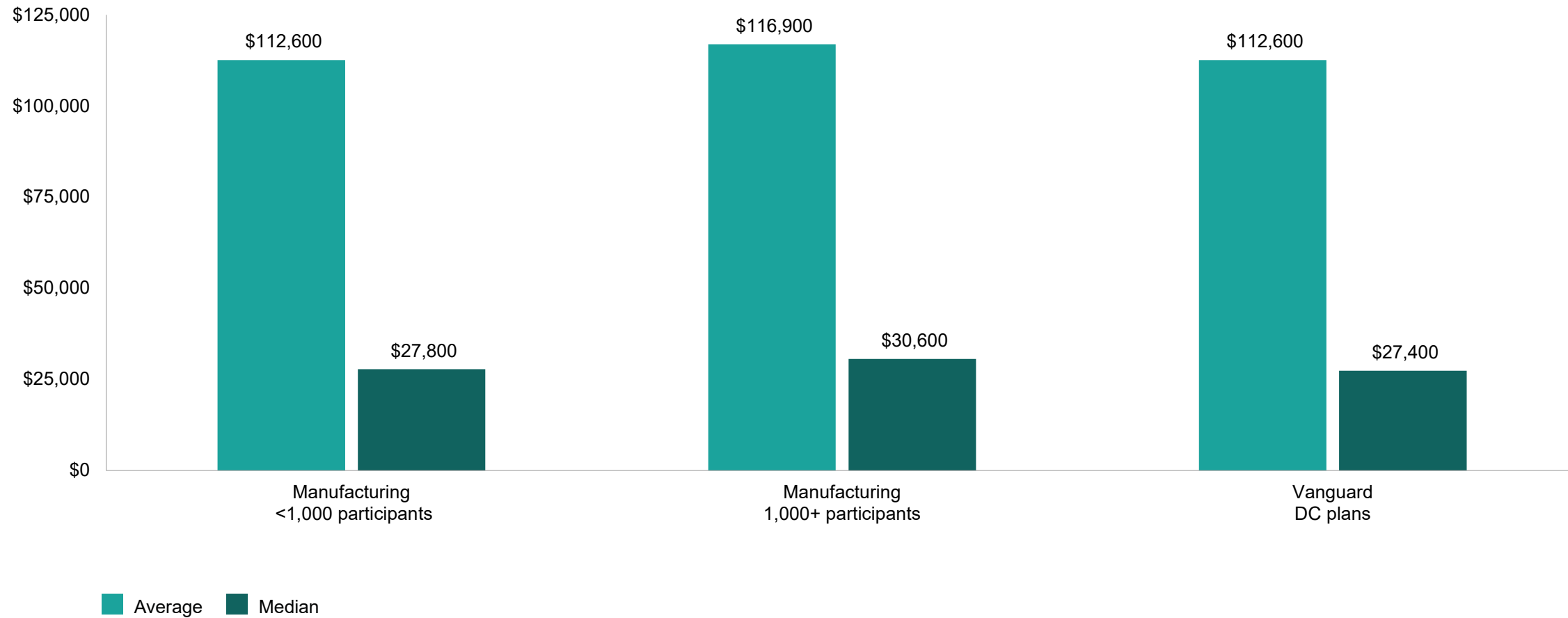
	Manufacturing <1,000 participants	Manufacturing 1,000+ participants	Vanguard DC plans
Number of plans	221	174	1,650
Number of participants	81,902	854,304	4.9 million
Average number of participants	371	4,910	2,950
Median number of participants	317	2,695	565
Amount of assets	\$9.2 billion	\$99.8 billion	\$550.2 billion
Average assets	\$41.7 million	\$573.8 million	\$333.9 million
Median assets	\$31.5 million	\$272 million	\$65.5 million

The manufacturing industry is defined as NAICS (North American Industry Classification System) sectors 31, 32, and 33.

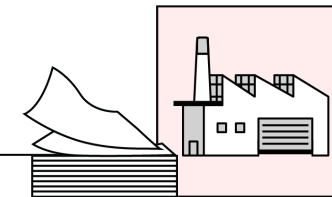
Source: Vanguard, as of December 31, 2022.



# Participant balances

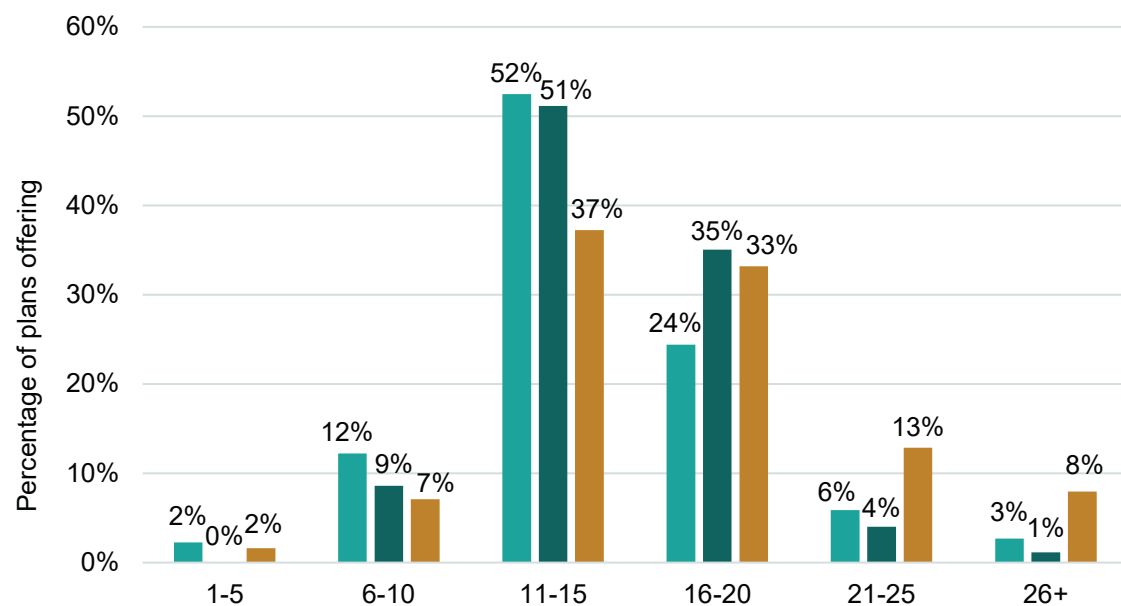


Source: Vanguard, as of December 31, 2022.  
Bar chart may not align precisely with percentages due to rounding.

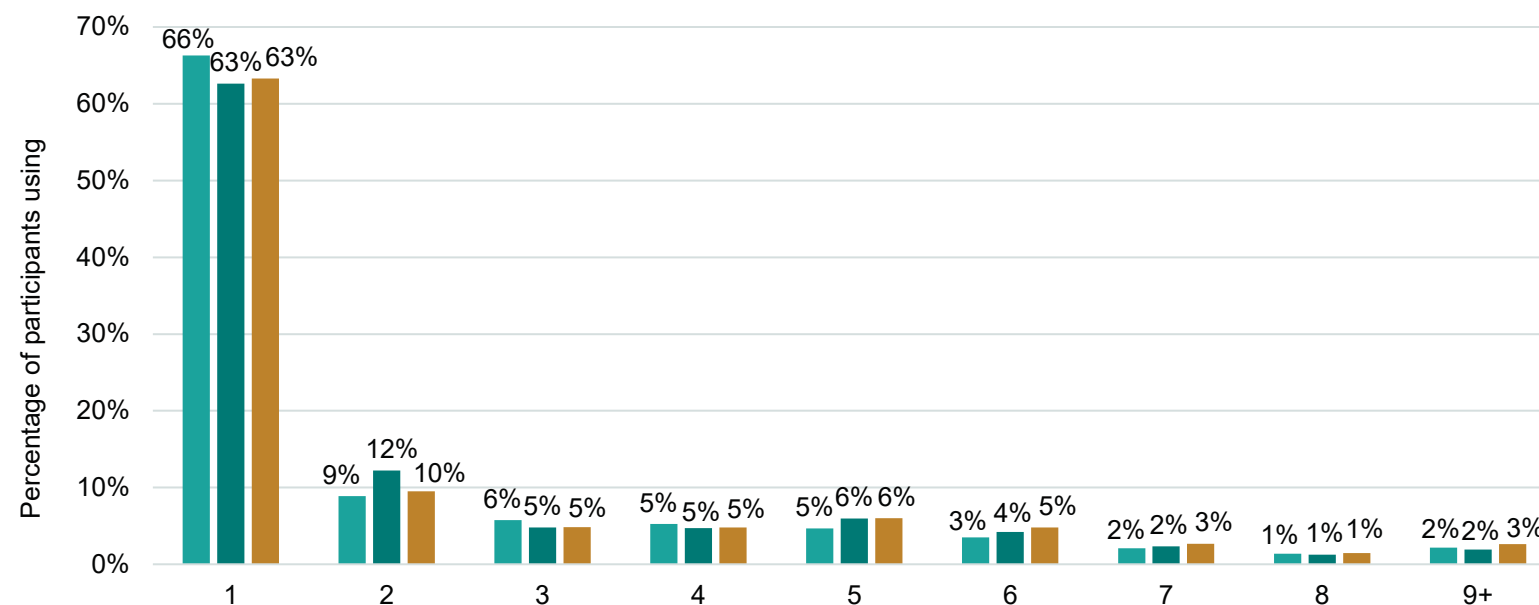


# Number of fund options offered and used

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

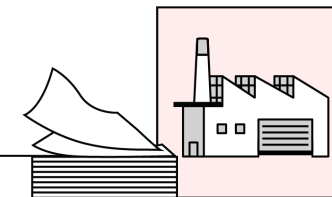


Funds used per participant



	Average funds offered	Median funds offered	Average funds used	Median funds used
Manufacturing <1,000 participants	14.5	14	2.2	1
Manufacturing 1,000+ participants	15.0	15	2.2	1
Vanguard DC plans	17.4	16	2.4	1

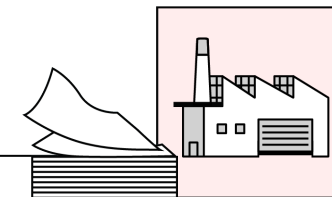
Source: Vanguard, as of December 31, 2022.  
 Bar chart may not align precisely with percentages due to rounding.



# Types of investment options offered and used\*

	Manufacturing <1,000 participants		Manufacturing 1,000+ 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*
<b>Cash</b>	<b>98%</b>	<b>16%</b>	<b>100%</b>	<b>11%</b>	<b>99%</b>	<b>12%</b>
Money market	64	7	67	4	70	6
Stable value / GIC	73	14	82	11	68	10
<b>Bond</b>	<b>98%</b>	<b>14%</b>	<b>100%</b>	<b>15%</b>	<b>98%</b>	<b>17%</b>
Active	70	7	80	5	80	7
Index	86	11	95	12	89	14
Inflation-protected securities	21	3	20	2	35	3
Multisector	5	2	5	2	8	2
High-yield	8	5	6	4	17	3
International	18	3	17	3	19	3
Emerging markets	0	0	0	0	1	2
<b>Balanced funds</b>	<b>99%</b>	<b>84%</b>	<b>100%</b>	<b>89%</b>	<b>99%</b>	<b>87%</b>
Traditional balanced	63	13	51	10	62	12
Target-risk	11	18	5	4	13	10
Target-date	95	79	100	87	96	83
<b>Company stock</b>	<b>4%</b>	<b>33%</b>	<b>26%</b>	<b>37%</b>	<b>8%</b>	<b>36%</b>
<b>Self-directed brokerage</b>	<b>7%</b>	<b>2%</b>	<b>16%</b>	<b>2%</b>	<b>20%</b>	<b>1%</b>

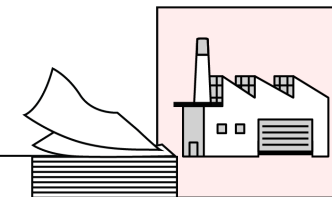
\*Among participants offered the option.  
Source: Vanguard, as of December 31, 2022.



# Types of investment options offered and used\* (continued)

	Manufacturing <1,000 participants		Manufacturing 1,000+ 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*
<b>Equity funds</b>	<b>99%</b>	<b>29%</b>	<b>100%</b>	<b>27%</b>	<b>99%</b>	<b>30%</b>
<b>Domestic equity funds</b>	<b>99%</b>	<b>29%</b>	<b>100%</b>	<b>27%</b>	<b>99%</b>	<b>29%</b>
Large-cap index	98	21	99	21	98	23
Large-cap active	86	17	89	13	90	16
Large-cap value	85	10	84	9	87	9
Large-cap growth	89	14	90	11	91	13
Large-cap blend	99	20	99	20	98	23
Mid-cap index	82	10	90	13	83	14
Mid-cap active	40	8	41	8	52	7
Small-cap index	56	9	51	10	63	11
Small-cap active	61	8	63	7	63	7
Socially responsible	3	1	8	2	15	5
<b>International equity funds</b>	<b>95%</b>	<b>14%</b>	<b>100%</b>	<b>16%</b>	<b>97%</b>	<b>19%</b>
Index international	66	8	90	11	79	14
Active international	79	11	88	8	83	10
Emerging markets	19	4	26	4	35	8
<b>Global equity funds</b>	<b>13%</b>	<b>6%</b>	<b>8%</b>	<b>3%</b>	<b>17%</b>	<b>3%</b>

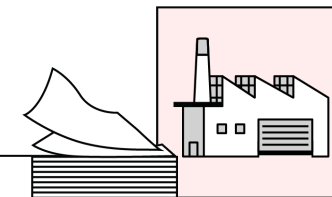
\*Among participants offered the option.  
Source: Vanguard, as of December 31, 2022.



# Types of investment options offered and used\* (continued)

	Manufacturing <1,000 participants		Manufacturing 1,000+ 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*
<b>Sector funds</b>	<b>21%</b>	<b>6%</b>	<b>22%</b>	<b>6%</b>	<b>38%</b>	<b>6%</b>
REIT	16	5	20	5	32	5
Health care	5	14	1	2	8	7
Energy	2	4	0	0	5	5
Precious metals	<0.5	2	0	0	2	2
Technology	<0.5	3	1	7	3	5
Utilities	2	3	0	0	1	2
Natural resources	<0.5	23	1	14	1	4
Financials	0	0	0	0	<0.5	1
Communications	<0.5	9	0	0	<0.5	1
Consumer	<0.5	2	0	0	<0.5	2
Industrials	0	0	0	0	<0.5	1

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



# Target-date funds availability and use

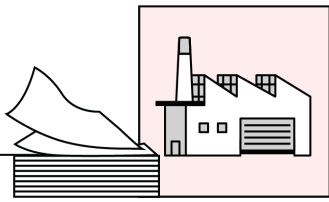
	Manufacturing <1,000 participants	Manufacturing 1,000+ participants	Vanguard DC plans
Percentage of plans offering	95%	100%	96%
Plan assets invested*	38%	43%	40%
<b>Percentage of plan assets*</b>			
<10%	5%	0%	5%
10–19%	10%	3%	10%
20–29%	20%	9%	17%
30–39%	21%	32%	21%
40–49%	13%	29%	17%
50%+	31%	28%	30%
Percentage of participants using *	79%	87%	83%
Percentage of participant assets**	64%	61%	61%
<b>Percentage of participant assets in target-date funds**</b>			
1–24%	8%	9%	10%
25–49%	6%	8%	8%
50–74%	3%	4%	4%
75–99%	4%	10%	6%
100%	79%	70%	72%
<b>Percentage of participants owning**</b>			
One target-date fund only	76%	68%	71%
One target-date fund plus other funds	18%	26%	23%
Two or more target-date funds only	2%	2%	2%
Two or more target-date funds plus other funds	3%	4%	4%

\*Among plans offering target-date options.

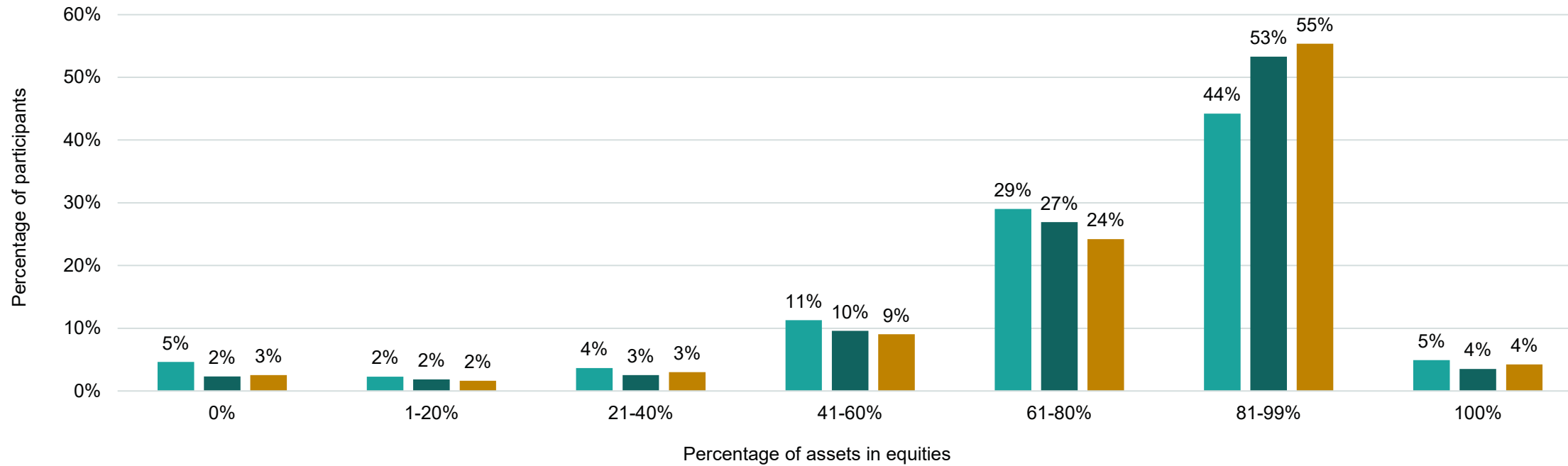
\*\*Among participants owning target-date options.

Source: Vanguard, as of December 31, 2022.



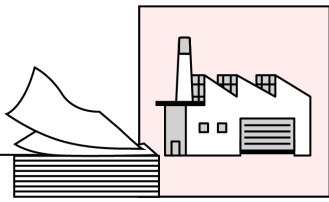


# Participant equity exposure

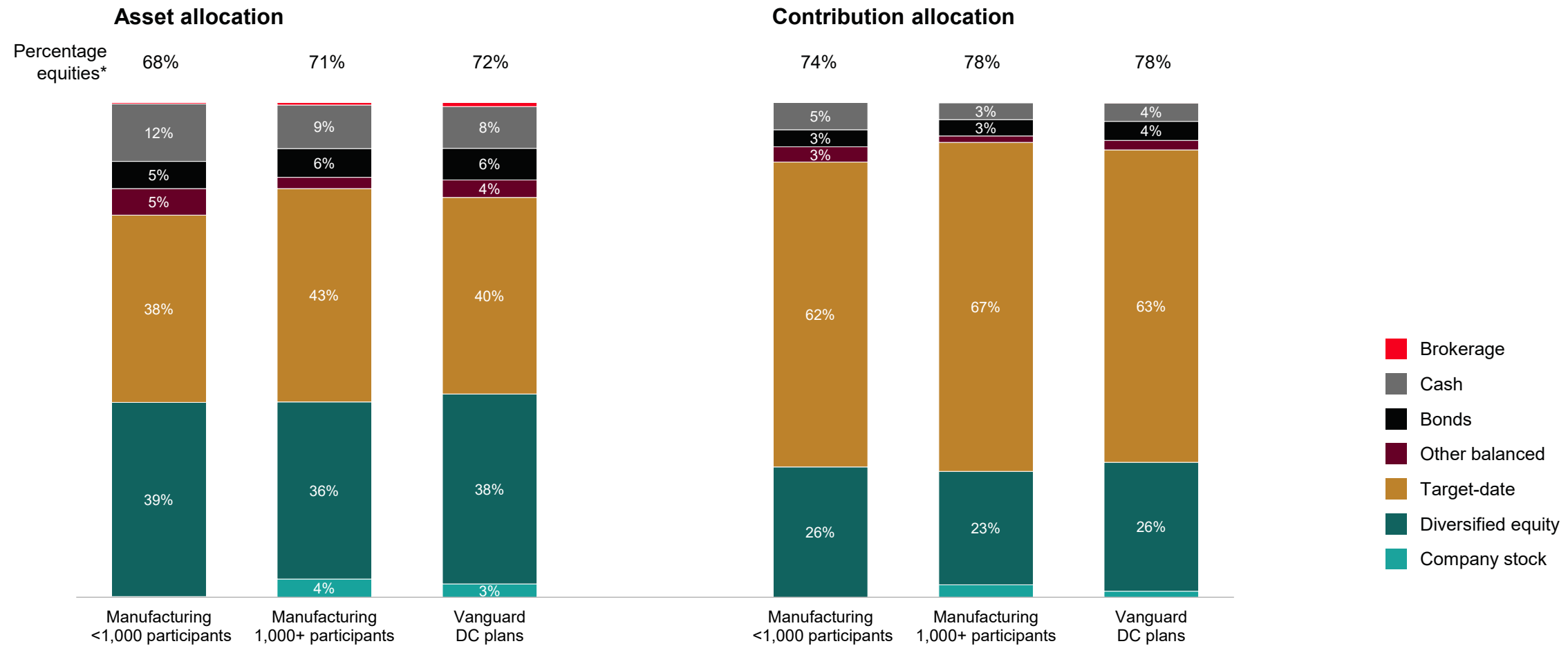


	Average percentage in equities	Median percentage in equities
Manufacturing <1,000 participants	72%	80%
Manufacturing 1,000+ participants	76%	86%
Vanguard DC plans	77%	86%

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



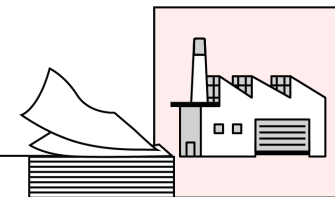
# Asset and contribution allocations



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

Source: Vanguard, as of December 31, 2022.

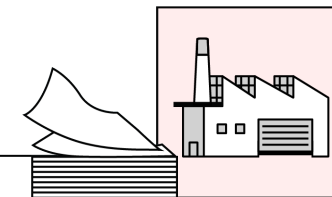
Bar chart may not align precisely with percentages due to rounding.



# Participants with professionally managed allocations

	Manufacturing <1,000 participants	Manufacturing 1,000+ participants	Vanguard DC plans
<b>All participants</b>			
Single target-date fund	59%	59%	59%
Single balanced fund	1%	<0.5%	<0.5%
Managed account program	3%	6%	7%
<b>Total</b>	<b>63%</b>	<b>65%</b>	<b>66%</b>
<b>New plan entrants during the year</b>			
Single target-date fund	90%	92%	87%
Single balanced fund	1%	<0.5%	<0.5%
Managed account program	1%	1%	2%
<b>Total</b>	<b>92%</b>	<b>93%</b>	<b>89%</b>

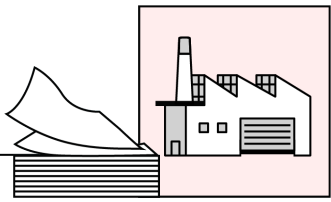
Source: Vanguard, as of December 31, 2022.



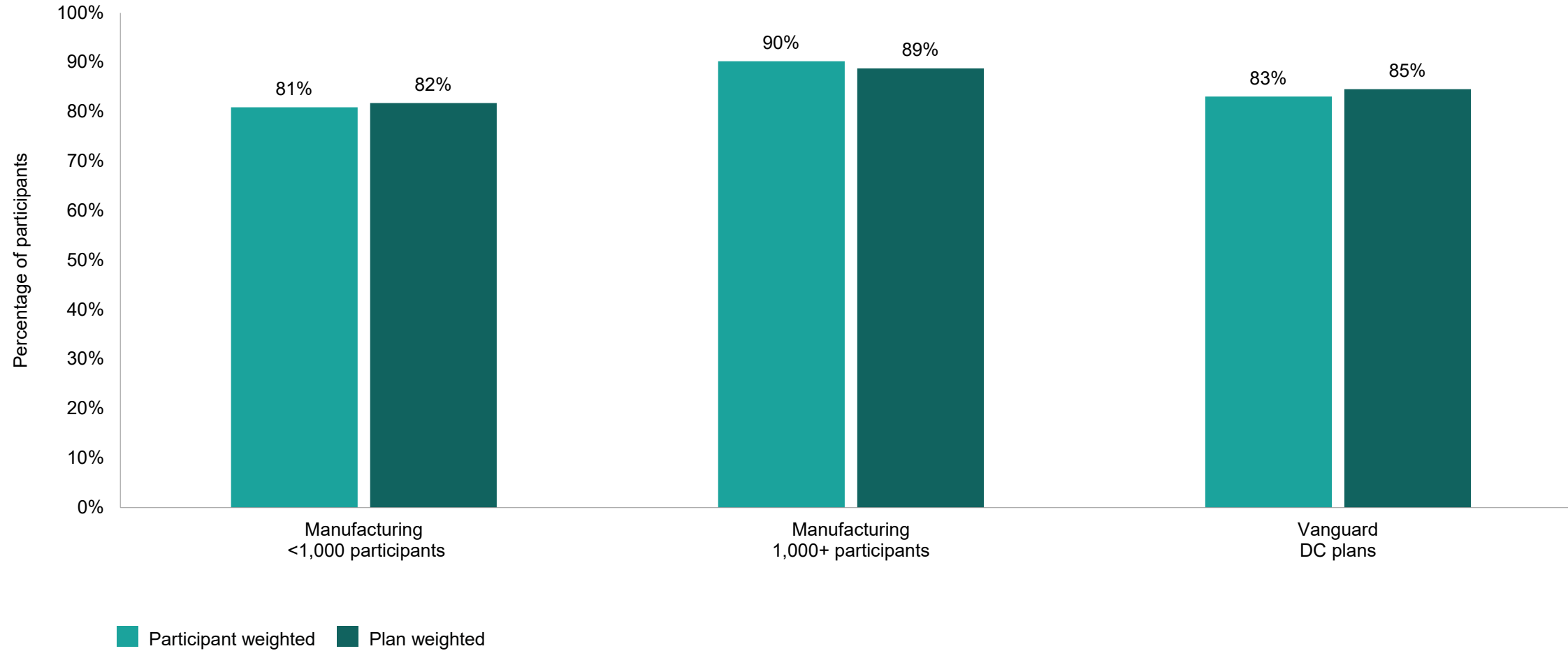
# Automatic enrollment options\*

	Manufacturing <1,000 participants	Manufacturing 1,000+ participants	Vanguard DC plans
<b>Automatic enrollment*</b>			
Number of plans	123	152	884
Percentage of plans	59%	88%	58%
<b>Default automatic enrollment rate</b>			
1 percent	2%	1%	2%
2 percent	3%	5%	5%
3 percent	39%	36%	34%
4 percent	11%	10%	14%
5 percent	22%	19%	17%
6 percent or more	22%	29%	28%
<b>Default automatic increase rate</b>			
1 percent	64%	77%	66%
2 percent	2%	1%	3%
Voluntary election	27%	20%	25%
Service feature not offered	7%	2%	6%
<b>Default automatic increase cap</b>			
<6 percent	0%	2%	2%
6 to 9 percent	21%	14%	17%
10 to 14 percent	46%	43%	48%
15 to 19 percent	25%	27%	22%
20+ percent	4%	11%	6%
No cap	5%	3%	5%
<b>Default fund</b>			
Target-date fund	100%	100%	98%
Other balanced fund	0%	0%	1%
Money market or stable value fund	0%	0%	1%

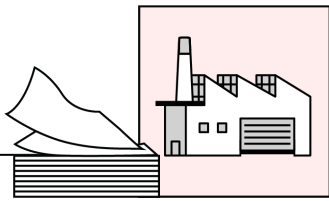
\*Limited to plans using Vanguard's automatic enrollment service.  
Source: Vanguard, as of December 31, 2022.



# Participation rates



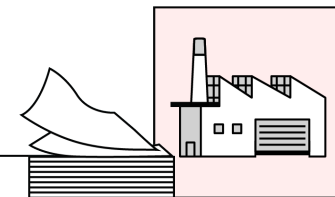
Source: Vanguard active plans with nondiscrimination testing completed during the past two years. Bar chart may not align precisely with percentages due to rounding.



# Participant deferral rates

	Manufacturing <1,000 participants	Manufacturing 1,000+ participants	Vanguard DC plans
<b>Deferral rates</b>			
Average	7.4%	7.5%	7.4%
Median	6.0%	6.5%	6.4%
<b>Distribution of rates</b>			
<4.0%	25%	24%	25%
4.0% – 6.0%	23%	20%	19%
6.1% – 9.9%	30%	32%	32%
10.0% – 14.9%	16%	17%	17%
15.0%+	7%	7%	7%

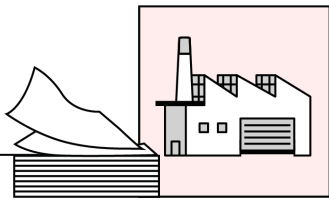
Source: Vanguard active plans with nondiscrimination testing completed during the past two years.



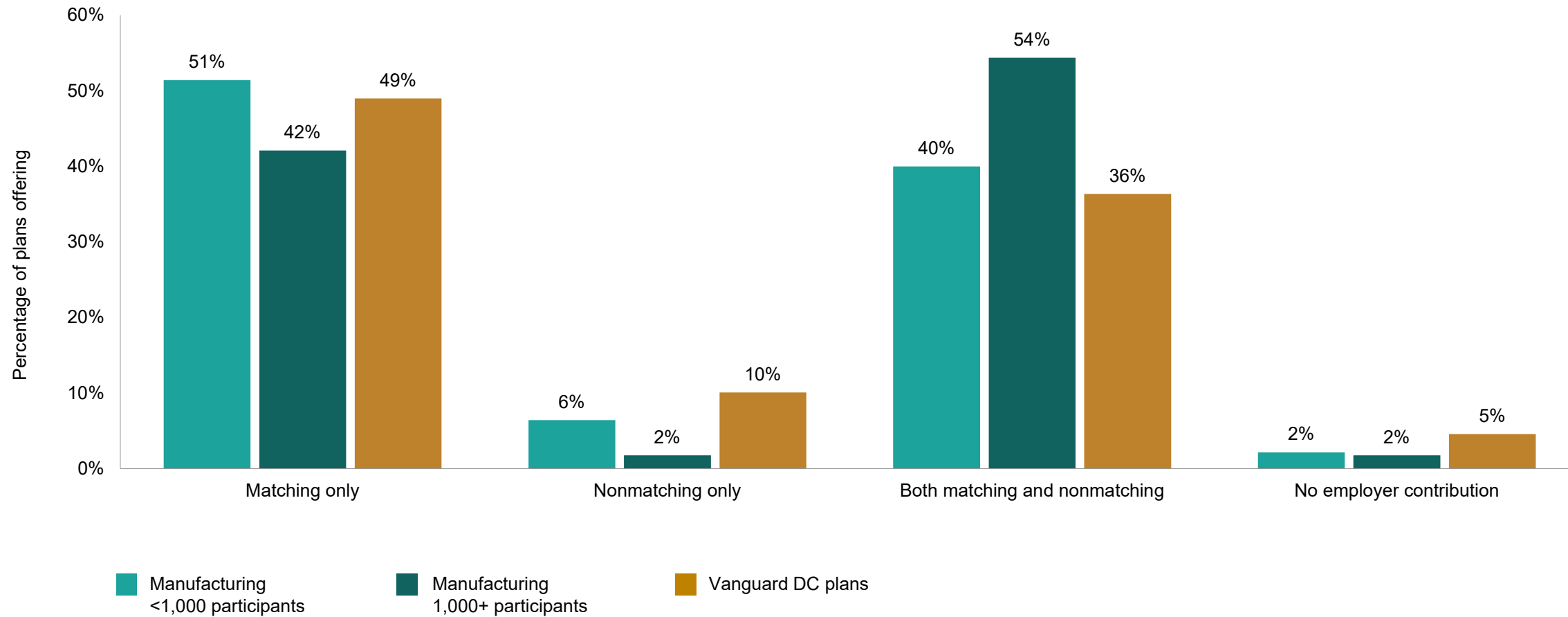
# Aggregate participant and employer contribution rates

	Manufacturing <1,000 participants	Manufacturing 1,000+ participants	Vanguard DC plans
<b>Total saving rate</b>			
Average	11.3%	12.2%	11.3%
Median	10.6%	12.0%	10.6%
<b>Distribution of rates</b>			
<5.0%	15%	15%	18%
5.0% – 8.9%	23%	16%	20%
9.0% – 11.9%	20%	19%	21%
12.0% – 14.9%	18%	19%	17%
15.0% +	24%	32%	23%

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

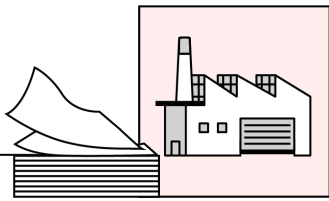


# Types of employer contributions

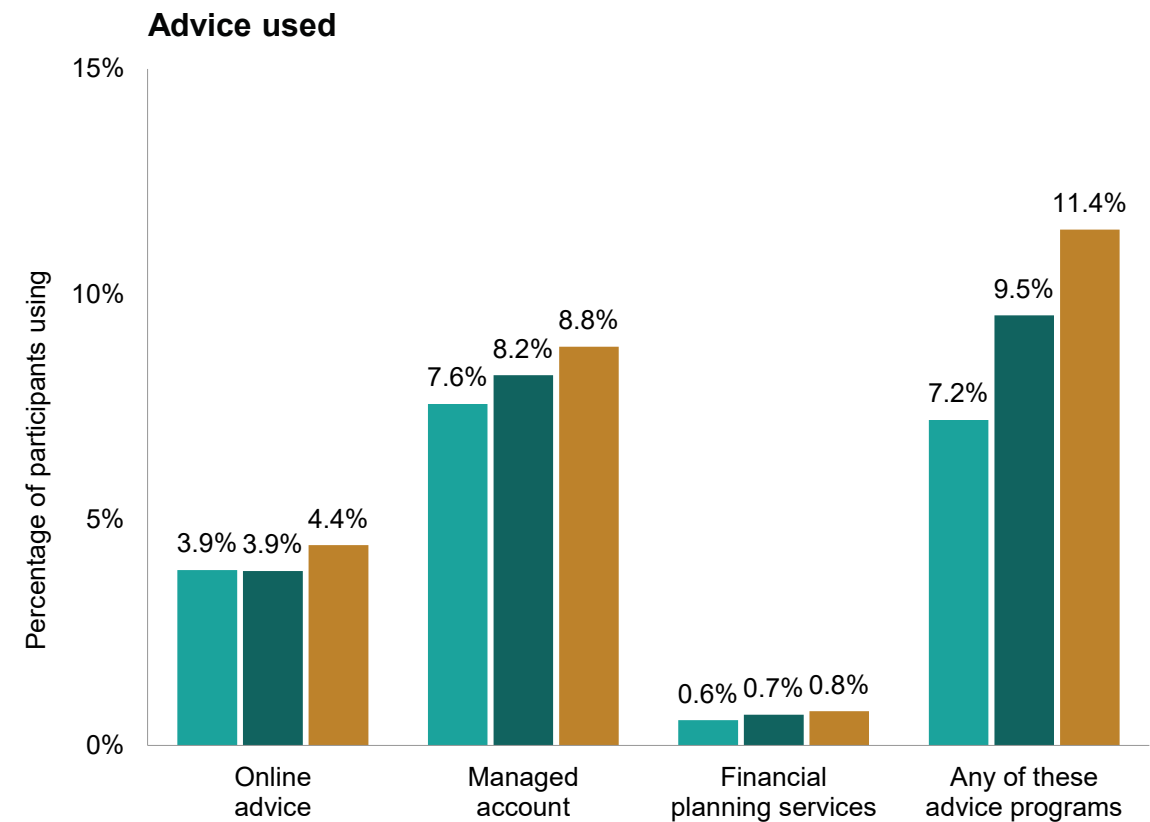
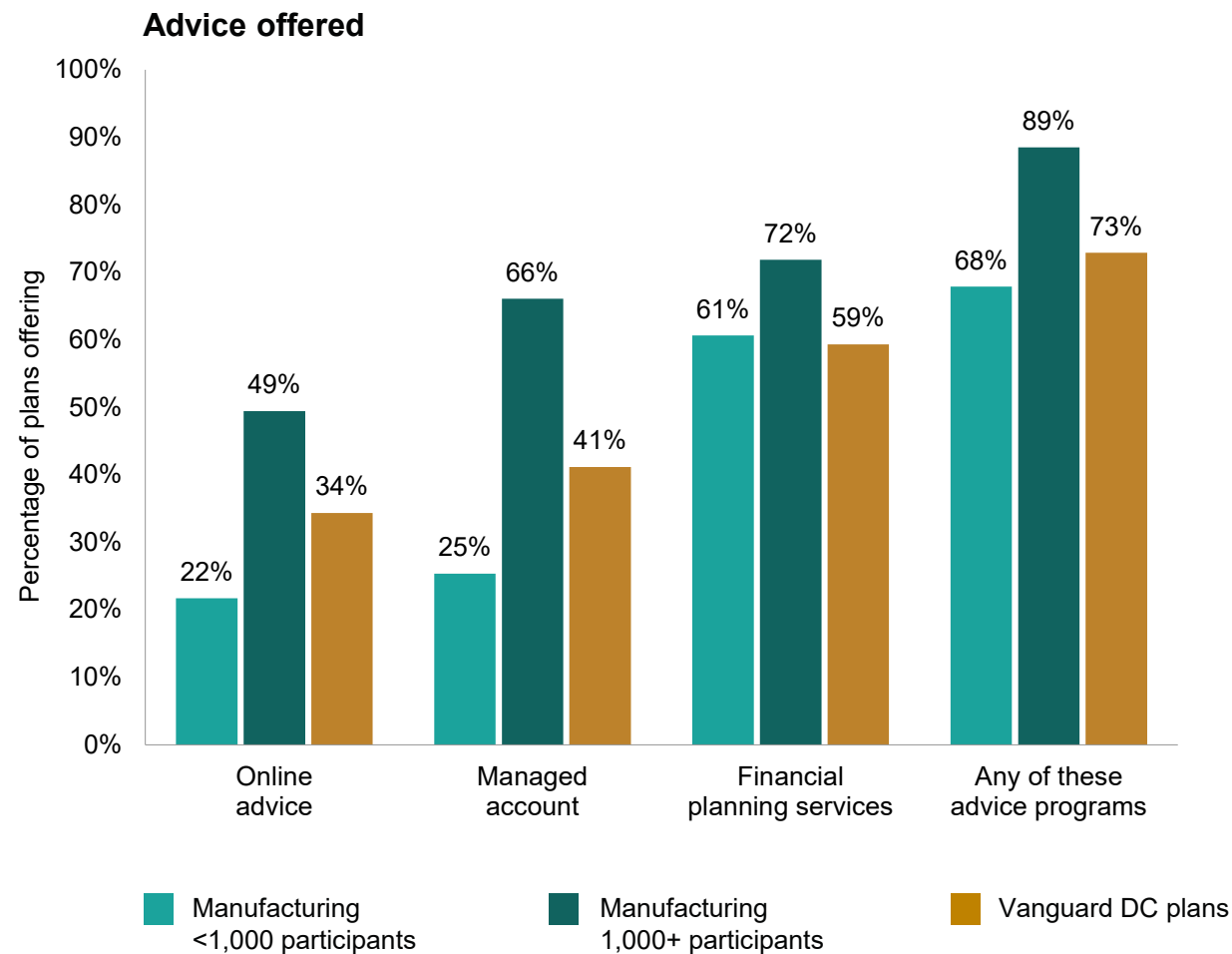


Source: Vanguard active plans with nondiscrimination testing completed during the past two years. Bar chart may not align precisely with percentages due to rounding.

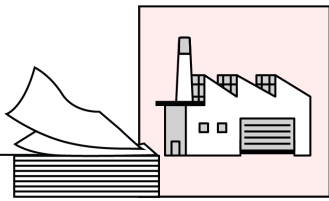




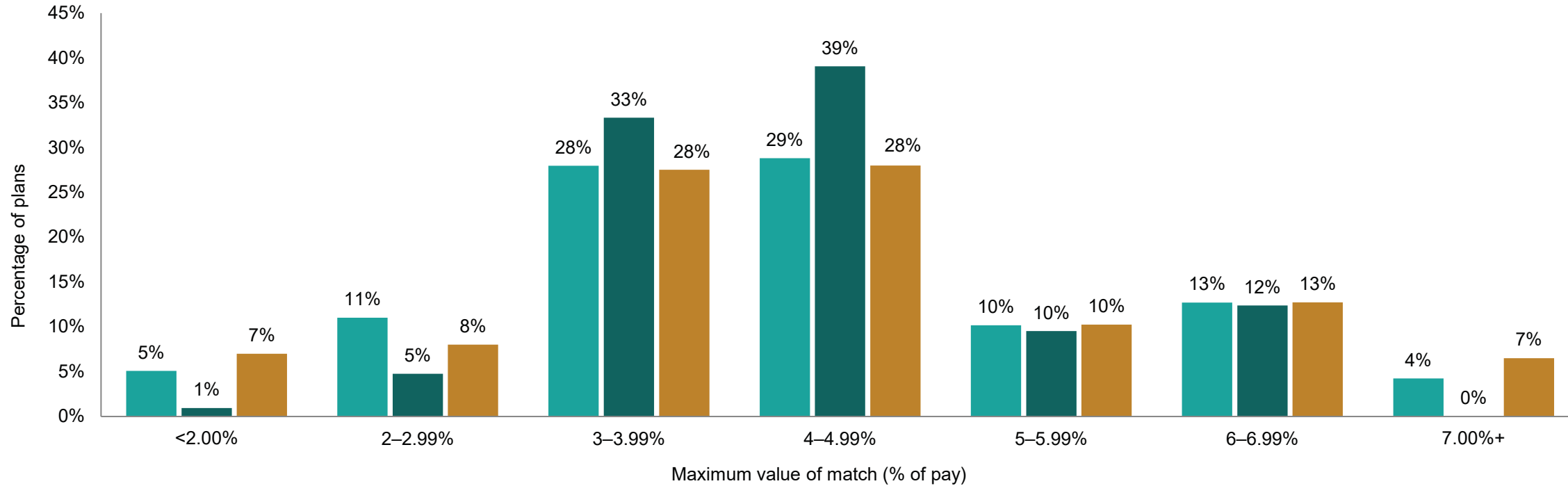
# Advice services



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

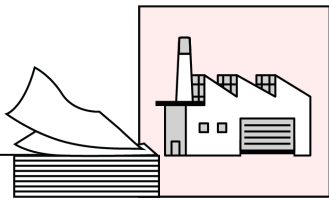


# Matching contributions

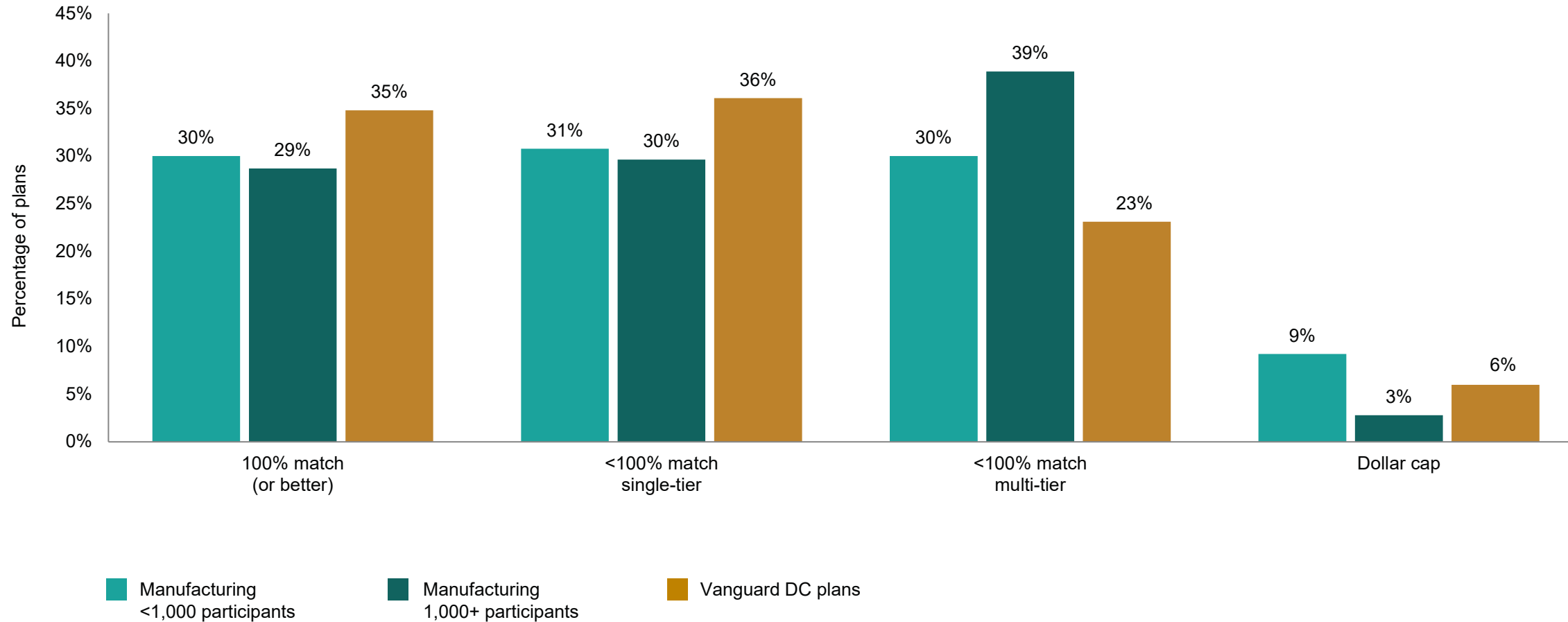


	Average value	Median value
Manufacturing <1,000 participants	4.0%	4.0%
Manufacturing 1,000+ participants	4.0%	4.0%
Vanguard DC plans	4.5%	4.0%

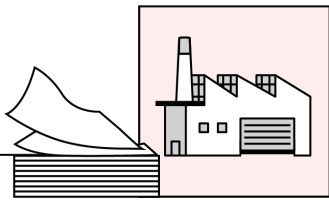
Source: Vanguard active plans with nondiscrimination testing completed during the past two years. Bar chart may not align precisely with percentages due to rounding.



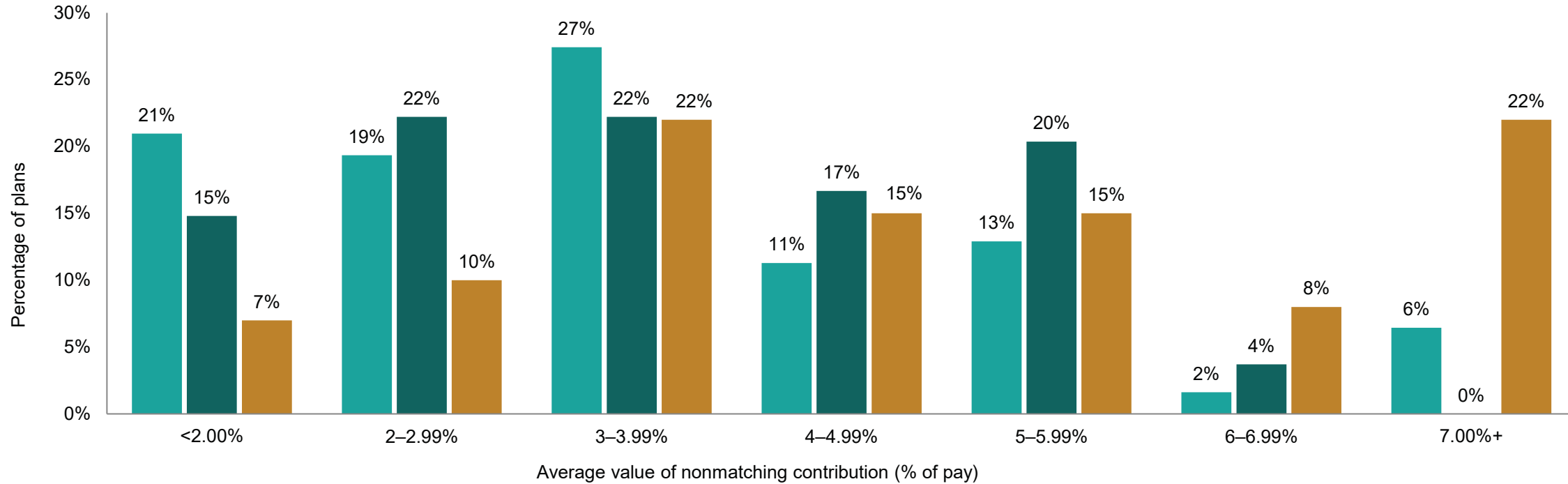
# Matching formulas



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

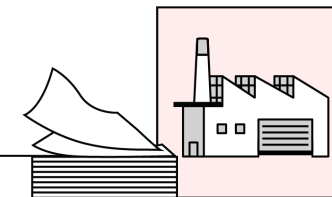


# Nonmatching/Profit-sharing employer contributions



	Average value	Median value
Manufacturing <1,000 participants	3.7%	3.2%
Manufacturing 1,000+ participants	3.7%	3.6%
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

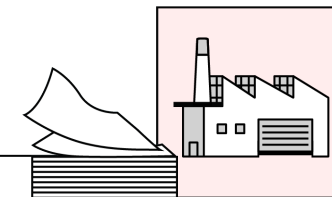
	Manufacturing <1,000 participants	Manufacturing 1,000+ participants	Vanguard DC plans
Percentage of plans offering Roth (among plans with elective deferrals)	58%	90%	80%
Percentage of plan assets invested in Roth*	2.3%	2.2%	3.8%
<b>Distribution of percentage of plan assets in Roth</b>			
<1%	31%	22%	19%
1–2%	40%	51%	36%
3–5%	19%	25%	27%
6–9%	6%	2%	13%
10–14%	3%	0%	4%
15%+	1%	1%	2%
Percentage of participants with assets in Roth*	13%	13%	16%
Percentage of participant assets in Roth**	14%	12%	17%
<b>Distribution of participant assets in Roth</b>			
1–24%	58%	64%	54%
25–49%	23%	20%	23%
50–74%	15%	12%	14%
75–99%	3%	3%	6%
100%	1%	1%	3%
Percentage of participants making Roth contributions (past 12 mo)***	14%	13%	15%
Percentage of participant contributions going to Roth**	55%	51%	55%
<b>Distribution of percentage of participant contributions to Roth</b>			
1–24%	22%	25%	22%
25–49%	24%	27%	26%
50–74%	16%	15%	15%
75–99%	6%	7%	7%
100%	32%	26%	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

	Manufacturing <1,000 participants	Manufacturing 1,000+ participants	Vanguard DC plans
<b>Outstanding loans*</b>			
Percentage of participants with outstanding loans	14%	15%	12%
Percentage of account balance in loans	10%	10%	11%
Average loan balance	\$9,755	\$9,481	\$10,369
<b>Number of outstanding loans per participant*</b>			
No loans	86%	85%	88%
One loan	12%	12%	10%
Two loans	2%	2%	2%
Three+ loans	0%	0%	0%
<b>Loans issued past 12 months*</b>			
Average per 1,000 active participants	107	109	93
Average loan amount	\$10,742	\$10,080	\$10,701
<b>Nonhardship withdrawals taken past 12 months**</b>			
Average per 1,000 active participants	112	102	93
Average withdrawal amount	\$23,655	\$20,330	\$17,560
<b>Hardship withdrawals taken past 12 months**</b>			
Average per 1,000 active participants	42	83	49
Average withdrawal amount	\$7,309	\$4,315	\$5,126

\*Among plans allowing loans.

\*\*Among participants allowed in-service withdrawals.

Source: Vanguard, as of December 31, 2022.

# Important information

All investing is subject to risk, including the possible loss of the money you invest. Be aware that fluctuations in the financial markets and other factors may cause declines in the value of your account. 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.

*A stable value investment is neither insured nor guaranteed by the U.S. government. There is no assurance that the investment will be able to maintain a stable net asset value, and it is possible to lose money in such an investment.*

**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.**

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