



REFERENCE POINT



Data can inspire plan changes

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Reference Point

T. Rowe Price Defined Contribution Plan Data

As of December 31, 2018

Executive Summary

After several years of record-breaking plan and participant outcomes, 2018's market turbulence may have contributed to a rise in concerning participant behavior. But strategic plan design continued to produce strong plan and participant outcomes despite the uncertainty, resulting in 2018 being a year of mixed results.

10-YEAR HIGH

8.6%

**plan-weighted average
pretax deferral rate**

Contributing factors:

- Increasing default deferral rates
- Opt-out option for auto-increase
- Targeted messaging for participants

Plan design continues to drive positive outcomes for participants:

- Participation rates were nearly 96% higher for plans with auto-enrollment, and usage of auto-increase was nearly five times higher in plans that employ the opt-out option.
- Nearly 37% of auto-enrollment plans have a default deferral rate of 6% or higher compared with nearly 33% at a 3% default.
- Employer match rates generally increased in 2018, and the 4% top effective match rate surpassed the 3% rate for the first time.
- Participants who saved less in 2018 decreased their deferral rates by a greater amount than those who increased their deferral rates.
- Loan usage reached a six-year low, while hardship withdrawals fell for the ninth year in a row.

INCREASE

36%

in cash-out distributions

Contributing factors:

- Uncertainty about the markets
- Increased distributions of small account balances

But turbulence contributed to reduced outcomes in several areas:

- The participant-weighted participation rate dropped by nearly 2% from 2017 to 2018.
- The percentage of participants contributing 0% increased to 36%.
- Average account balances decreased by almost 8%, in part because of year-end market declines.
- Late in the year, participants moved money from stocks to more conservative investments, presumably due to market activity.

Reference Point

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Auto-Solutions

Default Deferrals Rise, but Participation Dips

Adoption of auto-solutions among plans at T. Rowe Price increased again in 2018, a sign that plan sponsors view these services as potential drivers of positive outcomes. The metrics are proof of their success:

- The average participation rate in auto-enrollment plans was nearly **96% higher** than in plans without auto-enrollment (85.6% participation for auto-enrollment plans compared with 43.7% for non-auto-enrollment plans).
- Participation in auto-increase was nearly **five times higher** in plans that use the opt-out versus opt-in option (67% participant adoption in plans that use opt-out versus 12% for opt-in).

Despite these results, overall participation dipped in 2018 for plans with and without auto-enrollment. However, plans that did not auto-enroll participants saw participation drop at more than twice the rate as those with auto-enrollment.

> **37%** 

of plans with auto-enrollment
have a default deferral rate of 6%+

STRATEGIC PLAN DESIGN > ONE-SIZE-FITS-ALL SOLUTIONS?

While plan-weighted participation increased slightly, the participant-weighted rate fell from 67.1% in 2017 to 65.8% in 2018, suggesting that a subset of large plans with many participants had more difficulty with participation than the average plan.

While there are many possible reasons for the decline, specific actions (such as boosting the auto-enrollment default deferral rate) or inactions (not offering auto-enrollment) may have led to drops in participation at the margins. There may be a benefit of plan-specific solutions that can better target populations to get greater participation.



2018 Insights

- More auto-enrollment plans now have a default deferral rate of 6% or greater.
- Participation rates dropped slightly for plans with and without auto-enrollment.

THE ENROLLMENT/DEFERRAL BALANCING ACT

The drop in participation from 2017 to 2018 was most pronounced in the under-30 population and fell faster among participants in non-auto-enrollment plans than in auto-enrollment plans. It's a sign that auto-solutions can mitigate macro forces that may be decreasing participation rates.

Younger employees could benefit from stronger auto-solution, but a higher default deferral can also come at a cost of lower participation. The decision for many plan sponsors is whether that cost is acceptable.



80% of participants

age 20–29 participated in auto-enrollment plans in 2018, compared with 25% in non-auto-enrollment plans



No. 1 AUTOMATIC ENROLLMENT DESIGN TRENDS

Default auto-enrollment (AE) rate	2012	2013	2014	2015	2016	2017	2018
Percent of Plans Not Offering AE	56.1%	52.8%	48.7%	48.9%	45.5%	43.3%	40.5%
1%	1.8	1.8	2.0	2.4	2.0	1.9	1.5
2%	6.3	6.3	6.3	5.3	4.6	5.0	4.9
3%	47.3	45.6	42.9	38.2	34.3	31.9	30.4
4%	14.2	15.0	15.0	13.0	14.6	14.7	14.3
5%	11.7	10.8	10.1	10.9	11.4	13.0	12.0
6% or more	18.7	20.4	23.6	30.2	33.2	33.5	36.9

Default auto-increase (AI) rate

Percent of Plans Not Offering AI	36.5%	32.2%	30.0%	30.7%	28.5%	24.3%	21.3%
1%	66.3	69.0	69.6	73.6	74.7	78.4	81.6
2%	33.8	31.0	30.4	26.4	25.3	21.2	18.0
3%	0	0	0	0	0	0.4	0.4

Default investment

Target date product	95.5%	95.5%	96.0%	95.9%	96.0%	96.4%	98.0%
Other investment*	4.5	4.5	4.0	4.1	4.0	3.6	2.0

*Other investments could include balanced, money market, or stable value funds.

Note: Results for auto-enrollment and auto-increase are based on those plans that offer the features.



The percentage of plans with a 6% default deferral rate increased by over 10% from 2017 to 2018.



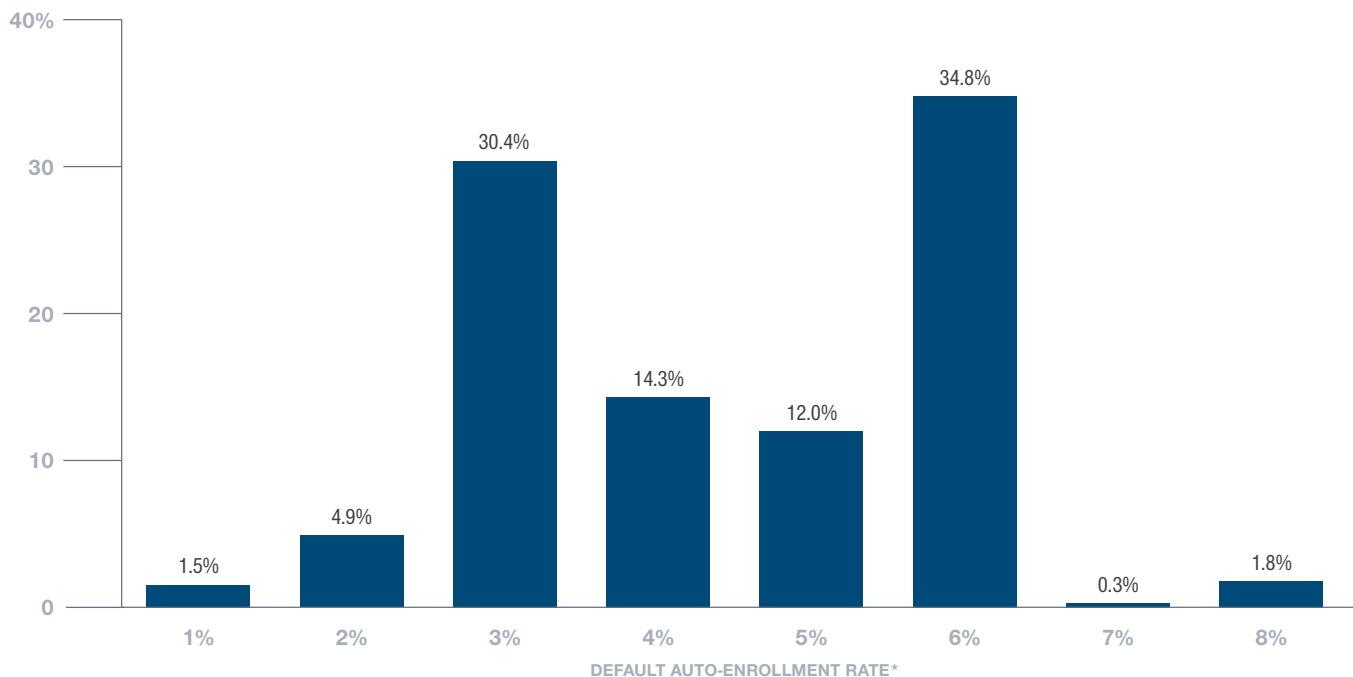
No. 2 PARTICIPATION IN OTHER AUTOMATED SERVICES

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Auto-Reenrollment										
Plan Participation	3%	3%	5%	5%	7%	8%	10%	12%	13%	14%
Success Rate	78	77	78	78	77	78	78	78	78	78
Auto-Restart										
Plan Participation	18	26	31	37	42	44	52	57	60	64
Success Rate	2	32	44	52	49	56	57	61	55	53
Auto-Rebalance										
Plan Participation	91	92	93	93	93	95	93	95	95	95
Employee Participation	—	—	—	—	—	—	—	1	1	1

Note: The success rate is used to define how successful the one-time event was in maintaining participation when offering the service to employees. The success rate is the count of participants that enrolled through the service process divided by the count of participants that actually completed the service process. Employee participation—for auto-rebalance—conveys actual employee adoption of the service.



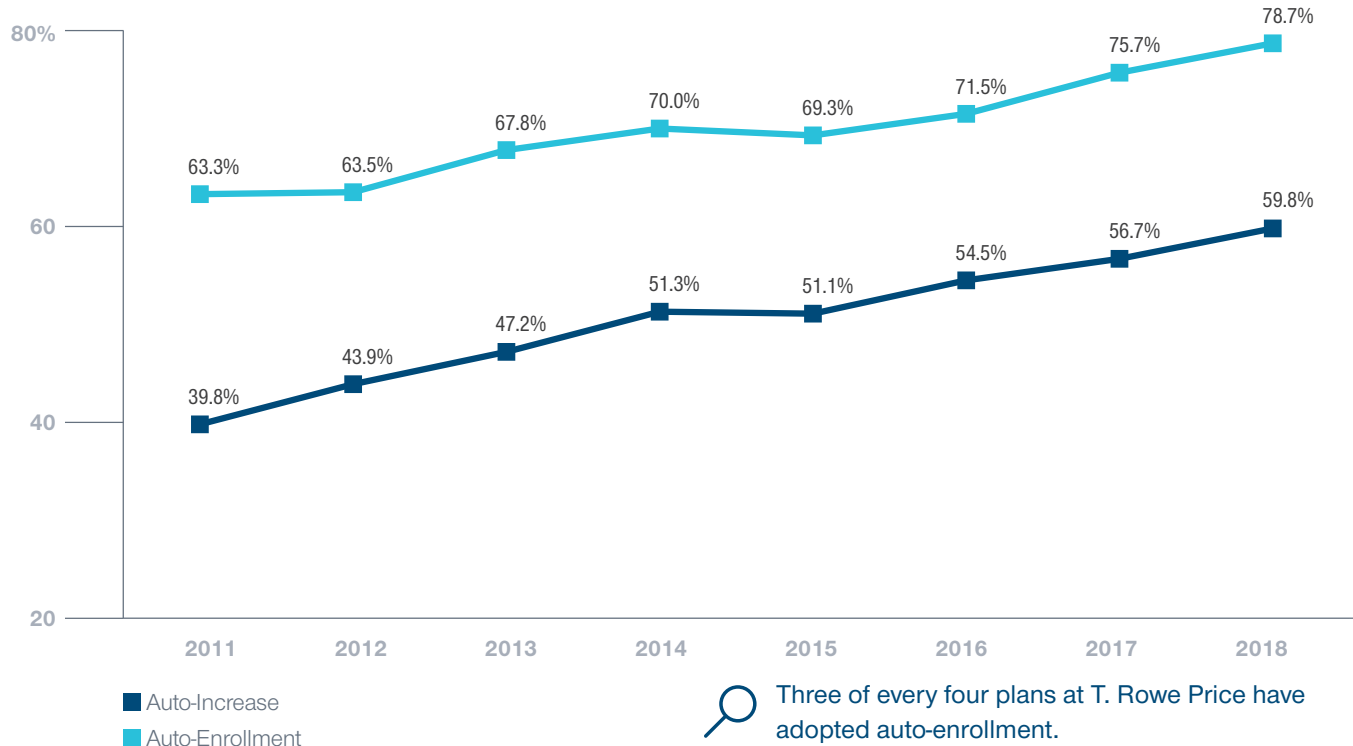
No. 3 **DEFAULT DEFERRAL RATE FOR AUTO-ENROLLMENT PLANS**



Note: Results for auto-enrollment are based on those plans that offer this feature.



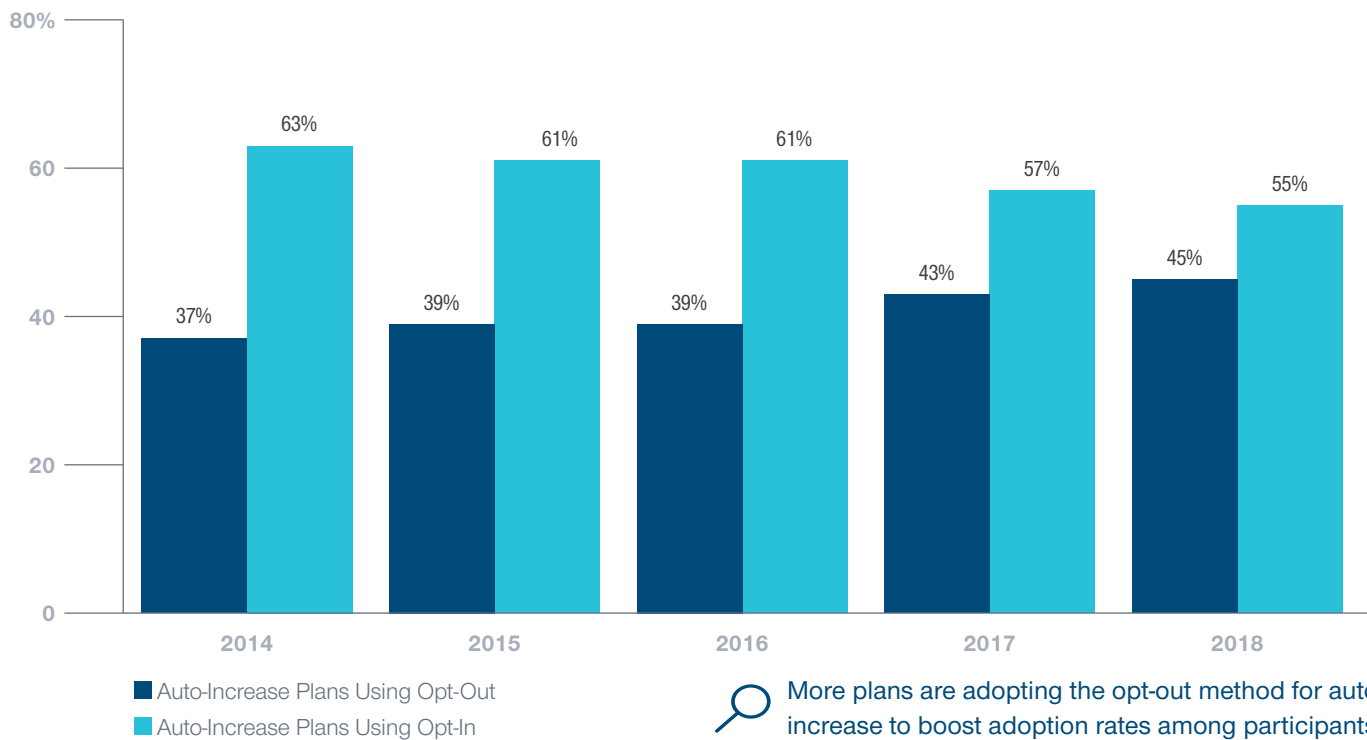
No. 4 **PERCENTAGE OF PLANS ADOPTING AUTO-INCREASE AND AUTO-ENROLLMENT**



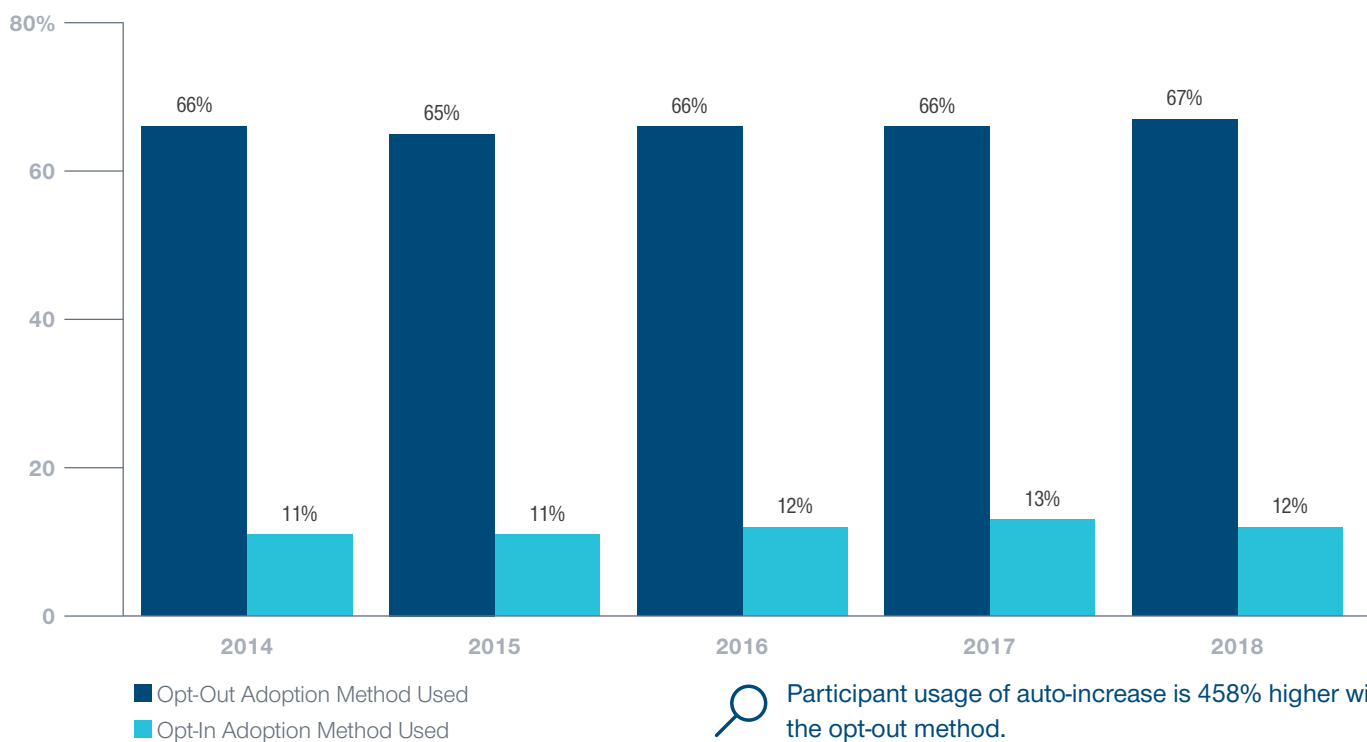
Three of every four plans at T. Rowe Price have adopted auto-enrollment.



No. 5 PLAN ADOPTION TYPES COMPARISON FOR AUTO-INCREASE



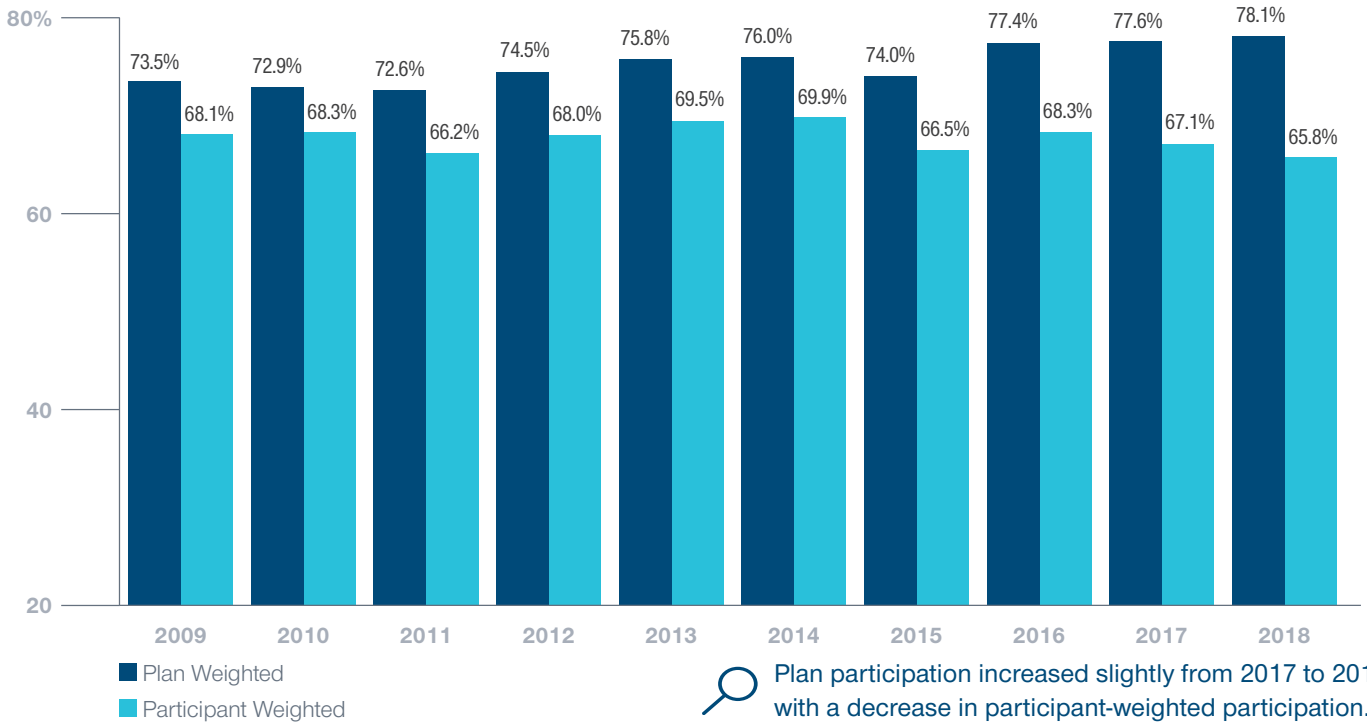
No. 6 PARTICIPANT ADOPTION RATE BASED ON AUTO-INCREASE ADOPTION METHOD



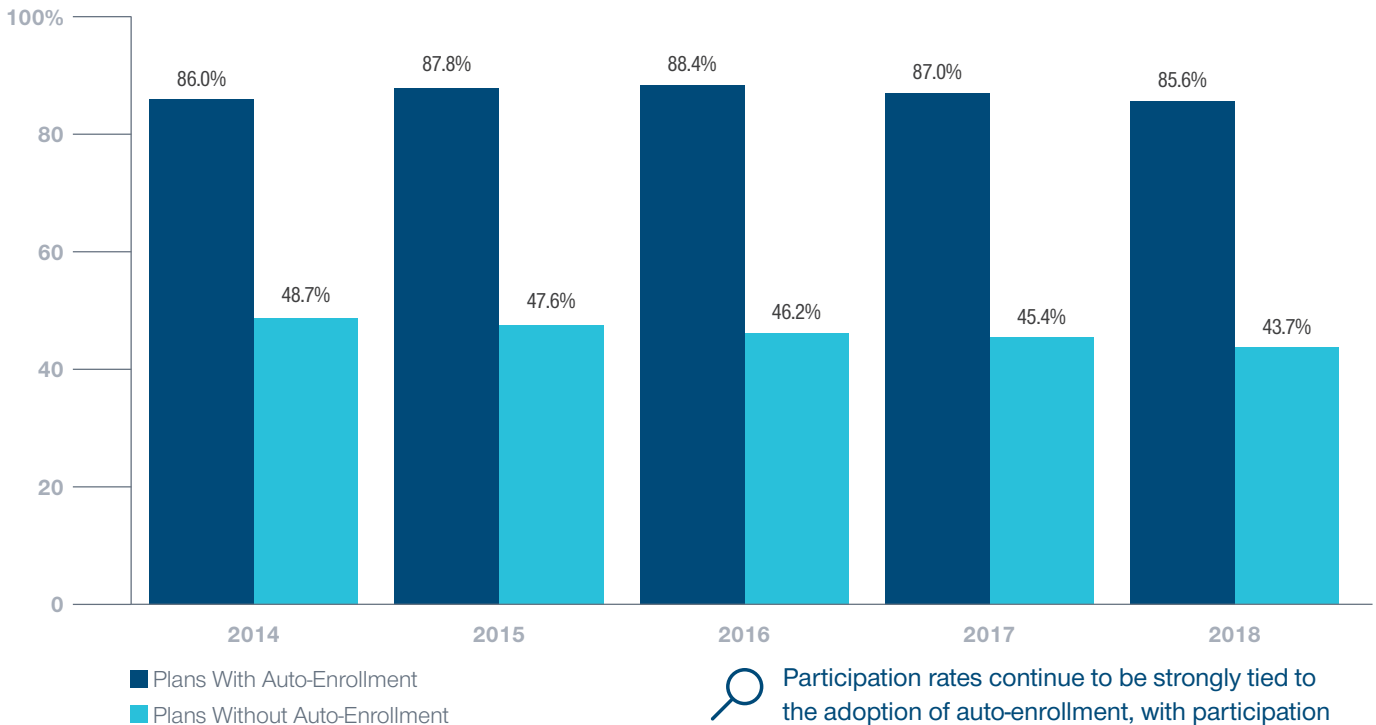
Most plans offer auto-increase as a voluntary option (the opt-in method), while fewer plans automatically enroll participants in auto-increase (the opt-out method).



No. 7 **PARTICIPATION RATES**

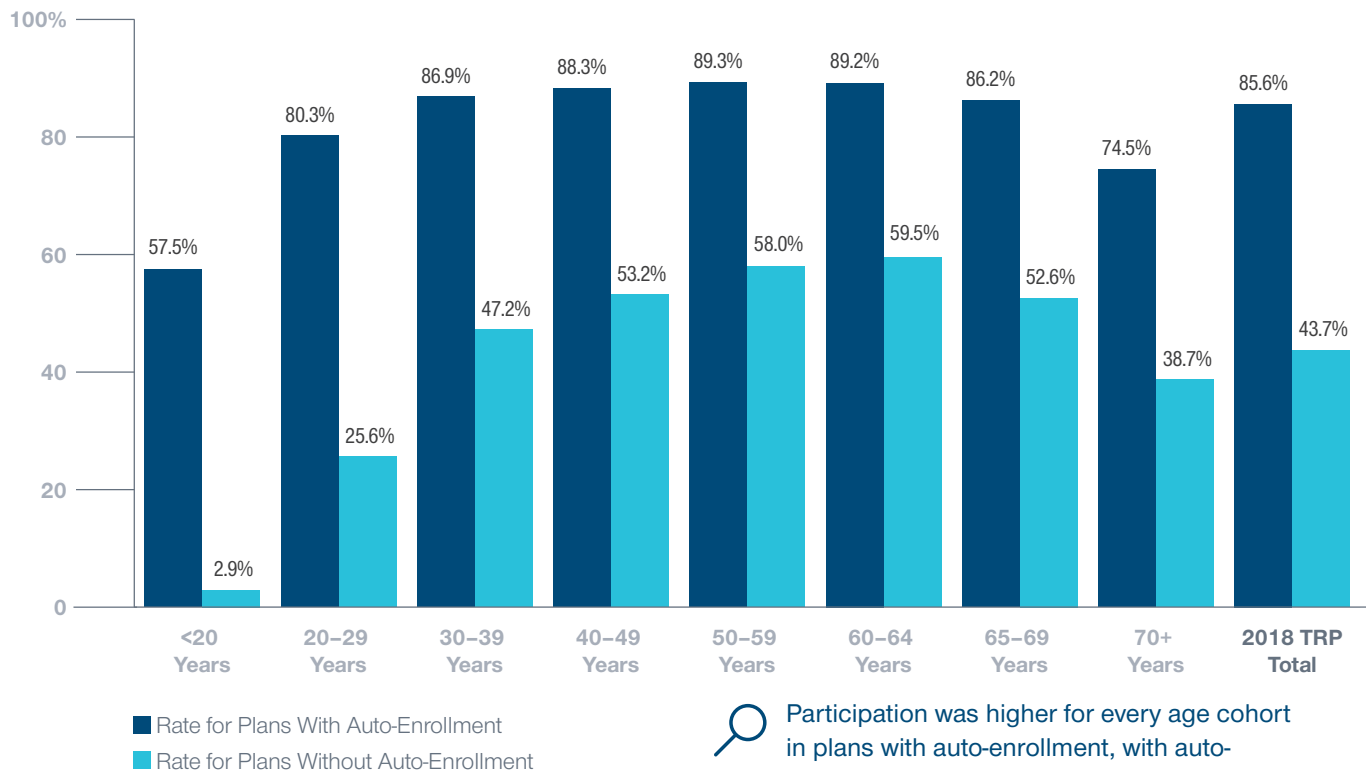


No. 8 **PARTICIPATION COMPARISON BETWEEN AUTO-ENROLLMENT AND NON-AUTO-ENROLLMENT PLANS**





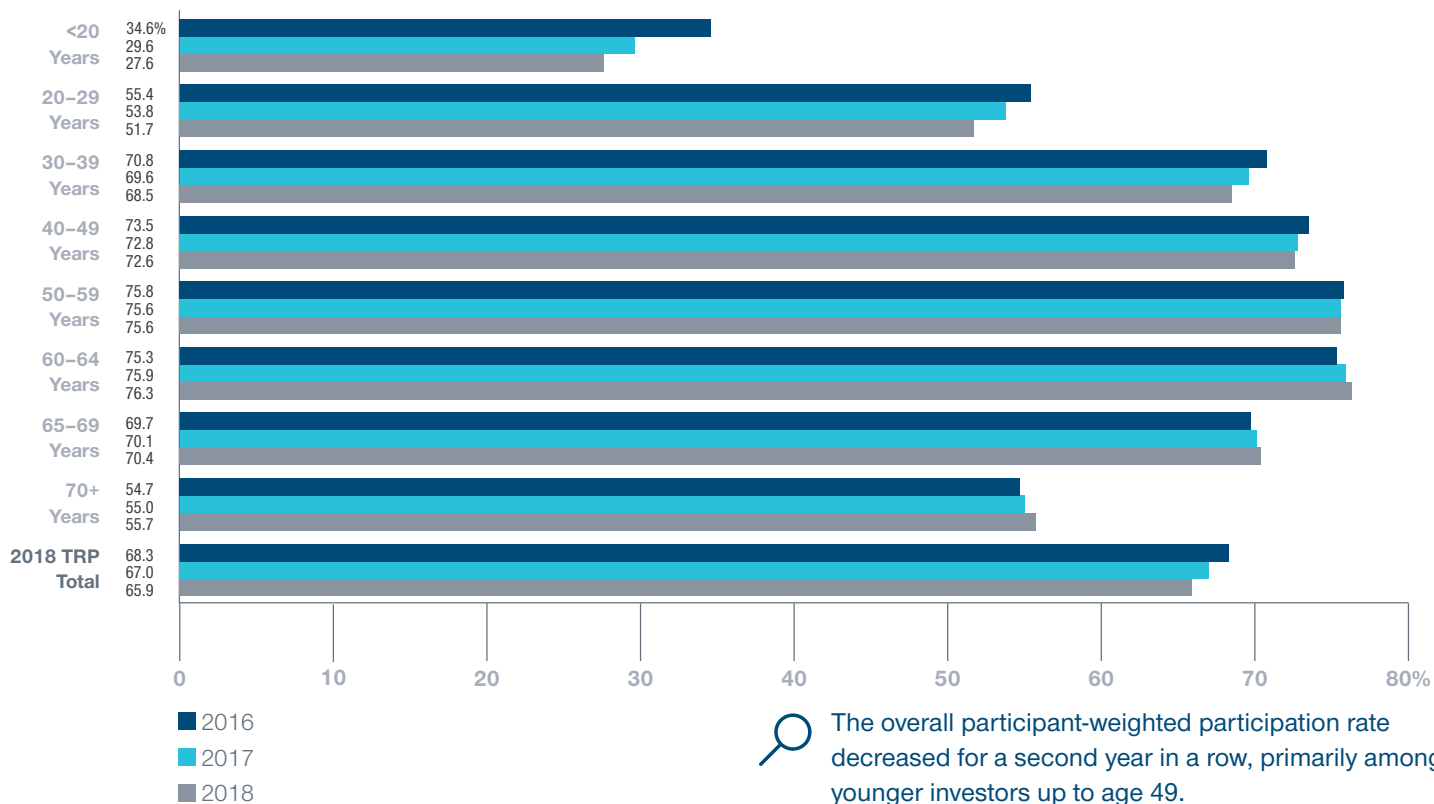
No. 9 **PARTICIPATION RATE COMPARISON BY AGE—PARTICIPANT WEIGHTED**



Participation was higher for every age cohort in plans with auto-enrollment, with auto-enrollment plans achieving nearly 96% higher participation overall.

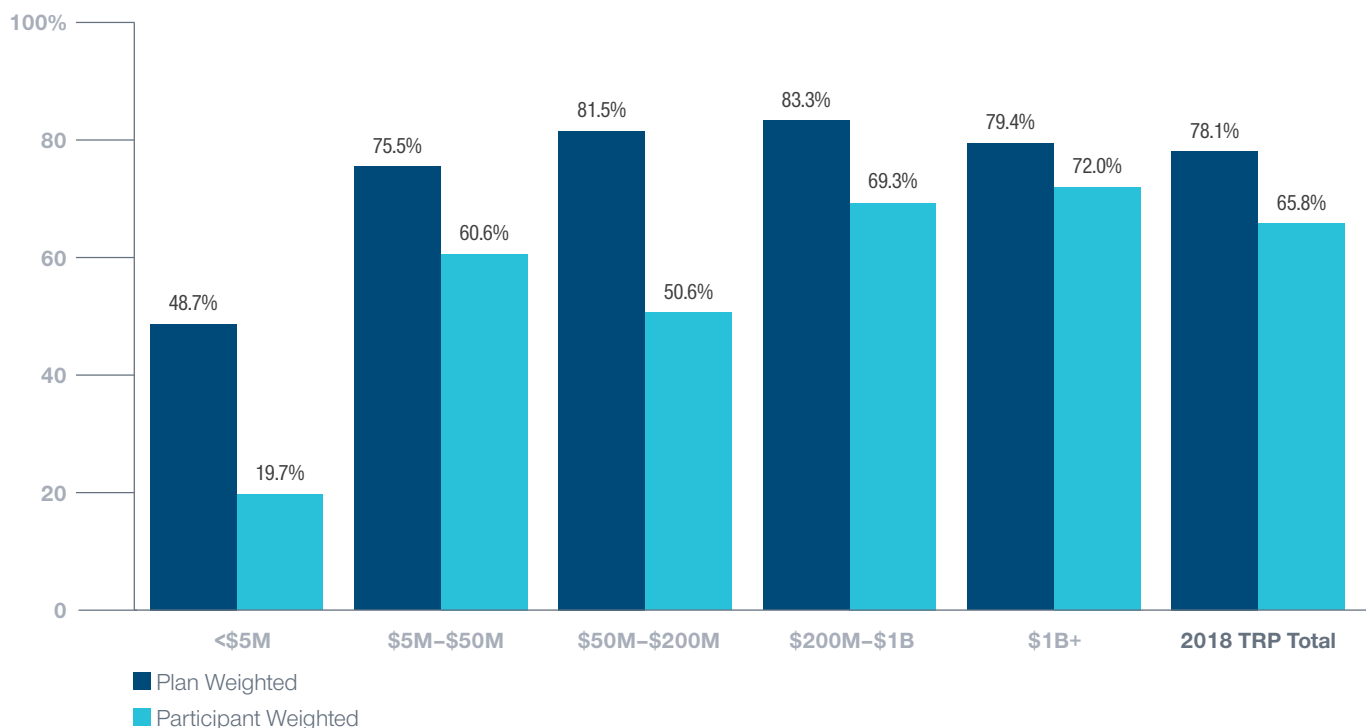


No.10 PARTICIPATION RATE (PARTICIPANT WEIGHTED)—BY AGE

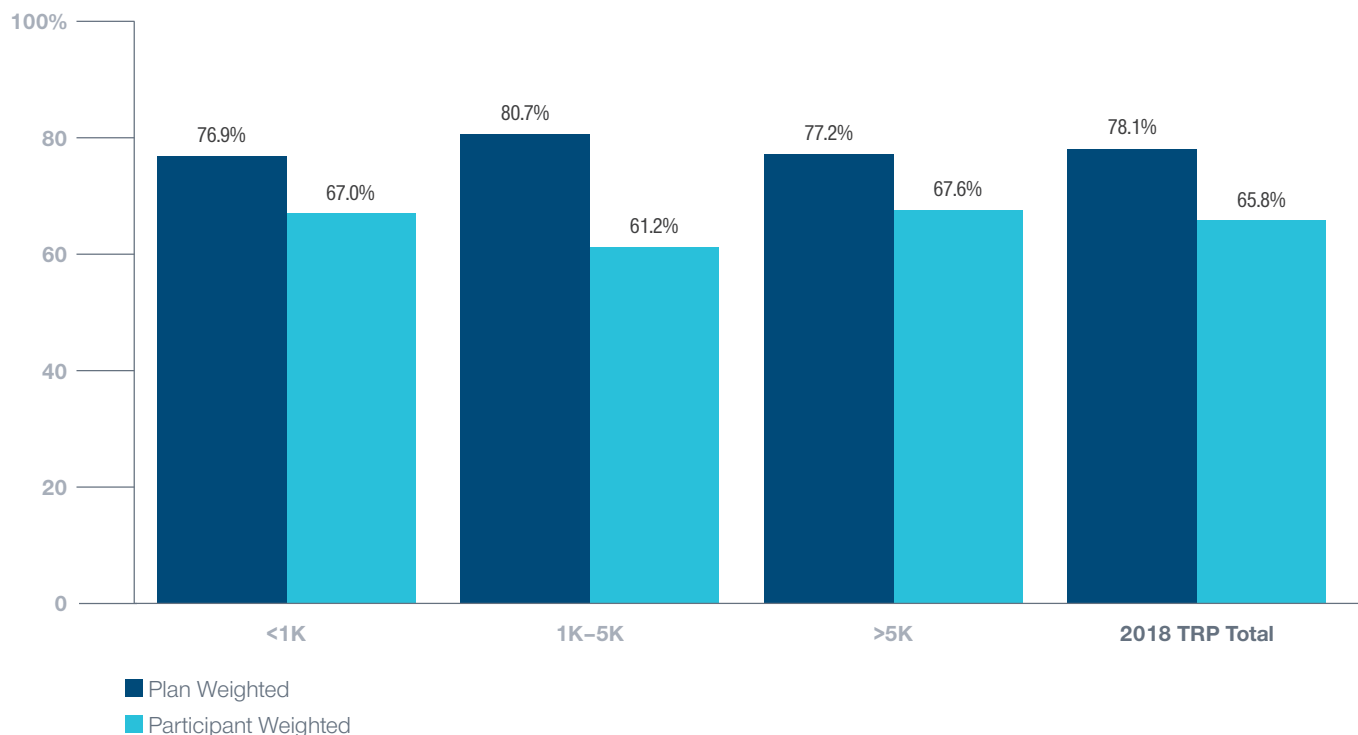




No. 11 PARTICIPATION RATES BREAKDOWN—BY PLAN ASSETS



No. 12 PARTICIPATION RATES BREAKDOWN—BY PLAN PARTICIPANT COUNT



Reference Point

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As of December 31, 2018

Contributions

Employers Dial Up Match

The average pretax deferral increased to 8.6% in 2018. However, there was a significant jump in the percentage of participants who did not contribute to their plans, despite employers' more generous match.

EMPLOYER MATCH ON THE RISE

The reduction of the corporate tax rate most likely contributed to an increase in company match in 2018. For the first time, the top effective match rate of 4% eclipsed 3%, and all match rates of 4% or higher made gains. In contrast, the 50% up to 6% match formula fell in prevalence at a faster clip in 2018.

% of plans	Top match formulas in 2018
27.2%	50% up to 6% of salary
15.4	100% up to 3% of salary, plus 50% up to 2%
14.2	100% up to 4% of salary
11.8	100% up to 6% of salary

DEFERRAL HIGH, BUT MORE NON-CONTRIBUTORS

Pretax deferral rates increased again slightly to 8.6% in 2018, a modest gain from 2017's 8.3% and a continuation of a trend that started in the years following the 2008 financial crisis. The number of participants making Roth contributions also increased, up 10% from 2017.

Despite these gains:

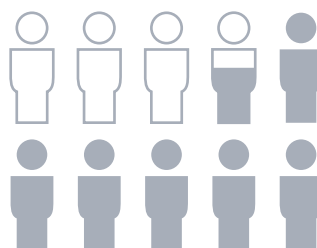
- There was a significant increase in the percentage of participants contributing 0% to their plans in 2018—35.6% in 2018 compared with 33.9% in 2017. Non-contributors may benefit from additional education about plan benefits, including employer match, if applicable.



2018 Insights

- The percentage of plans with a 4% effective match rate on employer match surpassed the 3% rate for the first time.
- Over 35% of participants were not contributing to their plans as of the end of 2018, an increase of 5% from 2017.
- Nearly 75% of plans offered the Roth option, but participant usage remained low at 7.6%.

- Overall Roth usage remains low at 7.6%. Millennials ages 30–39 are using Roth more often (nearly 10% of the population), but younger millennials ages 20–29 lag at 8.8%. These participants in particular would benefit from education about Roth's tax benefits.



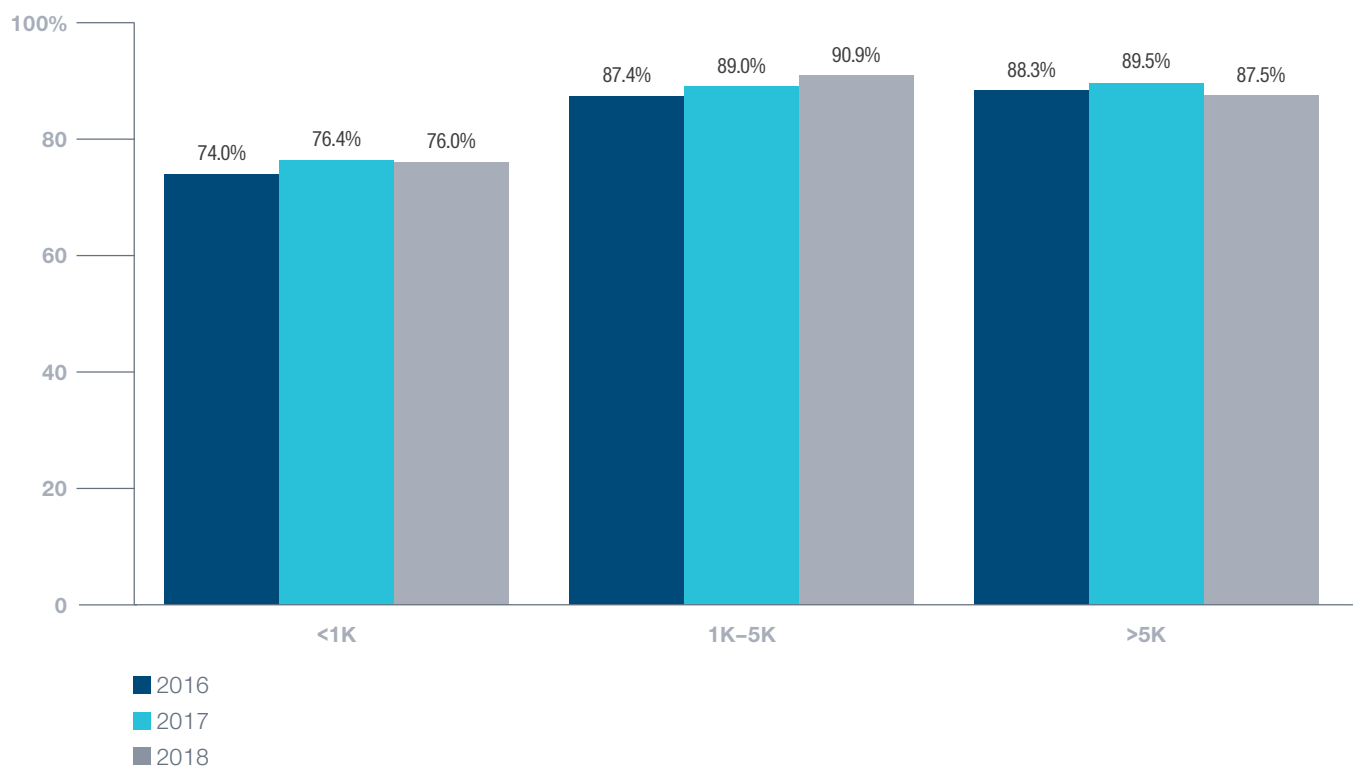
>35%
of participants
contributed 0%
in 2018

MARKET ACTIVITY AFFECTS ACCOUNT BALANCES

Average account balances decreased from \$92,402 in 2017 to \$85,336 in 2018, partially because of market volatility at the end of the year. Millennials ages 30–39 lost the most across all age groups on a percentage basis from 2017 to 2018 (less than \$5,000). Still, on average, account balances gained 3% since 2016.

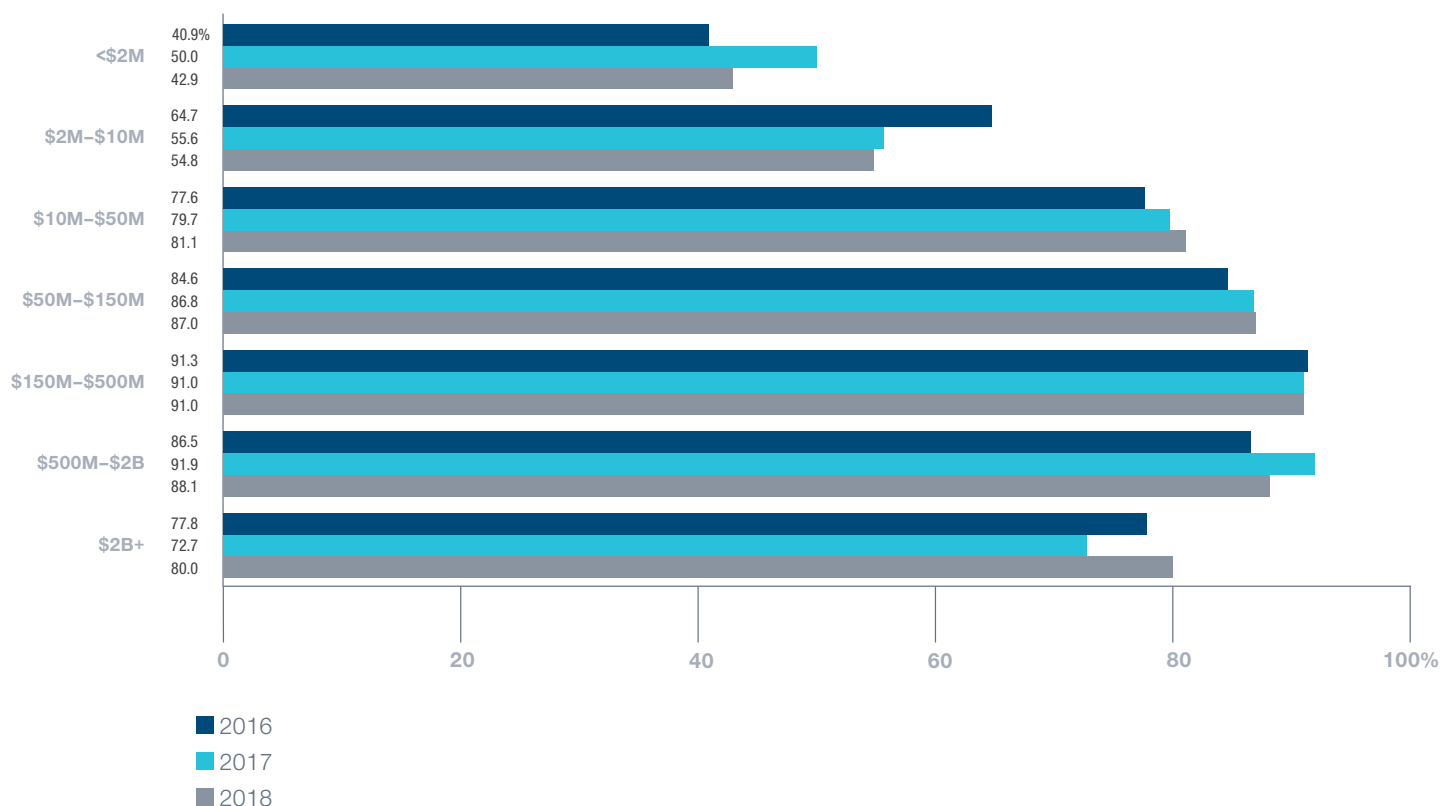


No. 1 **PERCENTAGE OF PLANS WITH MATCH BY NUMBER OF PARTICIPANTS**

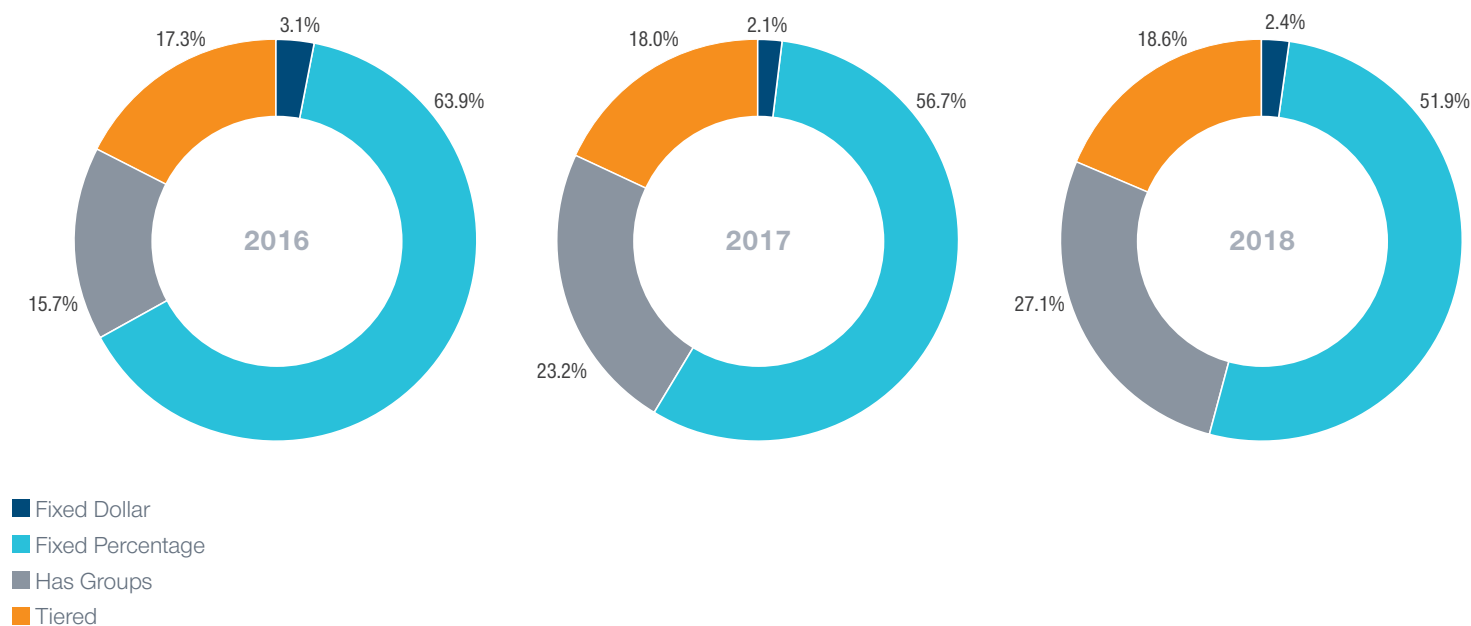




No.2 PERCENTAGE OF PLANS WITH MATCH FORMULAS BY ASSETS



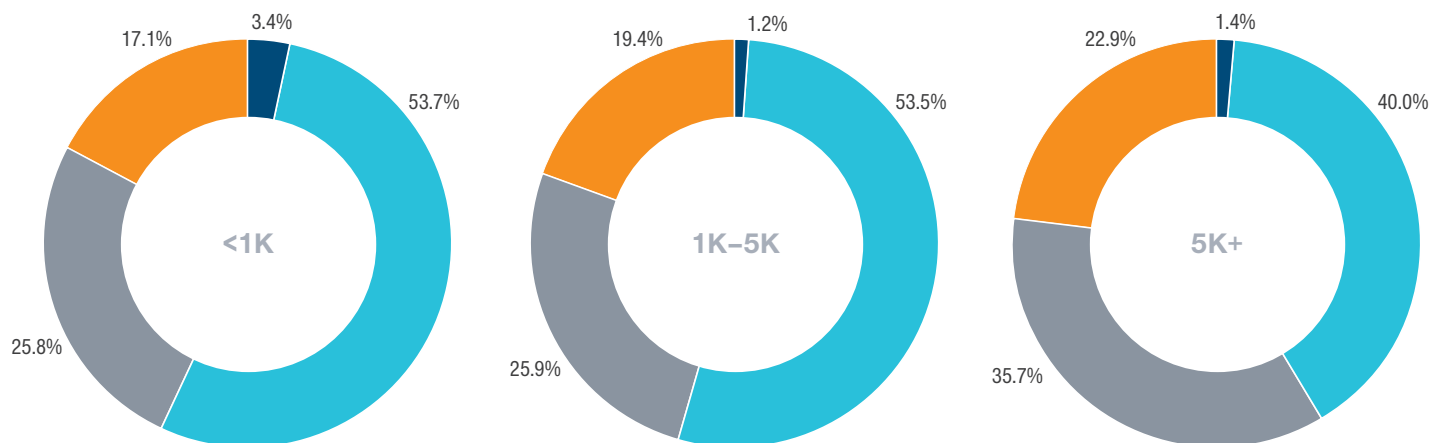
No.3 EMPLOYER MATCH TYPE



"Has groups" refers to plans that have multiple match formulas for different groups of employees. For example, union versus nonunion or full-time versus part-time.



No. 4 **EMPLOYER MATCH TYPES BY NUMBER OF PARTICIPANTS**

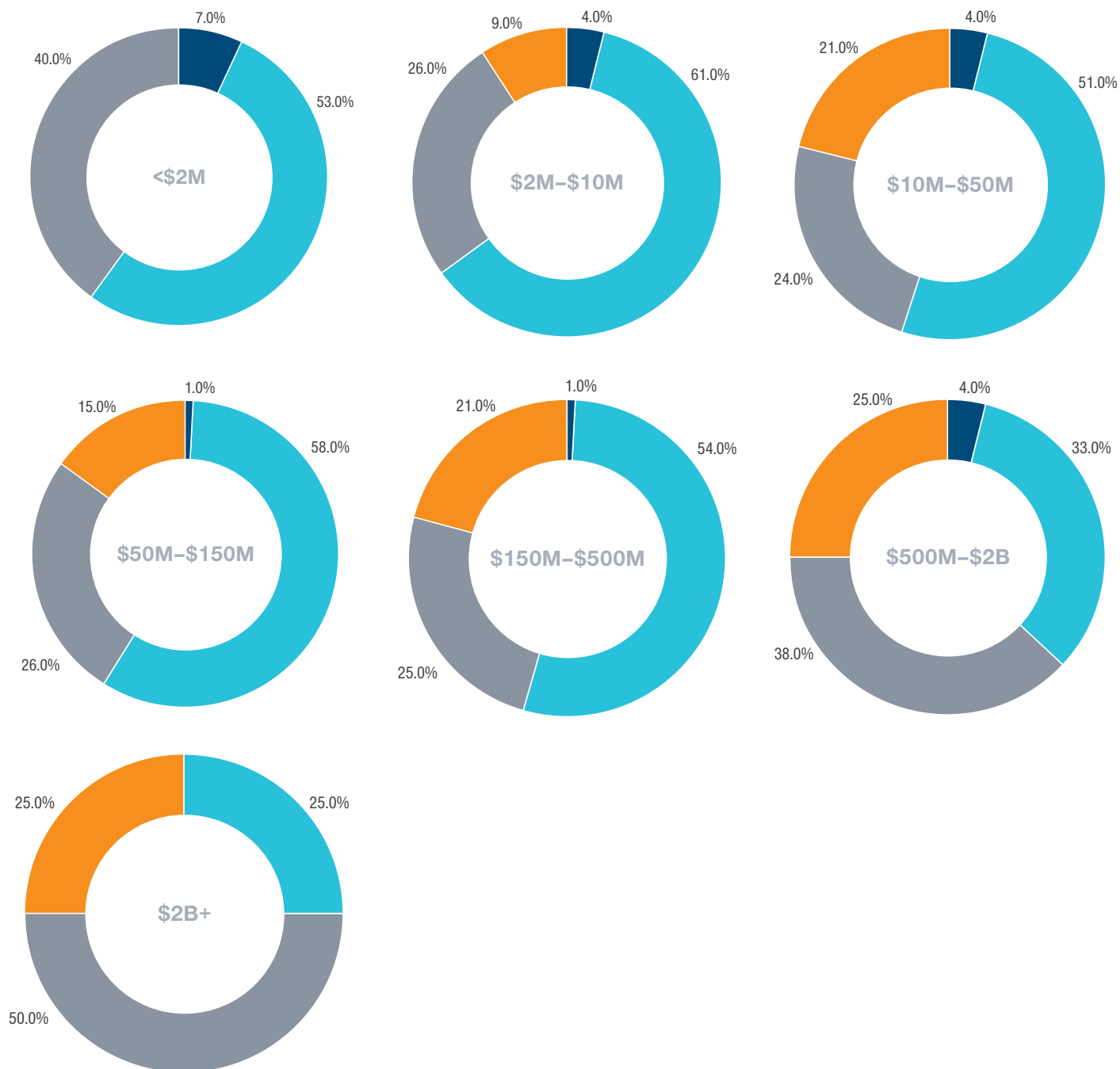


- Fixed Dollar
- Fixed Percentage
- Has Groups
- Tiered

"Has groups" refers to plans that have multiple match formulas for different groups of employees. For example, union versus nonunion or full-time versus part-time.



No. 5 **EMPLOYER MATCH TYPE BY ASSET SIZE**



- Fixed Dollar
- Fixed Percentage
- Has Groups
- Tiered

Totals may not add to 100% due to rounding.

"Has groups" refers to plans that have multiple match formulas for different groups of employees. For example, union versus nonunion or full-time versus part-time.

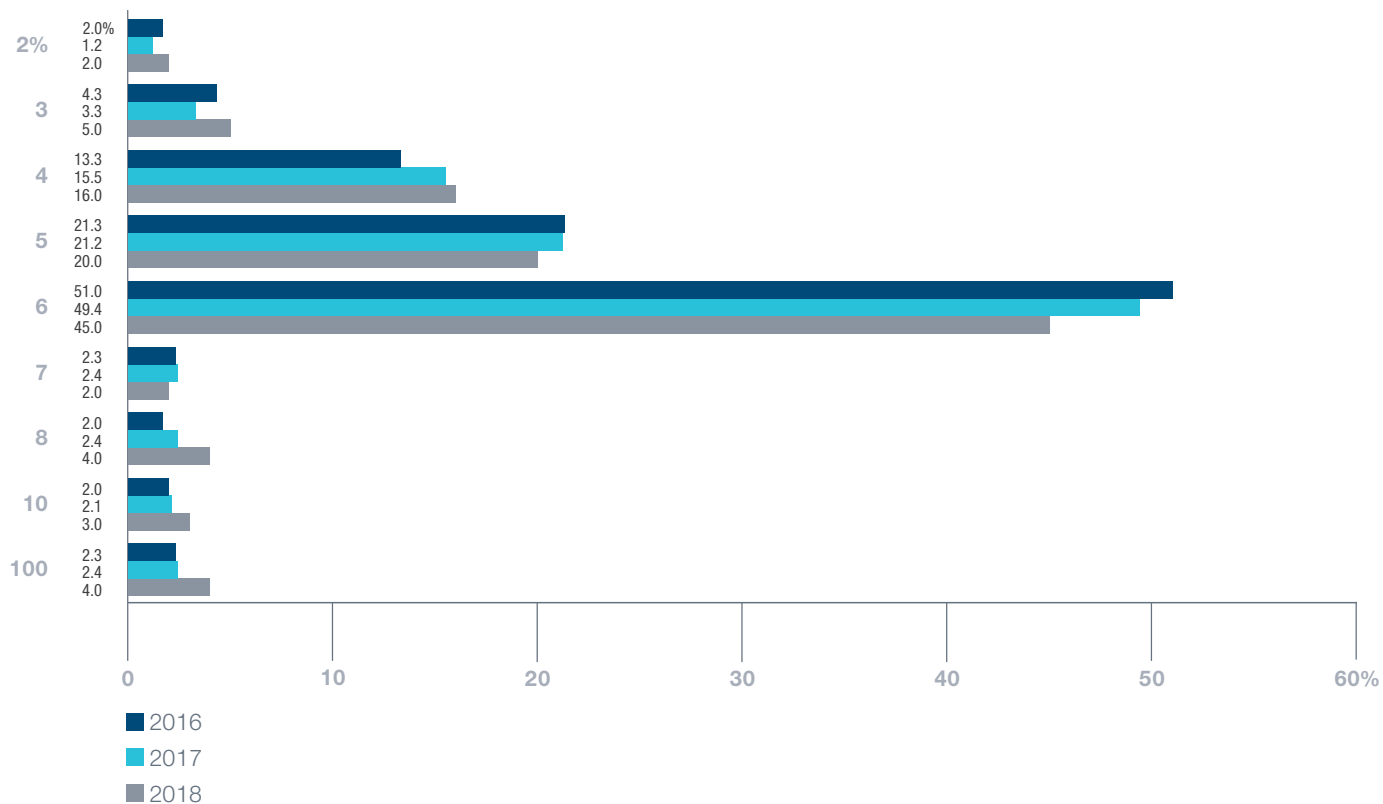


No. 6 TOP MATCH FORMULAS





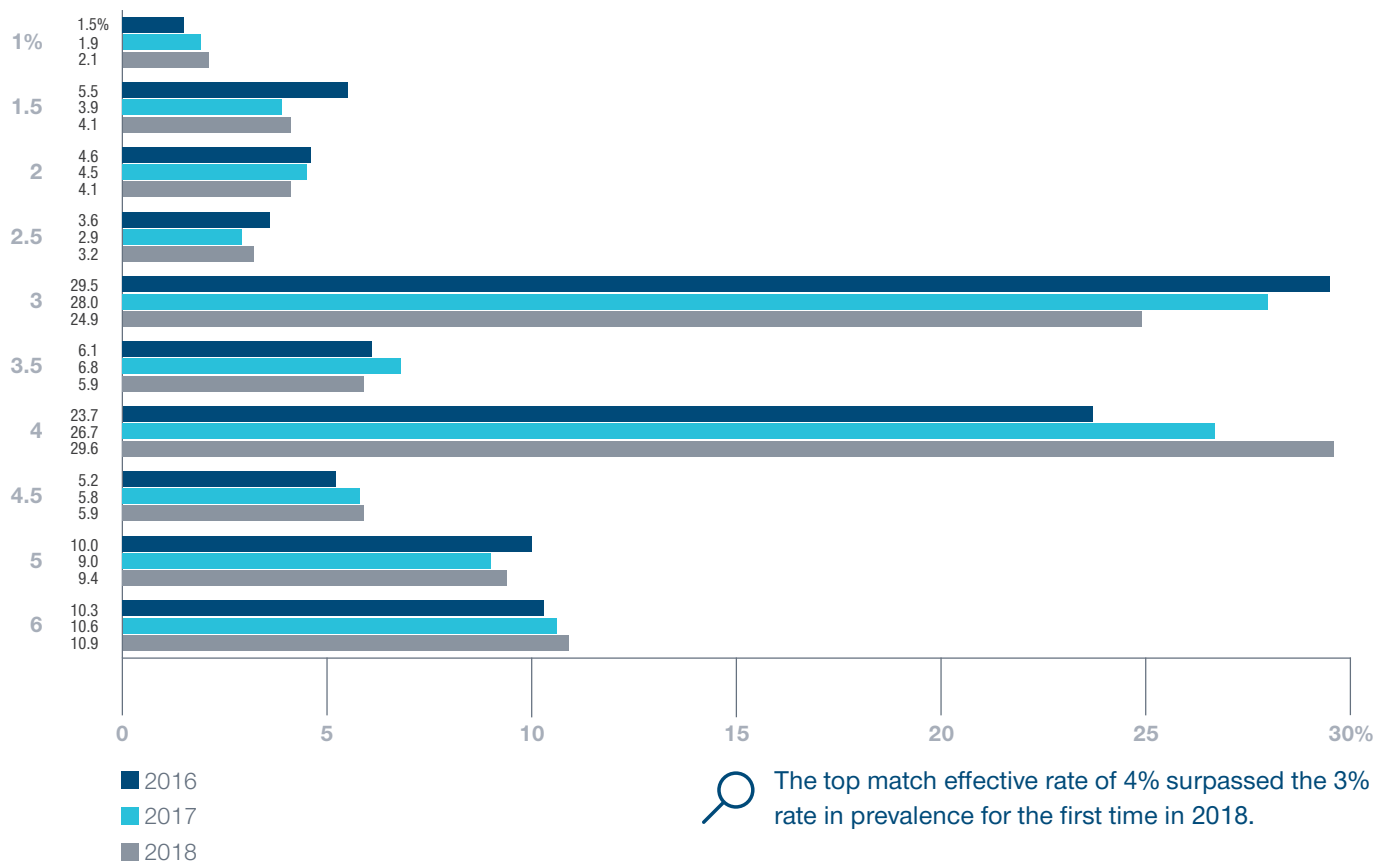
No. 7 TOP MATCH CEILINGS



Match ceiling is the amount that a participant needs to contribute to take full advantage of the company match.



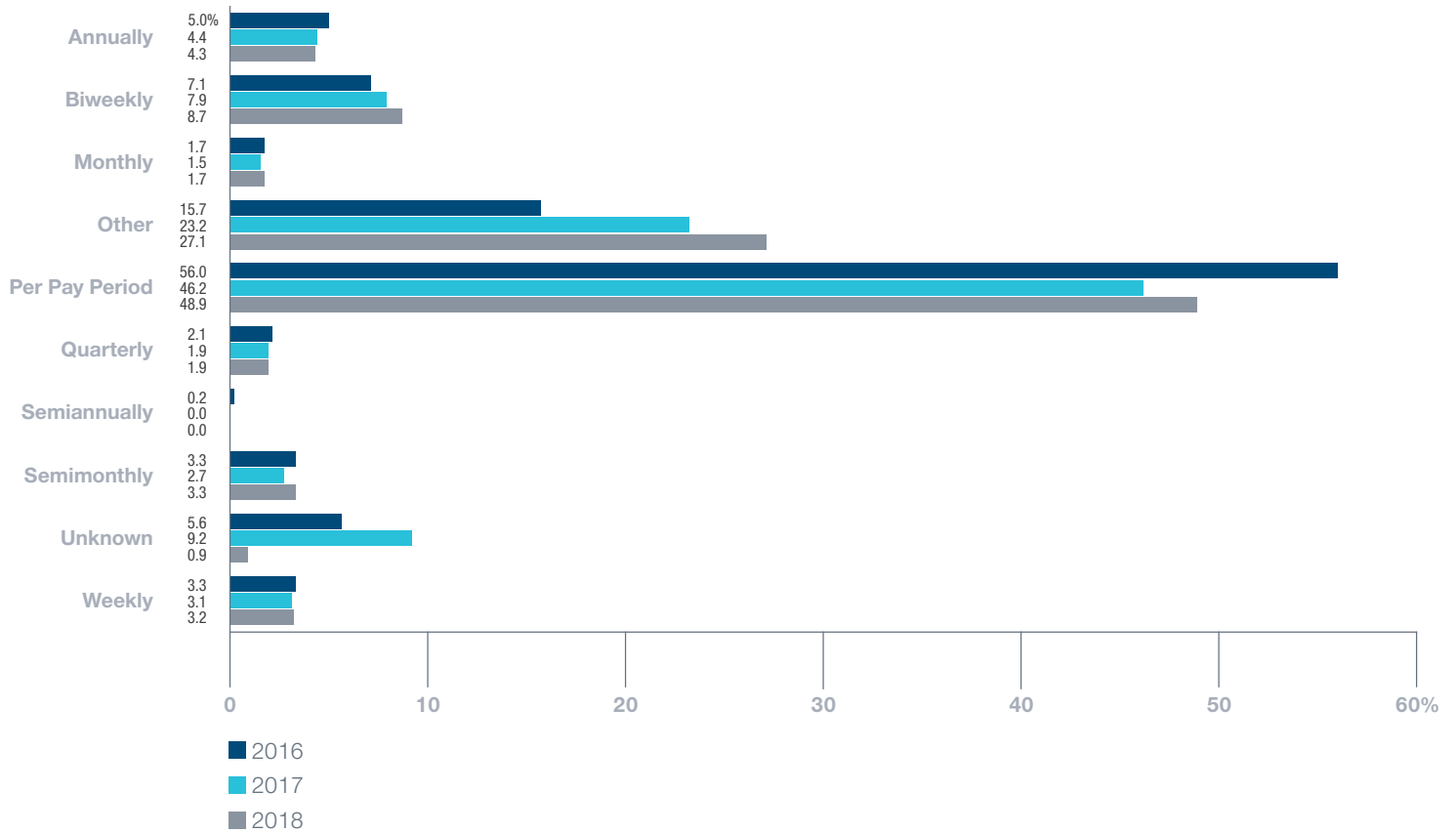
No. 8 TOP MATCH EFFECTIVE RATES



The match effective rate is identified by multiplying the percentage that is matched by the amount of the match. Example: A plan that matches 100% of contributions up to 6% has an effective rate of 6%, while a plan that matches 50% up to 6% has an effective rate of 3%.

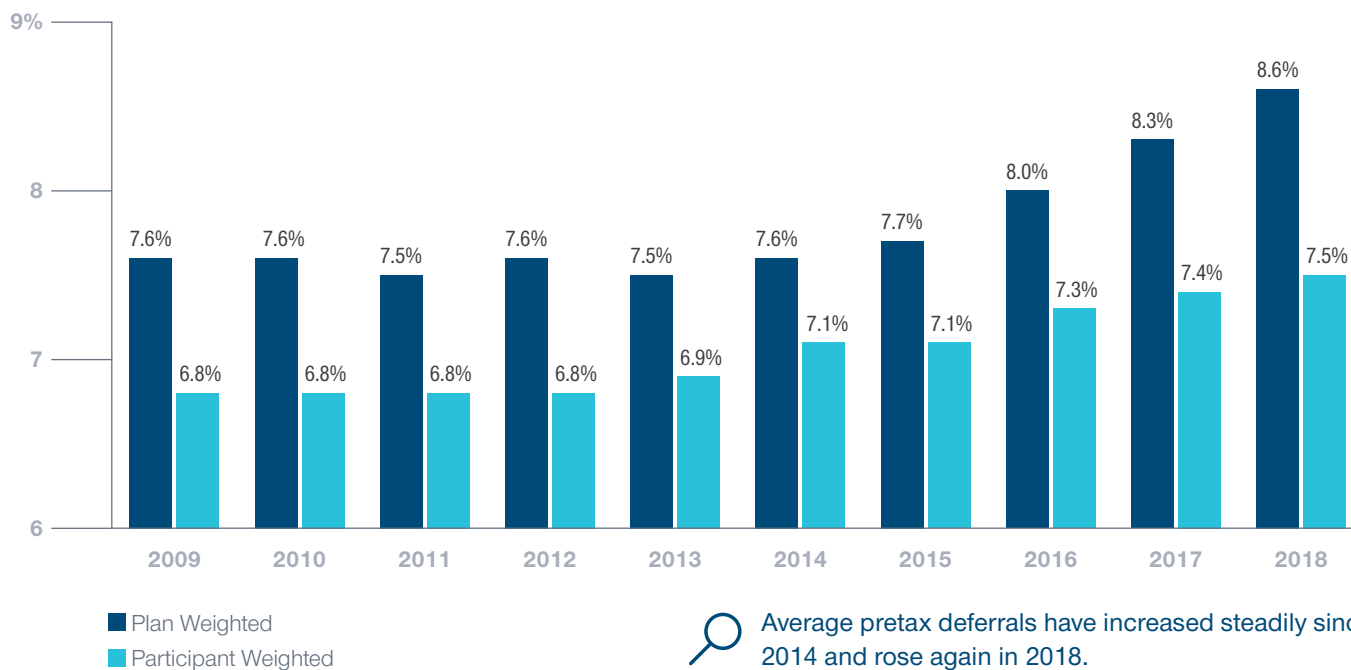


No.9 **PLAN USAGE OF FREQUENCIES FOR MATCH EXECUTION**



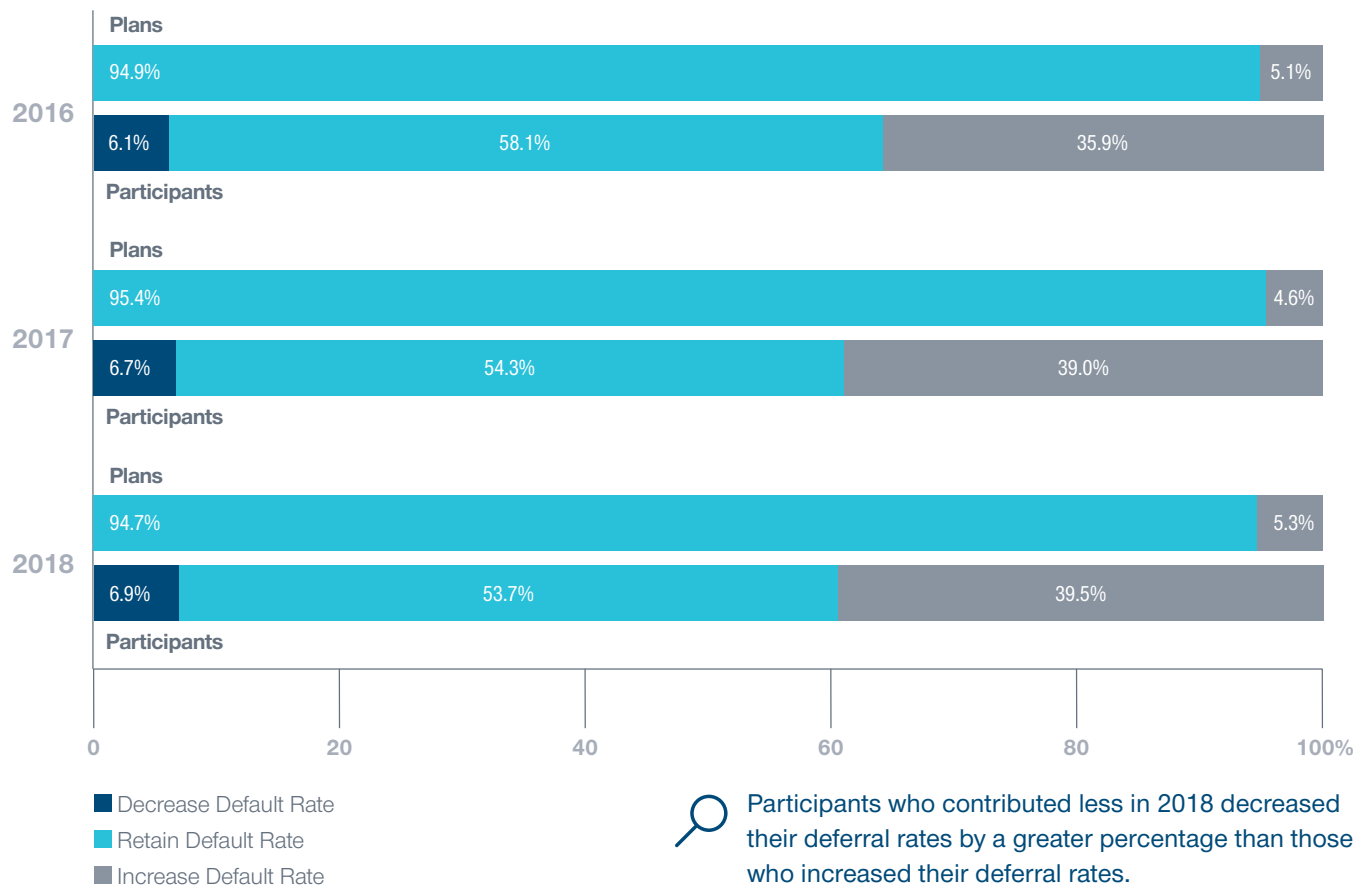


No. 10 **AVERAGE EMPLOYEE PRETAX DEFERRALS**





No. 11 **DEFAULT DEFERRAL RATE ACTIONS**

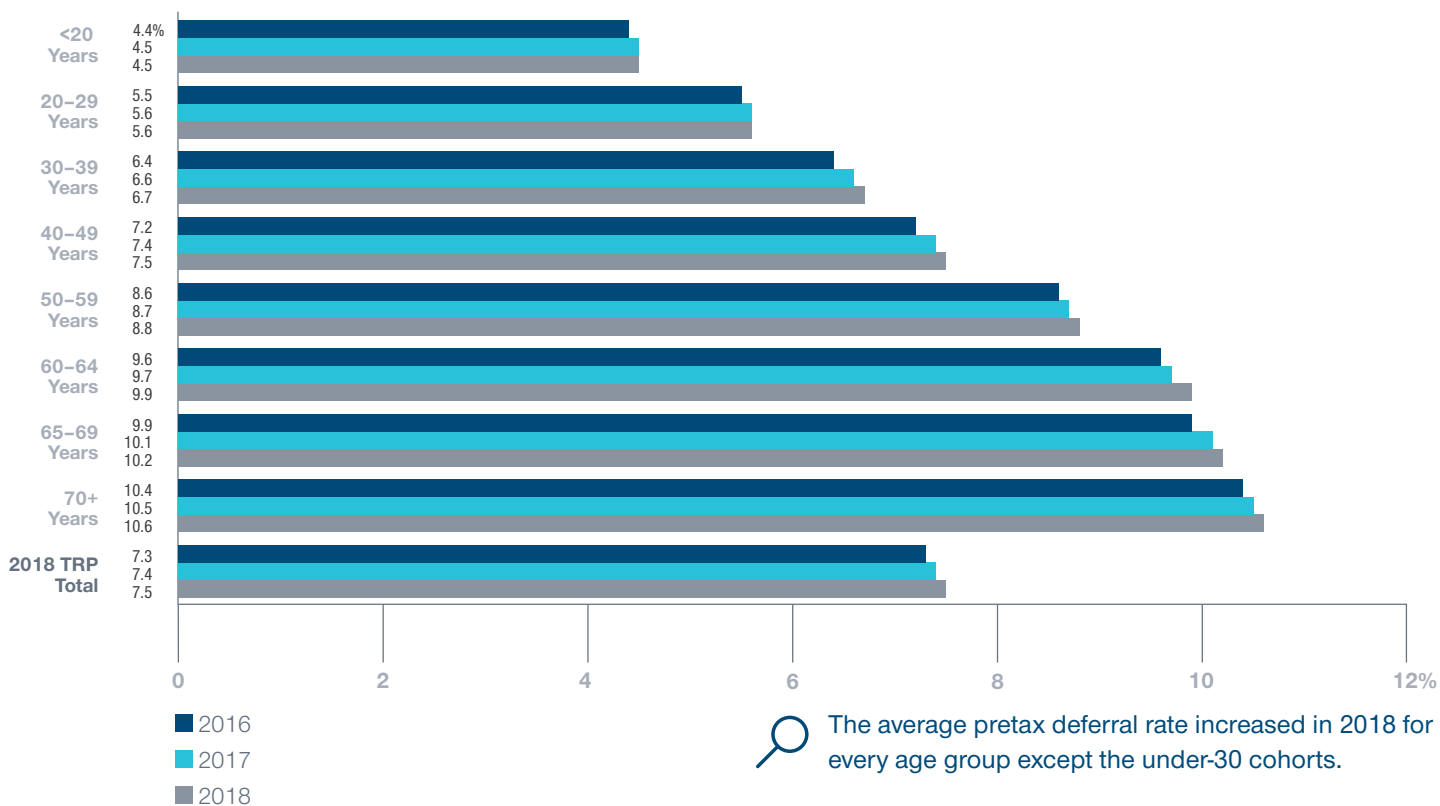


Note: This chart represents the percentage of auto-enrollment plans that adjusted participants' default deferral rates and the percentage of participants who adjusted a default deferral rate during the given period.

Numbers may not total 100% due to rounding.

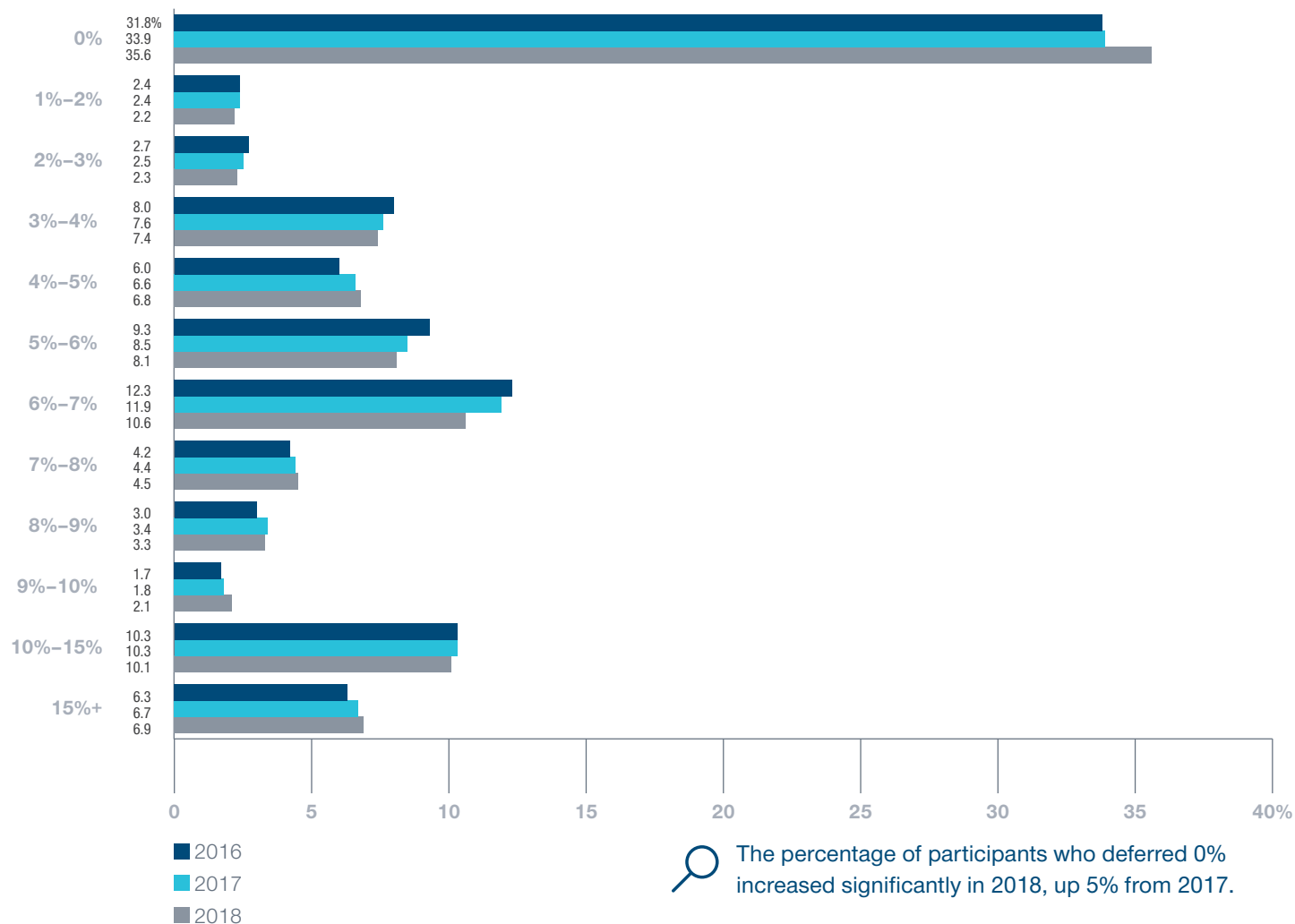


No. 12 AVERAGE PRETAX DEFERRAL RATES—BY AGE



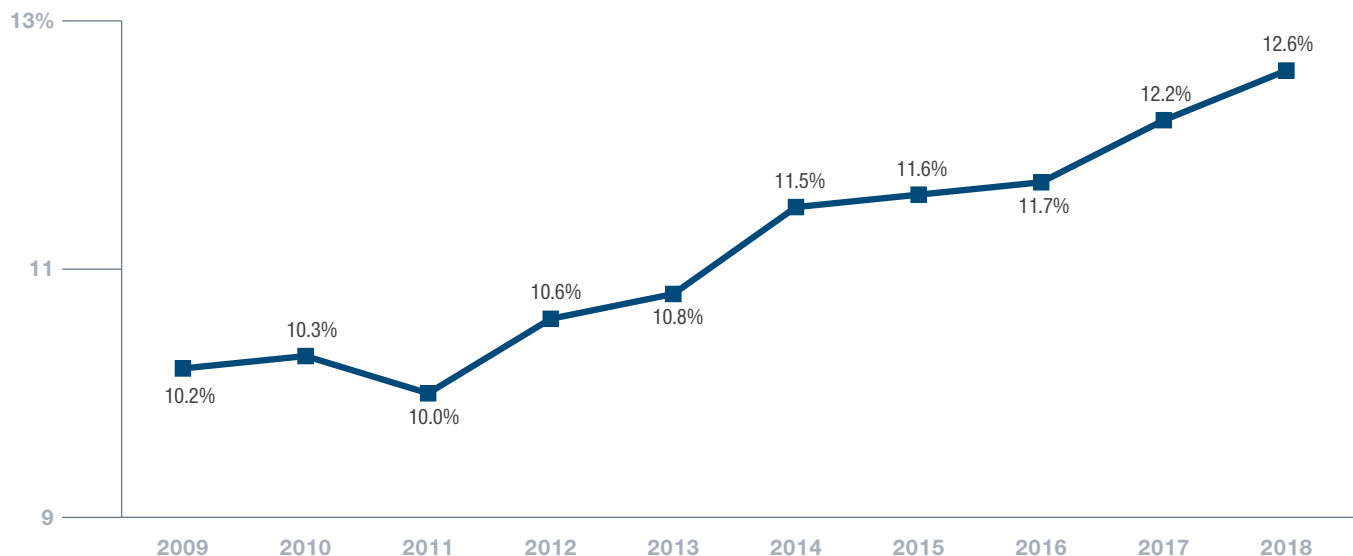


No. 13 PERCENTAGE OF PARTICIPANTS AT EACH DEFERRAL AMOUNT





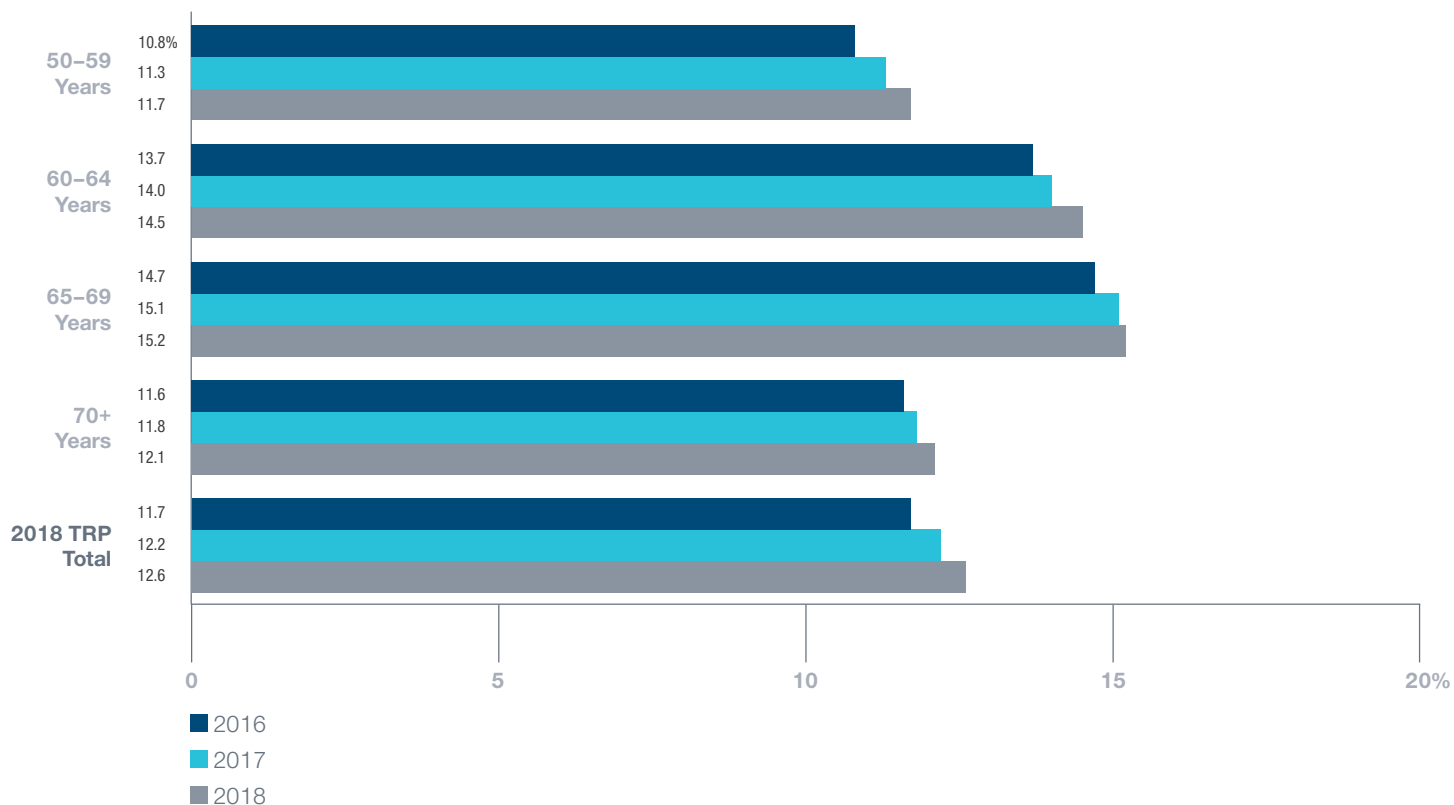
No. 14 PERCENTAGE OF PARTICIPANTS WITH CATCH-UP CONTRIBUTIONS



One in eight eligible participants made catch-up contributions in 2018, up from one in 10 in 2011.

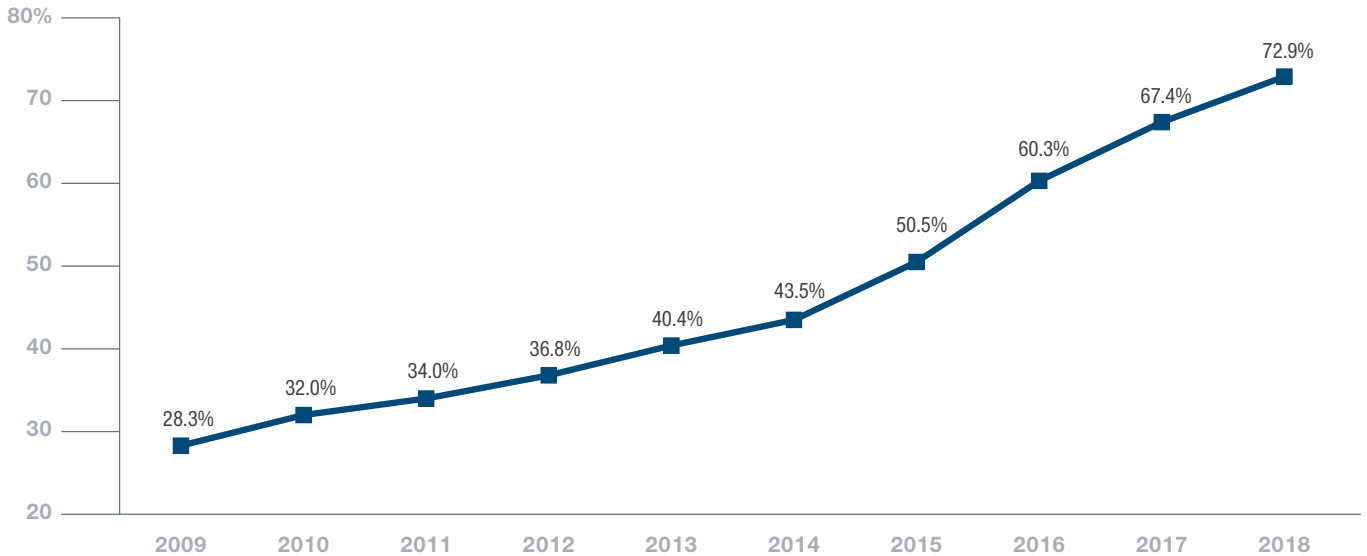


No. 15 CATCH-UP CONTRIBUTIONS—BY AGE





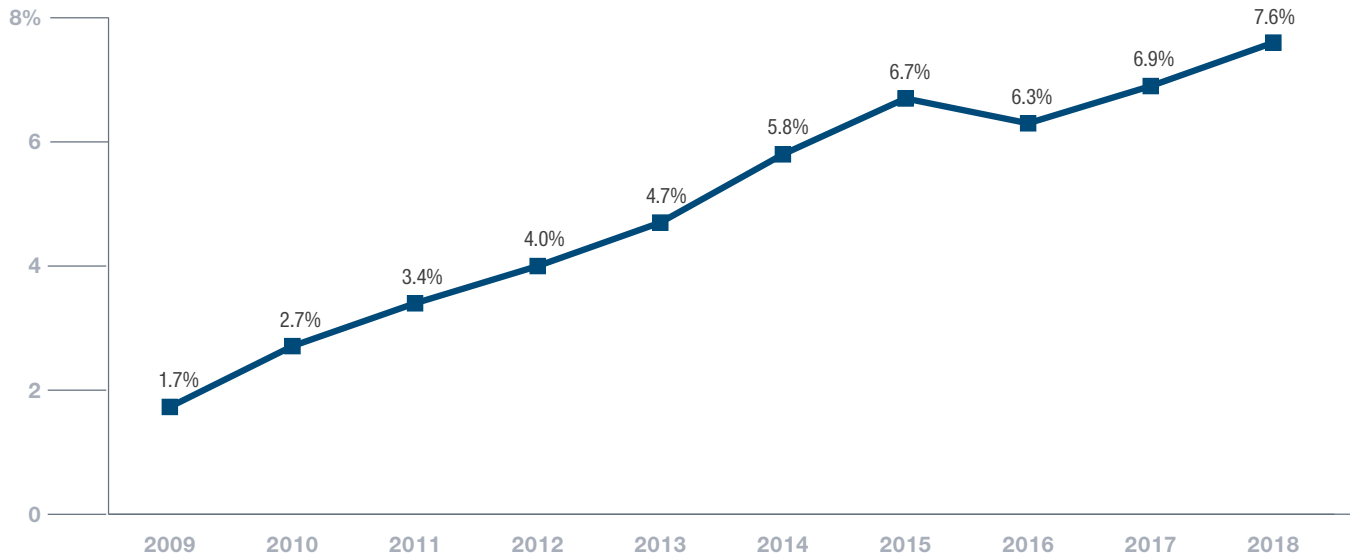
No. 16 PERCENTAGE OF PLANS OFFERING ROTH CONTRIBUTIONS



Roth contributions are becoming a standard plan offering. In 2018, nearly three out of every four plans provided the option to participants.



No. 17 PERCENTAGE OF PARTICIPANTS MAKING ROTH CONTRIBUTIONS



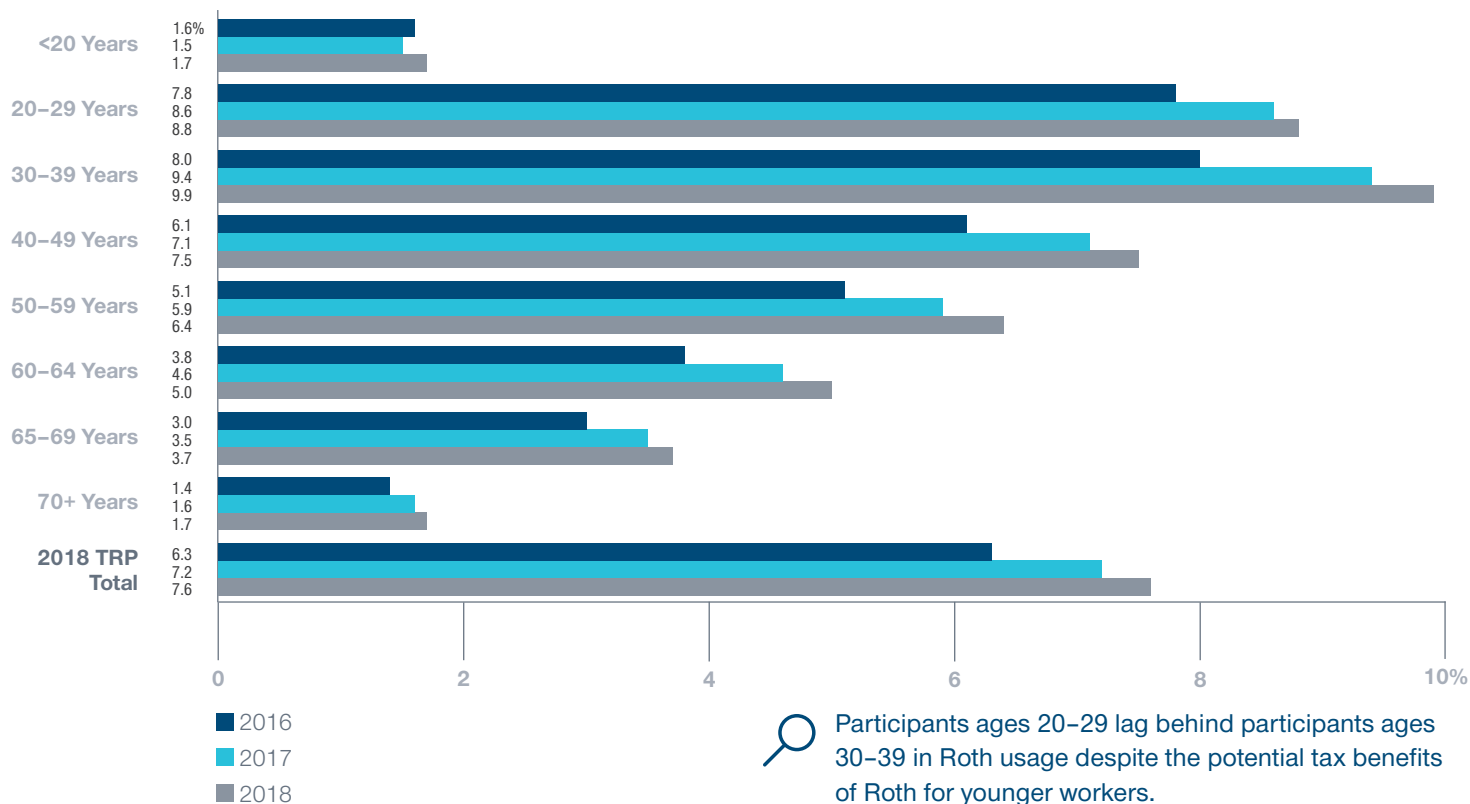
Data based on participants whose plans offer Roth contributions.



While overall usage remains low, the percentage of participants making Roth contributions reached an all-time high in 2018, increasing by nearly 10% from 2017.

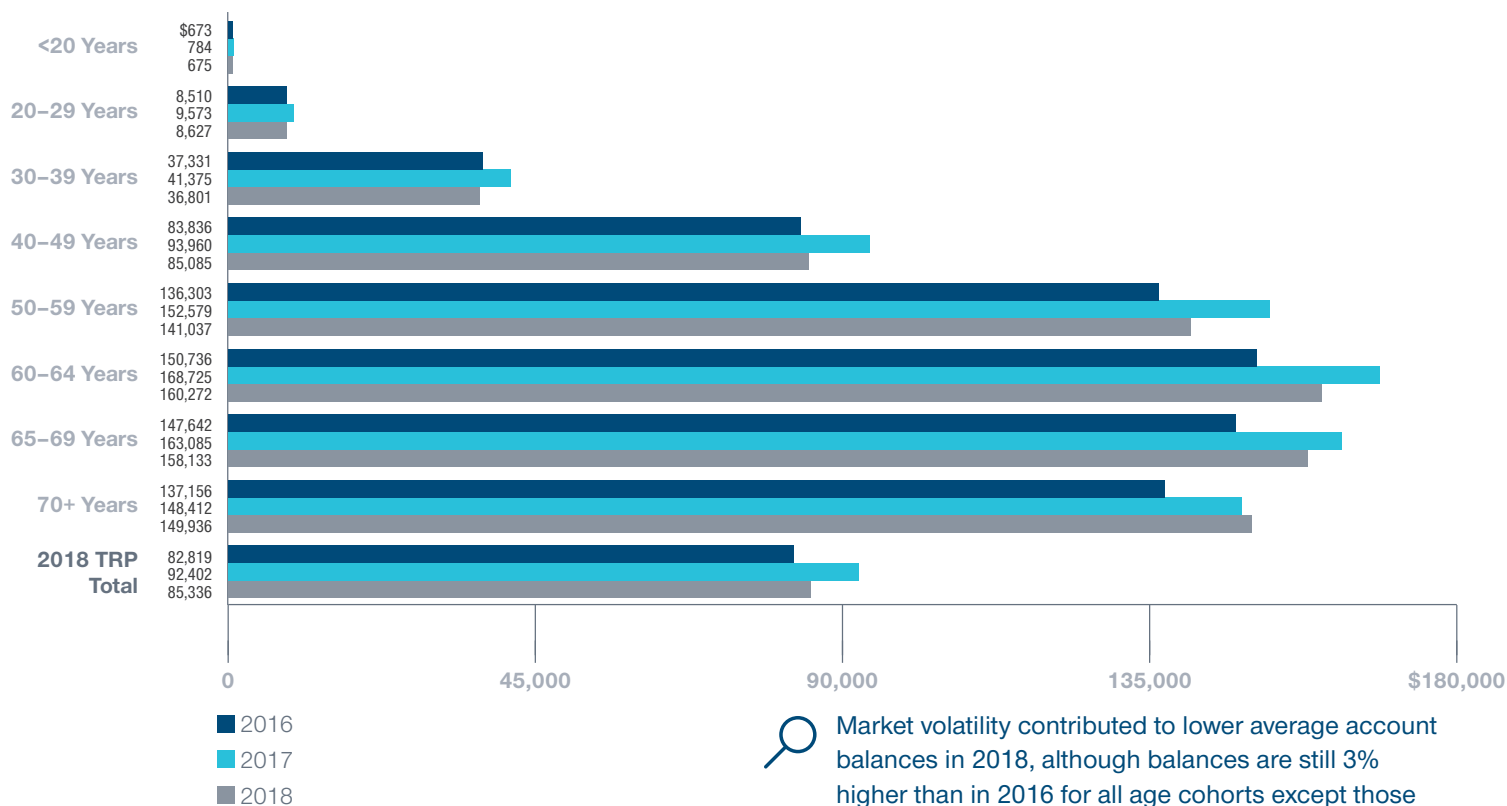


No. 18 **PERCENTAGE OF PARTICIPANTS MAKING ROTH CONTRIBUTIONS—BY AGE**





No. 19 AVERAGE ACCOUNT BALANCES—BY AGE



Reference Point

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Investments

Market Fears Lead to Investment Shifts

Following years of steady gains, 2018 was bookended at the beginning and end by volatility that shook the markets.

UPTICK IN CASH INVESTMENTS

The market volatility in late 2018 contributed to a shift from stocks to more conservative investments. Holdings in stock funds decreased from 34.8% in 2017 to 33.1% in 2018. In contrast, holdings of money market and stable value funds increased—from 8.9% in 2017 to 9.8% in 2018.

Participant investment in target date products increased slightly from 41.2% in 2017 to 42.2% in 2018, although the end-of-year market turmoil might have contributed to slower growth.

Investment Types With Significant Movement of Assets in 2018



THE TARGET DATE “NORM”

For the second year in a row, plan adoption of target date products reached an all-time high, up from 94% in 2017 to 95% in 2018. Participant usage also increased in 2018 across all age groups, although investment is highest among younger workers. The percentage of participants who invest their entire balance in a target date product grew by over 20% from 2014 to 2018 (48% to 58%).

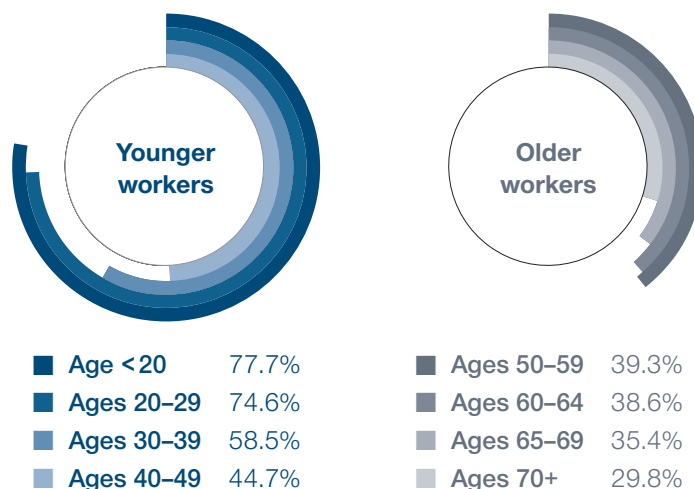
These numbers will likely continue to grow as new employees enter the workforce and are defaulted into a target date investment by their plans. In addition, the availability of “set it and forget it” target date products might be leading to fewer participants seeking investment guidance. Respondents to T. Rowe Price’s 2017 and 2018 participant surveys reported that while most participants turn first to their 401(k) provider for financial advice, only 21% want investment help.¹

2018 Insights

- More participants decided to shift their asset allocation away from stocks and into cash in 2018, as demonstrated by the increase in the proportion of participants holding money market/stable market funds.
- Investment in target date products increased in 2018, especially among younger participants.

GENERATIONS APART

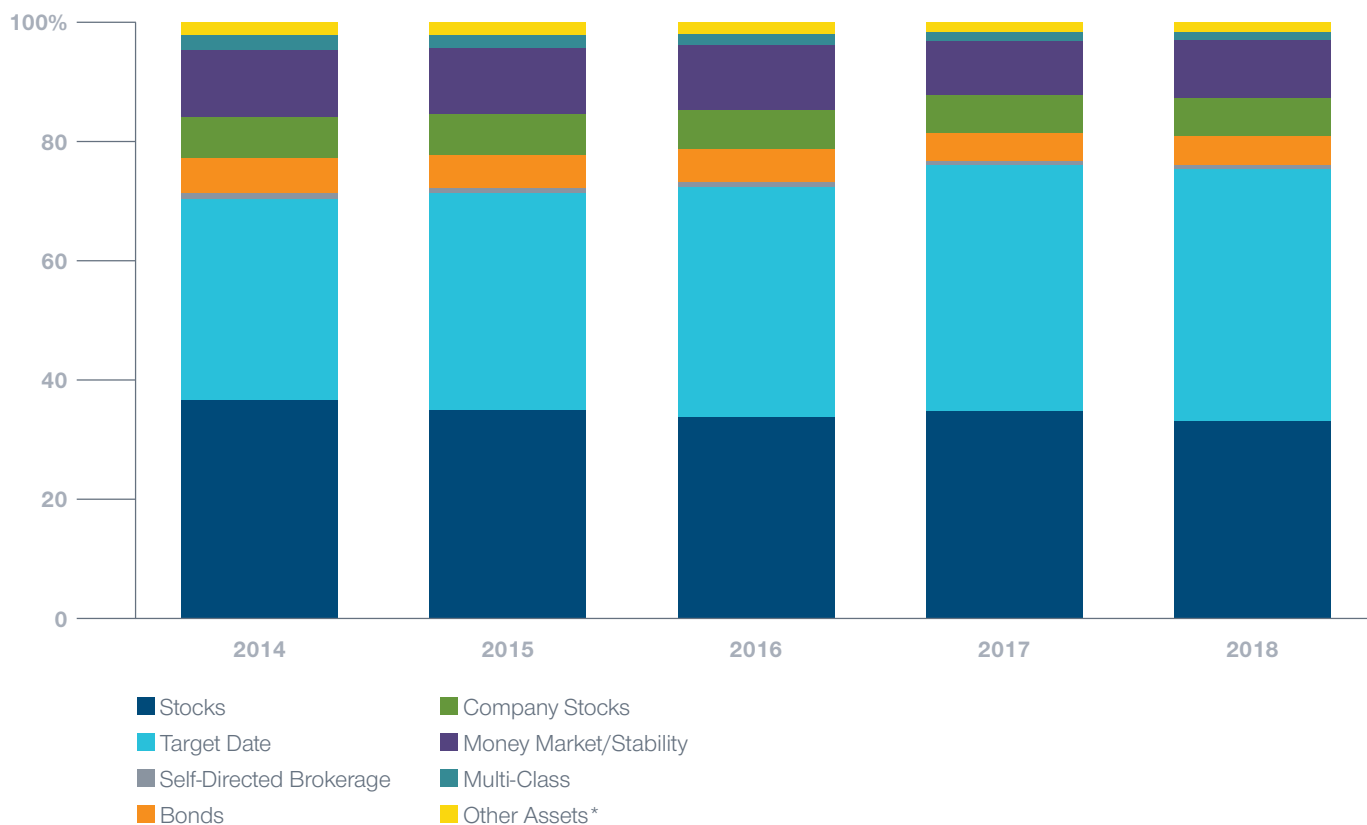
Younger workers are more likely to invest part or all of their money in a target date product.



¹Source: T. Rowe Price 2017 and 2018 Retirement Savings & Spending studies.



No.1 **ASSET ALLOCATION**



	Stocks	Target Date	Self-Directed Brokerage	Bonds	Company Stocks	Money Market/Stability	Multi-Class	Other Assets*
2014	36.7%	33.7%	0.9%	5.9%	6.8%	11.4%	2.5%	2.1%
2015	34.9	36.4	0.9	5.5	6.9	11.0	2.3	2.1
2016	33.7	38.6	0.9	5.4	6.7	10.8	2.0	2.0
2017	34.8	41.2	0.7	4.7	6.4	8.9	1.6	1.7
2018	33.1	42.2	0.8	4.7	6.4	9.8	1.3	1.8

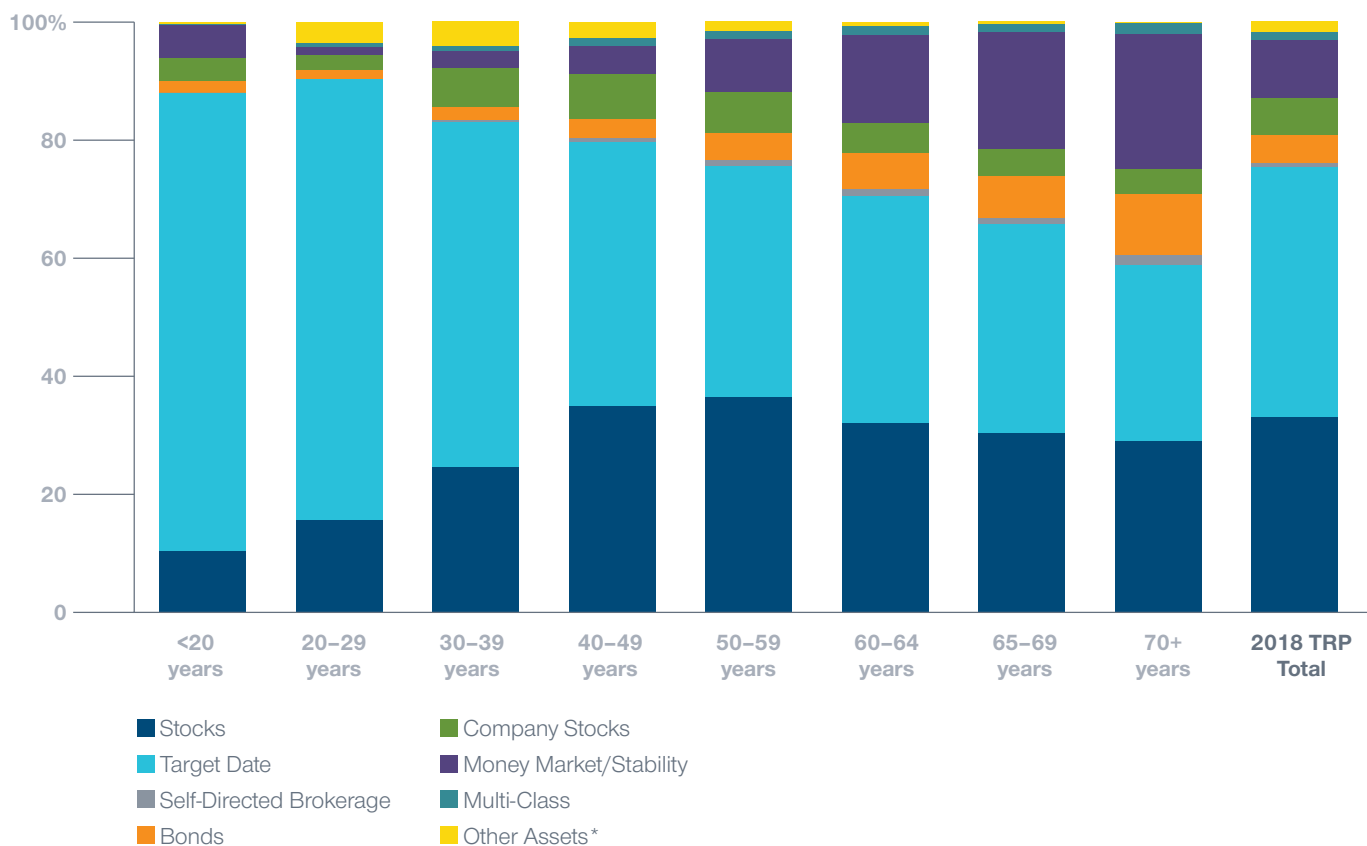
*Other assets include loan and settlement amounts.
Numbers may not total 100% due to rounding.



Stock holdings decreased and money market/stable value holdings increased in 2018 as a result of the market downturn late in the year.



No. 2 ASSET ALLOCATION—BY AGE



	Stocks	Target Date	Self-Directed Brokerage	Bonds	Company Stocks	Money Market/Stability	Multi-Class	Other Assets*
<20 years	10.3%	77.7%	—	1.9%	3.9%	5.6%	0.3%	0.2%
20–29 years	15.7	74.6	0.1%	1.4	2.7	1.2	0.7	3.6
30–39 years	24.6	58.5	0.2	2.3	6.6	2.8	1.0	4.1
40–49 years	35.0	44.7	0.6	3.3	7.5	4.9	1.2	2.8
50–59 years	36.4	39.3	0.9	4.6	6.9	9.1	1.3	1.6
60–64 years	32.0	38.6	1.1	6.0	5.2	14.9	1.4	0.8
65–69 years	30.4	35.4	1.0	7.1	4.6	19.7	1.5	0.4
70+ years	29.1	29.8	1.6	10.3	4.3	22.9	1.8	0.2
2018 TRP Total	33.1	42.2	0.8	4.7	6.4	9.8	1.3	1.8

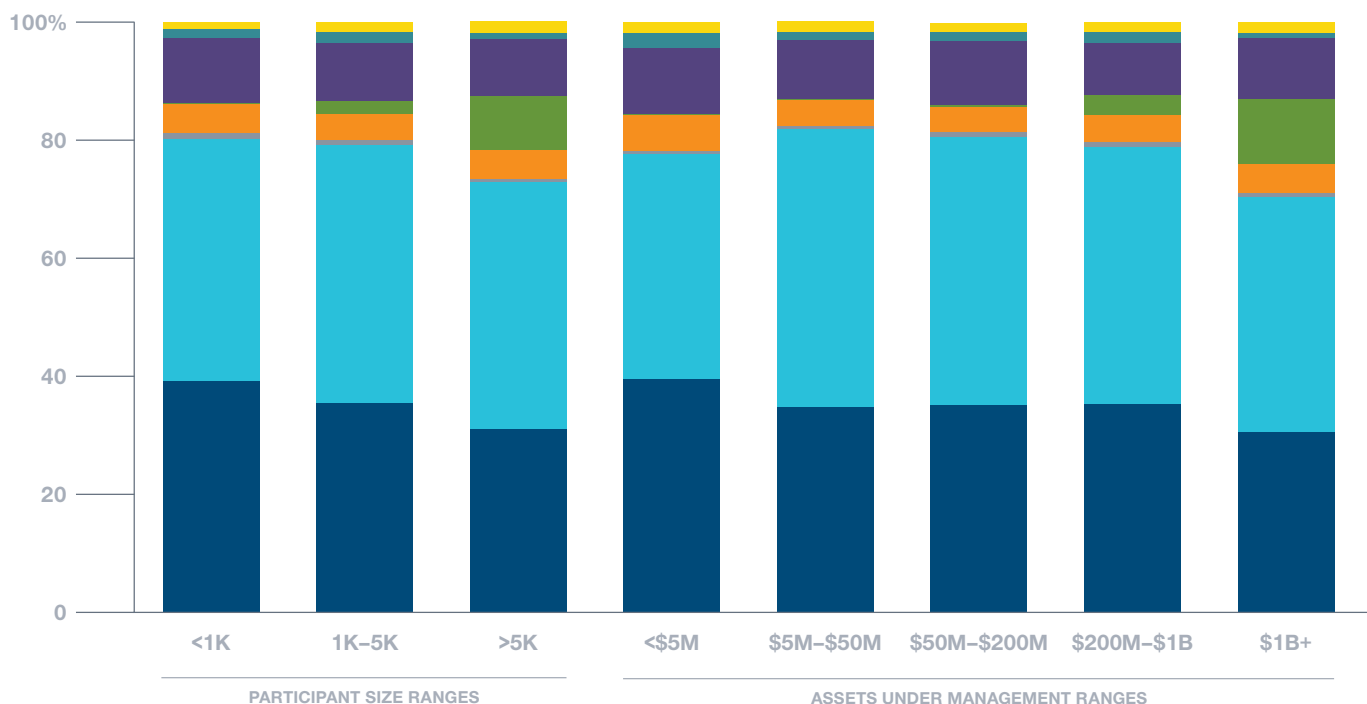
*Other assets include loan and settlement amounts.
Numbers may not total 100% due to rounding.



Investment in target date products is more prevalent among younger participants, but percentages among the older cohorts should increase as these younger participants age.



No. 3 ASSET ALLOCATION



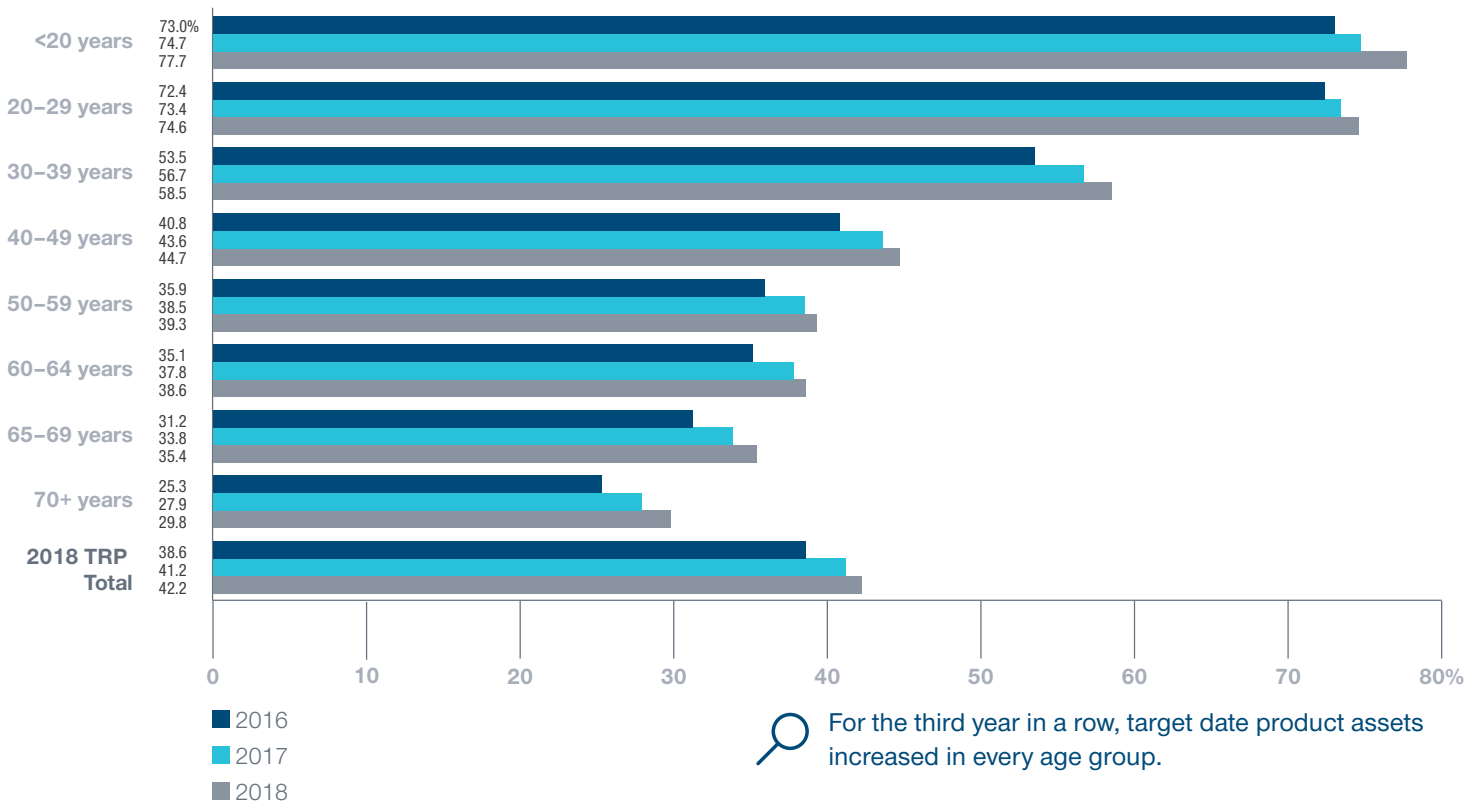
	Stocks	Target Date	Self-Directed Brokerage	Bonds	Company Stocks	Money Market/Stability	Multi-Class	Other Assets*
<1K participants	39.1%	41.0%	1.1%	4.9%	0.1%	11.1%	1.4%	1.3%
1K-5K participants	35.5	43.6	1.0	4.4	2.2	9.7	1.9	1.7
>5K participants	31.1	41.7	0.6	4.8	9.3	9.6	1.0	2.0
<\$5M	39.5	38.1	0.5	6.1	0.2	11.1	2.6	1.9
\$5M-\$50M	34.8	47.0	0.6	4.4	0.1	10.0	1.4	1.8
\$50M-\$200M	35.2	45.4	0.7	4.4	0.3	10.8	1.4	1.6
\$200M-\$1B	35.3	43.5	0.9	4.5	3.5	8.8	1.7	1.8
\$1B+	30.6	39.7	0.7	4.9	11.1	10.2	0.9	1.9
2018 TRP Total	33.1	42.2	0.8	4.7	6.4	9.8	1.3	1.8

*Other assets include loan and settlement amounts.

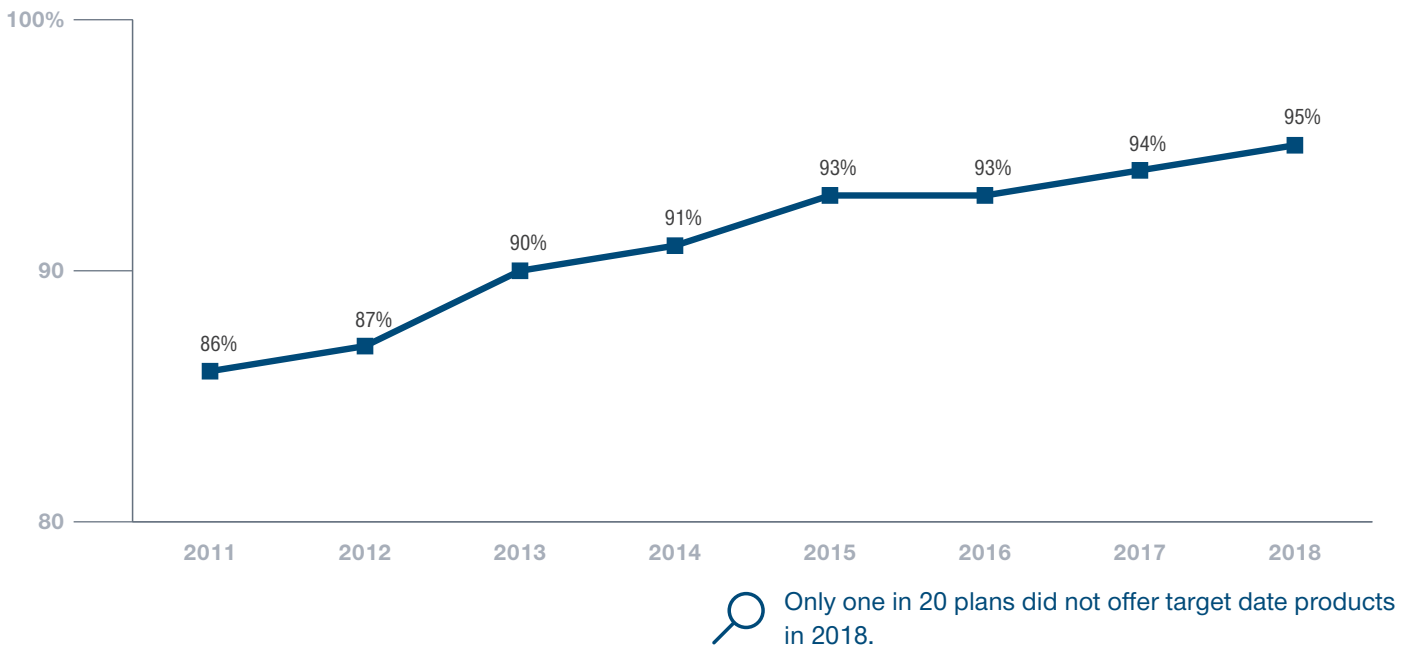
Note: The assets under management ranges refer to those plans where assets under management fall within the specified ranges. The participant size ranges refer to those plans where total participant counts fall within the specified ranges. Numbers may not total 100% due to rounding.



No. 4 **PERCENTAGE OF ASSETS IN A TARGET DATE PRODUCT—BY AGE**

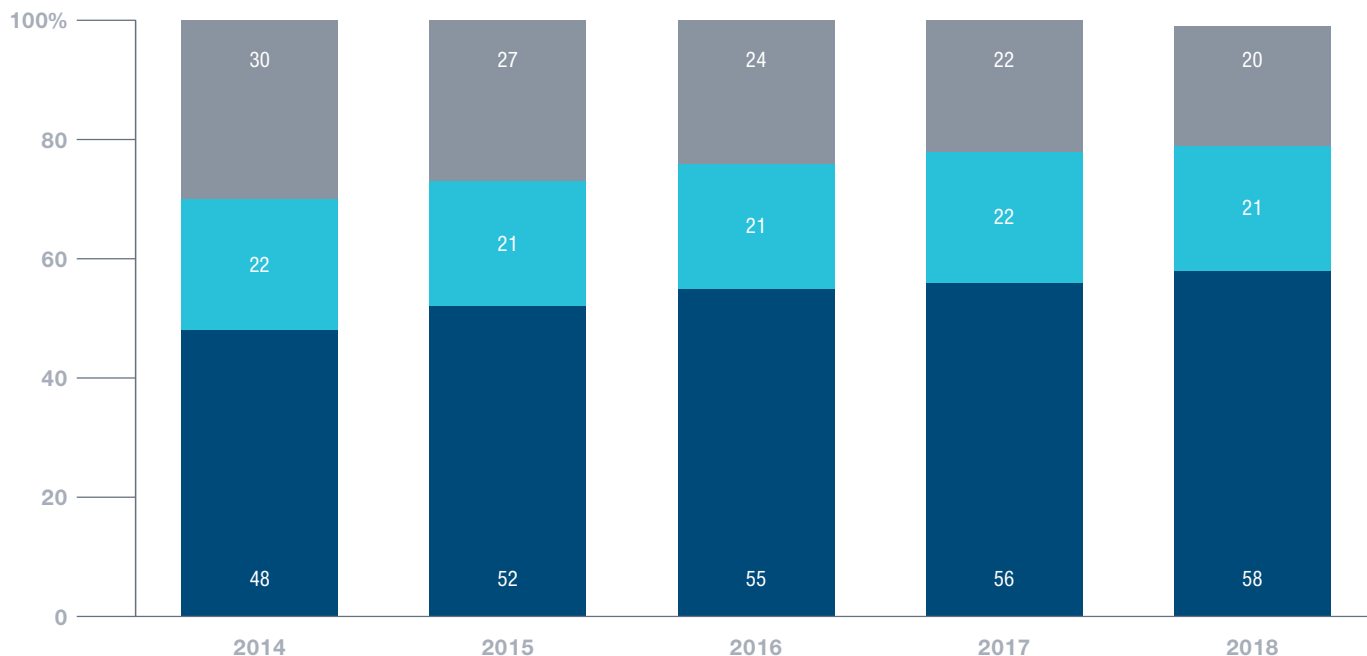


No. 5 **PERCENTAGE OF PLANS OFFERING TARGET DATE PRODUCTS**





No. 6 TARGET DATE PRODUCT INVESTMENT COMPARISON—PERCENTAGE OF PARTICIPANTS



- Entire Balance in Target Date Products
- Partial Balance in Target Date Products
- No Balance in Target Date Products

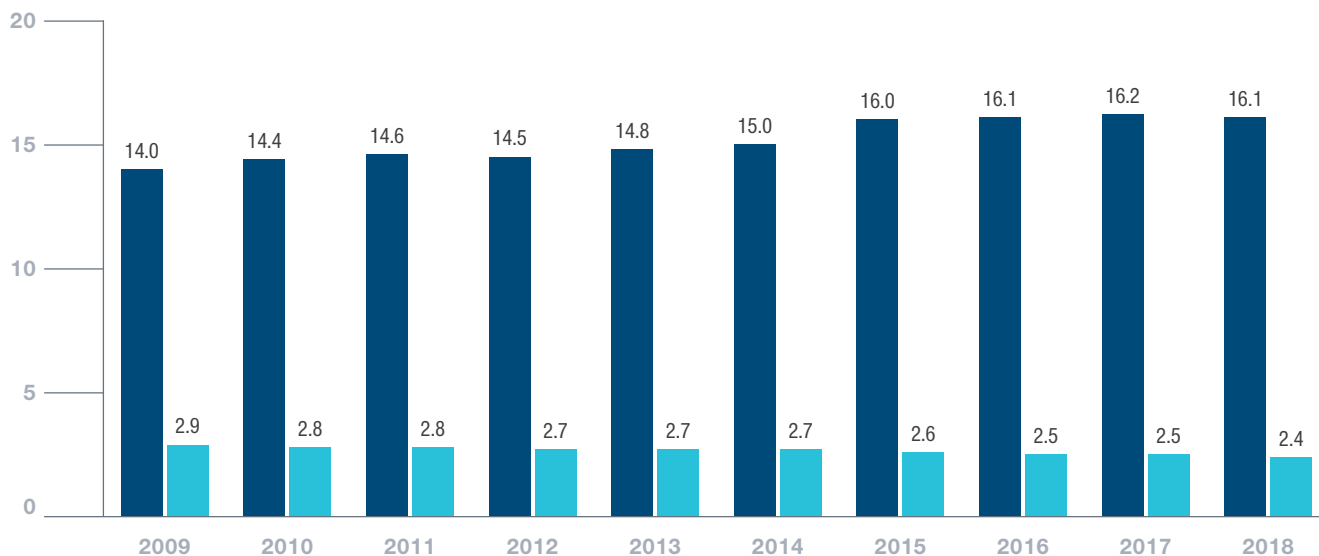
Numbers may not total 100% due to rounding.



The percentage of participants with their entire account balance in a target date product was 20% higher in 2018 than in 2014.



No. 7 AVERAGE NUMBER OF FUNDS



- Plan Level (fund options offered)
- Participant Level (fund options held)



No. 8 TYPES OF INVESTMENT OPTIONS OFFERED

	<1K Participants	1K–5K Participants	>5K Participants	2018 TRP Total
Stability				
Stable Value	77%	87%	84%	81%
U.S. Money Market	96	99	98	97
Fixed Income				
Emerging Markets Fixed Income	1	2	4	2
Global Fixed Income	15	15	9	14
High Yield Fixed Income	14	13	14	14
Inflation Linked	24	28	26	25
U.S. Fixed Income	97	100	100	98
Asset Allocation				
Aggressive Allocation	3	4	3	3
Allocation	3	4	5	4
Cautious Allocation	38	45	43	40
Convertibles	0	1	—	0
Flexible Allocation	1	1	—	0
Moderate Allocation	45	38	30	41
Target Date	93	98	96	95
U.S. Equity				
U.S. Equity Large-Cap	98	100	99	99
U.S. Equity Mid-Cap	88	91	86	89
U.S. Equity Small-Cap	91	95	91	92
International Equity				
Asia Equity	1	1	—	1
Asia ex-Japan Equity	3	1	1	2
Emerging Markets Equity	36	38	20	35
Europe Equity Large-Cap	2	1	1	2
Global Equity	13	10	21	13
Global Equity Large-Cap	96	99	94	96
Global Equity Mid-/Small-Cap	15	13	9	13
Japan Equity	1	—	1	1
Latin America Equity	2	1	1	2
Sector Funds				
Communications Sector Equity	2	5	5	3
Energy Sector Equity	1	1	3	1
Financials Sector Equity	1	1	3	1
Health Care Sector Equity	7	3	6	6
Industrials Sector Equity	0	—	—	0
Natural Resources Sector Equity	8	6	1	6
Precious Metals Sector Equity	1	1	—	1
Real Estate Sector Equity	27	28	24	27
Technology Sector Equity	17	8	9	13
Utilities Sector Equity	2	2	—	2
Commodities				
Commodities Broad Basket	1	3	—	1
Alternatives				
Multi-alternative	1	—	—	0

Note: Participant ranges define those plans where total participant counts fall within the specified ranges. Investment category labels were derived from recognized Morningstar categories.



No.9 TYPES OF INVESTMENT OPTIONS OFFERED

	<\$5M Assets	\$5M–\$50M Assets	\$50M–\$200M Assets	\$200M–\$1B Assets	\$1B+ Assets	2018 TRP Total
Stability						
Stable Value	50%	82%	84%	83%	80%	81%
U.S. Money Market	73	98	100	99	93	97
Fixed Income						
Emerging Markets Fixed Income	—	2	1	2	3	2
Global Fixed Income	8	17	13	12	7	14
High Yield Fixed Income	13	14	15	12	10	14
Inflation Linked	23	22	30	27	13	25
U.S. Fixed Income	81	100	100	100	100	98
Asset Allocation						
Aggressive Allocation	—	4	4	3	—	3
Allocation	2	2	4	4	7	4
Cautious Allocation	13	44	41	44	37	40
Convertibles	—	—	1	—	—	0
Flexible Allocation	—	0	0	1	—	0
Moderate Allocation	35	44	45	35	30	41
Target Date	77	97	96	97	93	95
U.S. Equity						
U.S. Equity Large-Cap	88	100	99	100	100	99
U.S. Equity Mid-Cap	65	93	91	91	73	89
U.S. Equity Small-Cap	71	95	93	95	87	92
International Equity						
Asia Equity	—	1	1	—	—	1
Asia ex-Japan Equity	4	3	2	1	3	2
Emerging Markets Equity	31	37	36	33	20	35
Europe Equity Large-Cap	6	1	1	1	3	2
Global Equity	13	15	11	11	30	13
Global Equity Large-Cap	83	96	99	99	90	96
Global Equity Mid-/Small-Cap	10	15	14	13	7	13
Japan Equity	4	1	0	—	3	1
Latin America Equity	4	2	1	—	3	2
Sector Funds						
Communications Sector Equity	2	3	3	4	7	3
Energy Sector Equity	2	1	1	1	3	1
Financials Sector Equity	2	0	1	—	7	1
Health Care Sector Equity	8	9	4	4	7	6
Industrials Sector Equity	—	0	—	—	—	0
Natural Resources Sector Equity	10	9	6	2	3	6
Precious Metals Sector Equity	2	1	1	—	—	1
Real Estate Sector Equity	10	35	28	21	17	27
Technology Sector Equity	15	20	11	7	10	13
Utilities Sector Equity	—	2	1	2	—	2
Commodities						
Commodities Broad Basket	2	1	1	2	—	1
Alternatives						
Multi-alternative	4	0	—	—	—	0

Note: Assets under management ranges define those plans where assets under management fall within the specified ranges. Investment category labels were derived from recognized Morningstar categories.



No.10 WHERE ASSETS ARE INVESTED

	<1K Participants	1K–5K Participants	>5K Participants	2018 TRP Total
Stability				
Stable Value	77%	87%	84%	81%
U.S. Money Market	96	99	98	97
Fixed Income				
Emerging Markets Fixed Income	1	2	4	2
Global Fixed Income	15	15	9	14
High Yield Fixed Income	14	13	14	14
Inflation Linked	24	28	26	25
U.S. Fixed Income	97	100	100	98
Asset Allocation				
Aggressive Allocation	3	4	3	3
Allocation	3	4	5	4
Cautious Allocation	38	45	43	40
Convertibles	0	1	—	0
Flexible Allocation	1	1	—	0
Moderate Allocation	45	38	30	41
Target Date	93	98	96	95
U.S. Equity				
U.S. Equity Large-Cap	98	100	99	99
U.S. Equity Mid-Cap	88	91	86	89
U.S. Equity Small-Cap	91	95	91	92
International Equity				
Asia Equity	1	1	—	1
Asia ex-Japan Equity	3	1	1	2
Emerging Markets Equity	36	38	20	35
Europe Equity Large-Cap	2	1	1	2
Global Equity	13	10	21	13
Global Equity Large-Cap	96	99	94	96
Global Equity Mid-/Small-Cap	15	13	9	13
Japan Equity	1	—	1	1
Latin America Equity	2	1	1	2
Sector Funds				
Communications Sector Equity	2	5	5	3
Energy Sector Equity	1	1	3	1
Financials Sector Equity	1	1	3	1
Health Care Sector Equity	7	3	6	6
Industrials Sector Equity	0	—	—	0
Natural Resources Sector Equity	8	6	1	6
Precious Metals Sector Equity	1	1	—	1
Real Estate Sector Equity	27	28	24	27
Technology Sector Equity	17	8	9	13
Utilities Sector Equity	2	2	—	2
Commodities				
Commodities Broad Basket	1	3	—	1
Alternatives				
Multi-alternative	1	—	—	0

Note: Participant ranges define those plans where total participant counts fall within the specified ranges. Investment category labels were derived from recognized Morningstar categories.



No. 11 WHERE ASSETS ARE INVESTED

	<\$5M Assets	\$5M–\$50M Assets	\$50M–\$200M Assets	\$200M–\$1B Assets	\$1B+ Assets	2018 TRP Total
Stability						
Stable Value	50%	82%	84%	83%	80%	81%
U.S. Money Market	73	98	100	99	93	97
Fixed Income						
Emerging Markets Fixed Income	—	2	1	2	3	2
Global Fixed Income	8	17	13	12	7	14
High Yield Fixed Income	13	14	15	12	10	14
Inflation Linked	23	22	30	27	13	25
U.S. Fixed Income	81	100	100	100	100	98
Asset Allocation						
Aggressive Allocation	—	4	4	3	—	3
Allocation	2	2	4	4	7	4
Cautious Allocation	13	44	41	44	37	40
Convertibles	—	—	1	—	—	0
Flexible Allocation	—	0	0	1	—	0
Moderate Allocation	35	44	45	35	30	41
Target Date	77	97	96	97	93	95
U.S. Equity						
U.S. Equity Large-Cap	88	100	99	100	100	99
U.S. Equity Mid-Cap	65	93	91	91	73	89
U.S. Equity Small-Cap	71	95	93	95	87	92
International Equity						
Asia Equity	—	1	1	—	—	1
Asia ex-Japan Equity	4	3	2	1	3	2
Emerging Markets Equity	31	37	36	33	20	35
Europe Equity Large-Cap	6	1	1	1	3	2
Global Equity	13	15	11	11	30	13
Global Equity Large-Cap	83	96	99	99	90	96
Global Equity Mid-/Small-Cap	10	15	14	13	7	13
Japan Equity	4	1	0	—	3	1
Latin America Equity	4	2	1	—	3	2
Sector Funds						
Communications Sector Equity	2	3	3	4	7	3
Energy Sector Equity	2	1	1	1	3	1
Financials Sector Equity	2	0	1	—	7	1
Health Care Sector Equity	8	9	4	4	7	6
Industrials Sector Equity	—	0	—	—	—	0
Natural Resources Sector Equity	10	9	6	2	3	6
Precious Metals Sector Equity	2	1	1	—	—	1
Real Estate Sector Equity	10	35	28	21	17	27
Technology Sector Equity	15	20	11	7	10	13
Utilities Sector Equity	—	2	1	2	—	2
Commodities						
Commodities Broad Basket	2	1	1	2	—	1
Alternatives						
Multi-alternative	4	0	—	—	—	0

Note: Participant ranges define those plans where total participant counts fall within the specified ranges. Investment category labels were derived from recognized Morningstar categories.

Reference Point

T. Rowe Price Defined Contribution Plan Data

As of December 31, 2018

Loan and Disbursement Behavior

Percentage of Cash-Outs Increases Substantially

From 2011 to 2017, the percentage of participants who took a cash-out distribution instead of a rollover was on the decline. That trend ended in 2018, when cash-outs increased by 36% from 2017 to 2018.

LOAN USAGE—A SIX-YEAR LOW

In 2018, 22.5% of participants had outstanding loan balances, down from the six-year high of 24.9% in 2013—a reduction of nearly 10%. In contrast, plan adoption of loans increased to 88.9%, up from 87.2% in 2017. Loan availability increased in nine of the past 10 years.

The reduction in loan usage, despite the greater availability, may indicate the impact of large numbers of younger employees entering the workforce. Younger millennials (and post-millennials) tend to have lower account balances.

\$9,351

average loan balance in 2018
up from \$9,184 in 2017

UPTICK IN CASH-OUTS

The percentage of participants who took a cash-out distribution increased to 26% in 2018 after holding steady at 19% in 2016 and 2017. Cash-outs were particularly high for those ages 30–39, who carry a relatively sizable \$37,000 average account balance. Participants ages 50–59 and 65–69 also took cash-outs in greater numbers while cash-outs for those ages 70+ increased by a full 10% from 2017 to 2018.



2018 Insights

- Loan usage continues to drop, although average loan balances and the percentage of plans offering loans increased in 2018.
- There was a significant increase in the percentage of participants who took a cash-out distribution, especially among those ages 30–39.

There was no primary cause for the increase in cash-out distributions. However, contributing factors may have included 2018's market volatility, potential increases in distributions of small account balances, or poor decision-making by participants.

HARDSHIPS FALL AGAIN

The percentage of participants who took a hardship withdrawal fell for the ninth straight year, down from 1.9% in 2010 to 1.3% in 2018. But as with outstanding loans, the average amount of hardship withdrawals increased to \$7,080 in 2018, up slightly from 2017 and up from the 10-year low of \$5,628 in 2009.

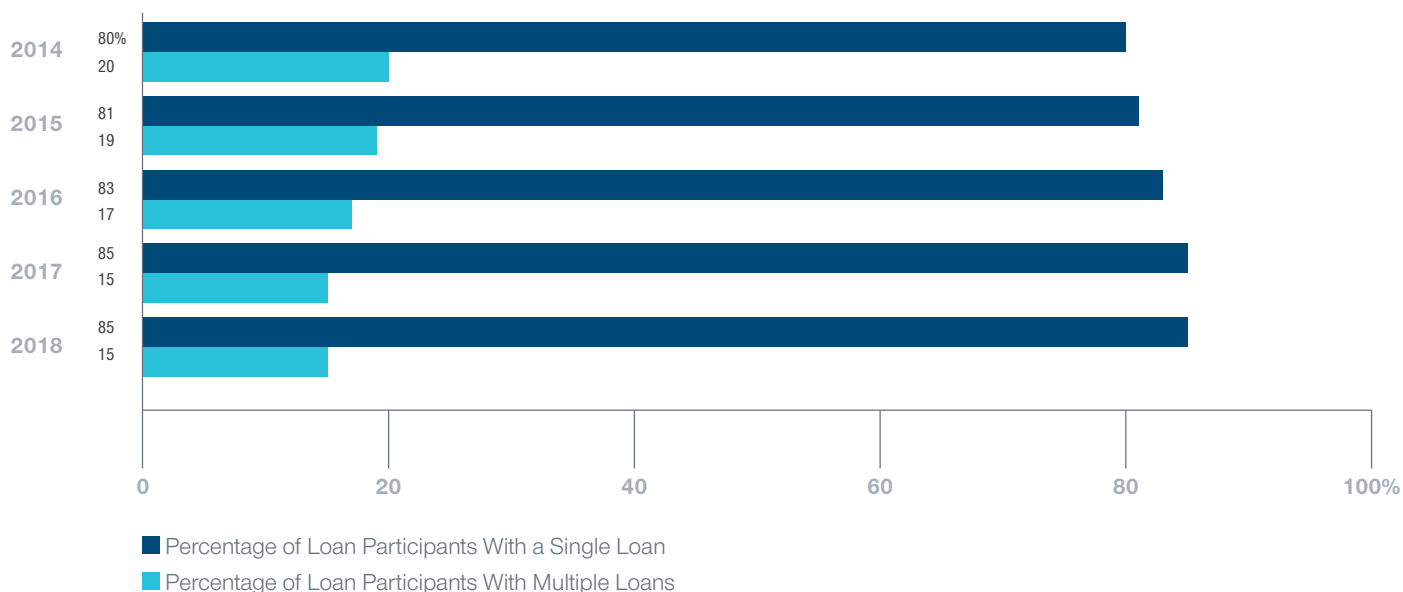
No. 1 LOANS

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Percentage of Plans That Permit Loans	82.9%	83.6%	83.2%	84.3%	86.5%	87.3%	87.0%	87.1%	87.2%	88.9%
Average Participant Loan Balance	\$7,522	\$7,677	\$7,933	\$8,098	\$8,438	\$8,831	\$9,075	\$9,037	\$9,184	\$9,351
Percentage of Participants With Loans	22.3%	24.3%	24.7%	24.3%	24.9%	24.7%	24.3%	23.8%	23.4%	22.5%



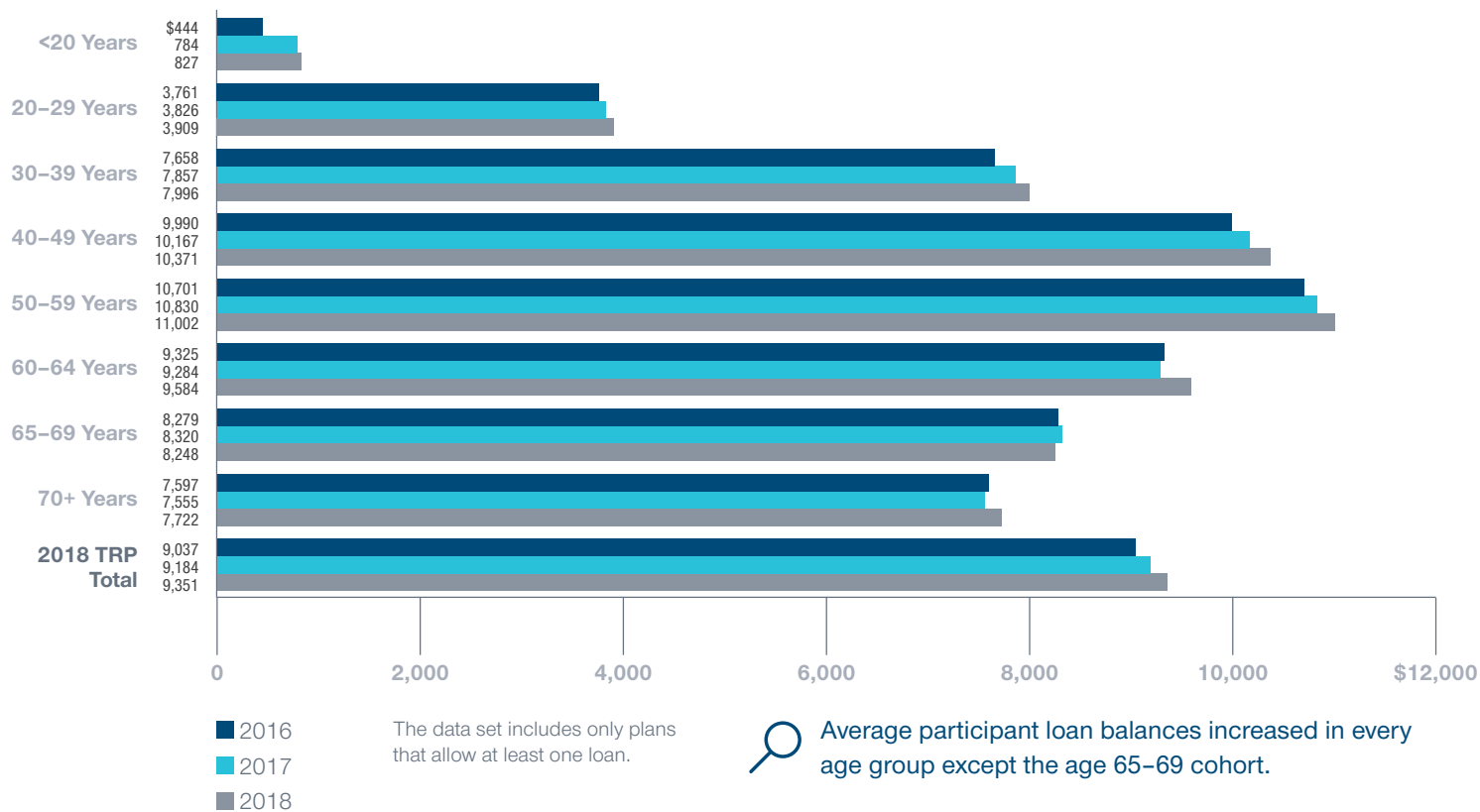
The percentage of participants with a loan fell for the fifth straight year, despite an increase in the percentage of plans that permit loans.

No. 2 PERCENTAGE OF PARTICIPANTS WITH LOANS—SINGLE VS. MULTIPLE



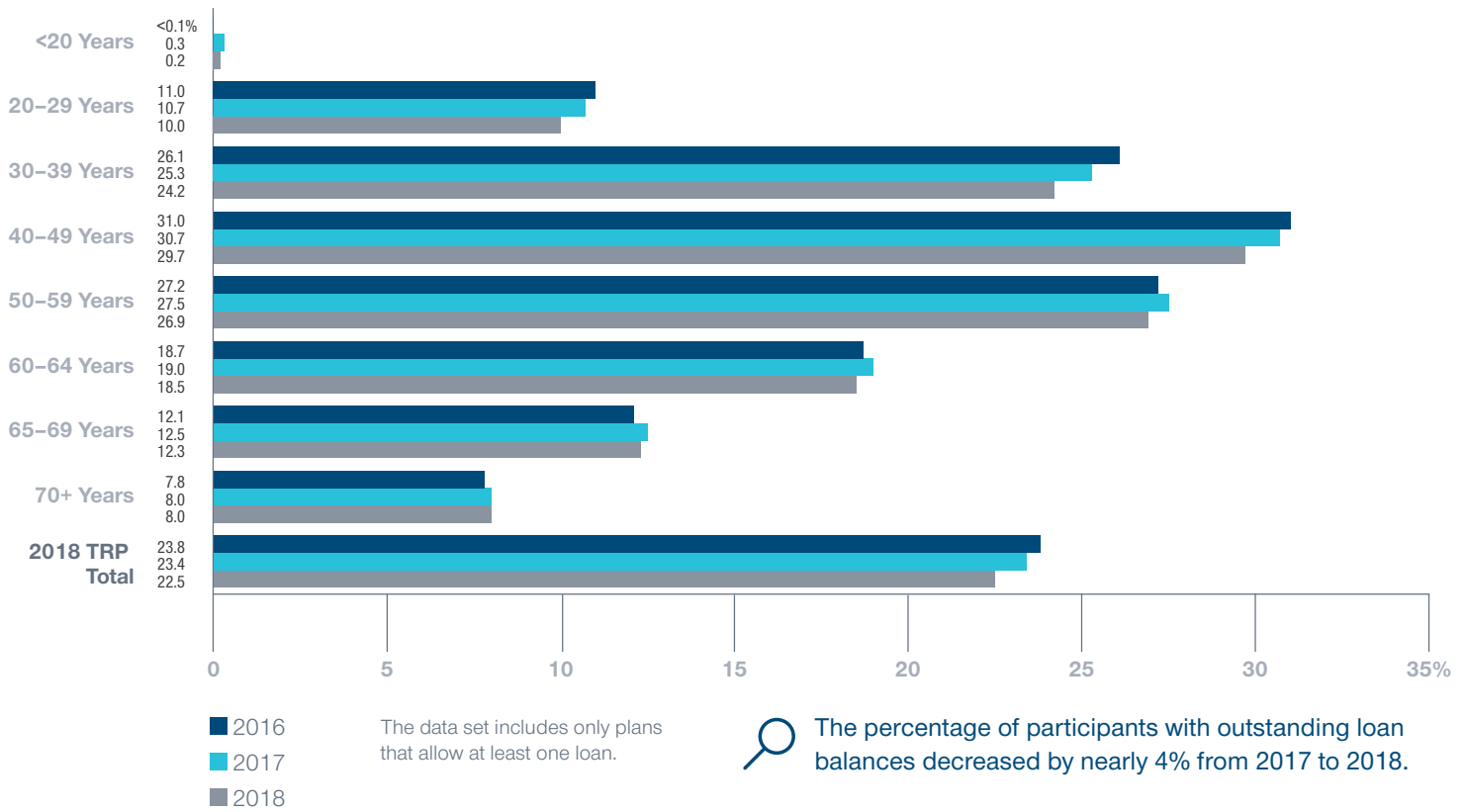


No.3 AVERAGE PARTICIPANT LOAN BALANCES—BY AGE

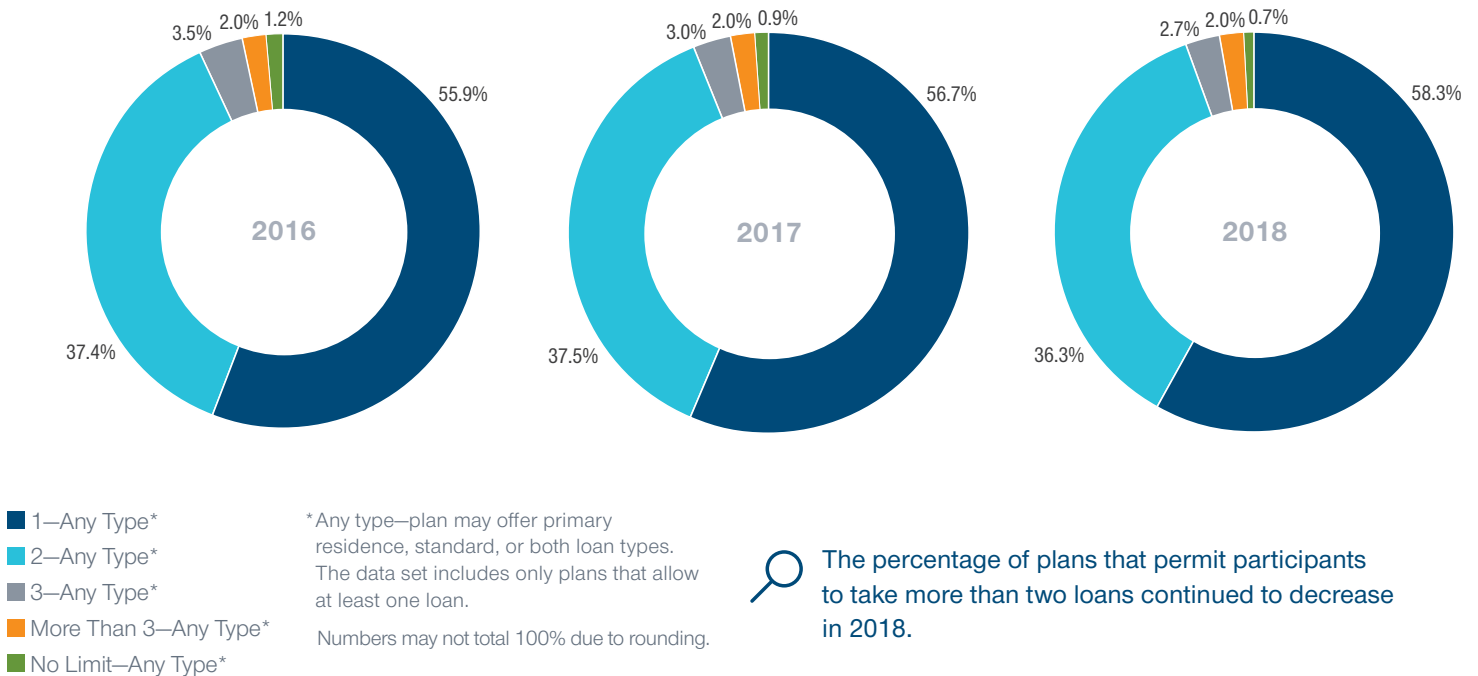




No. 4 PERCENTAGE OF PARTICIPANTS WITH OUTSTANDING LOANS—BY AGE

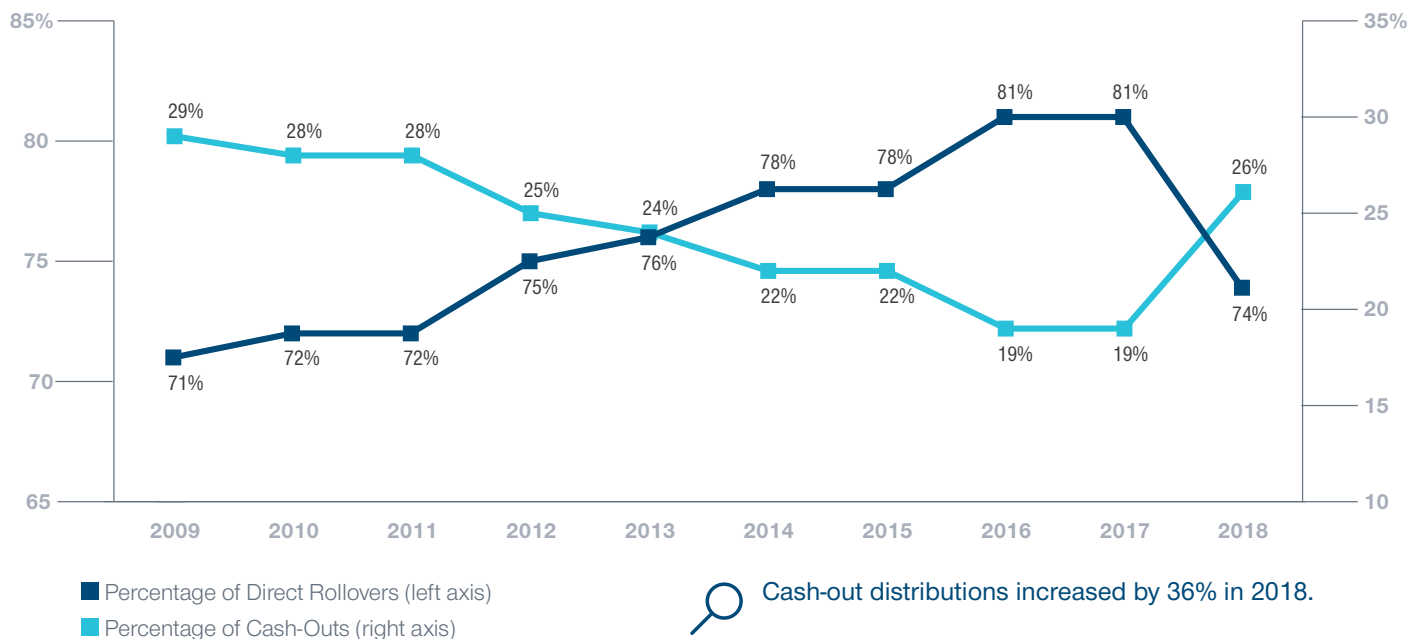


No. 5 MAXIMUM NUMBER OF LOANS ALLOWED

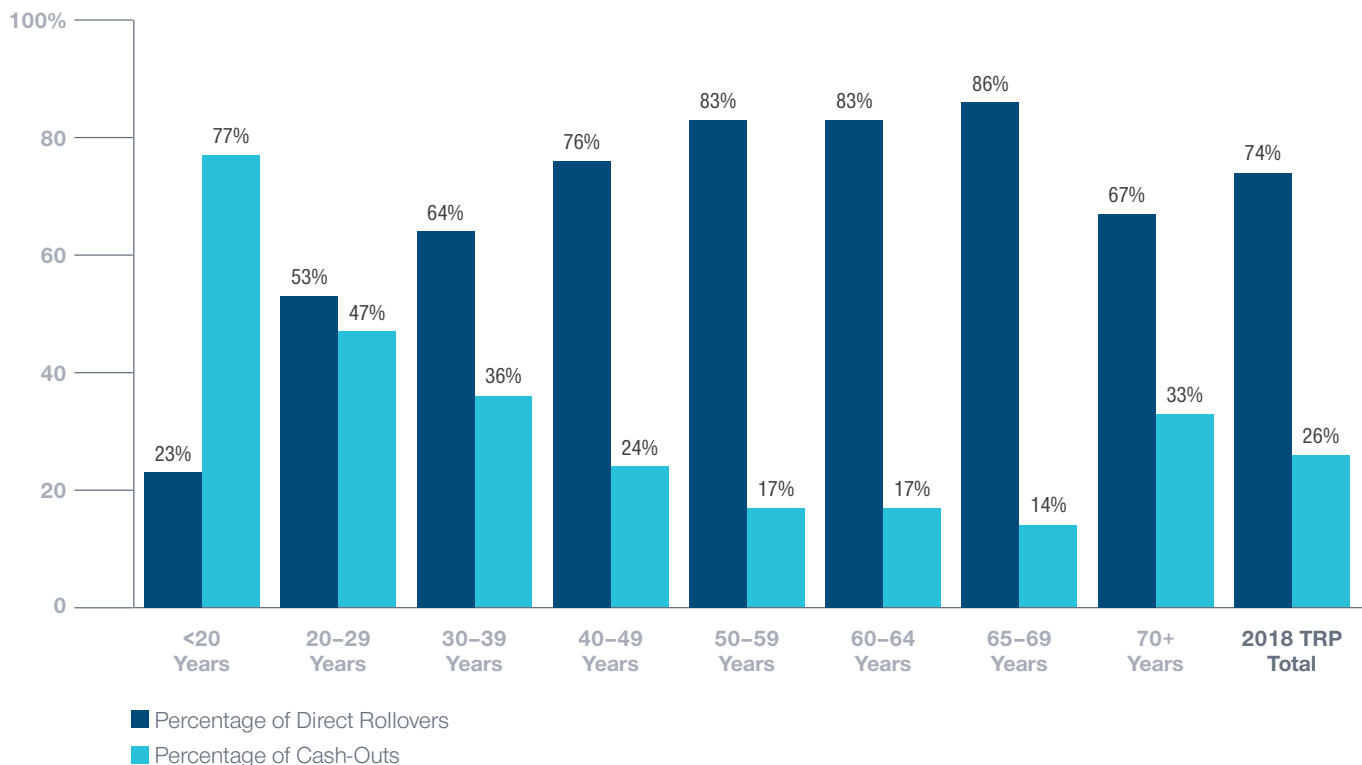




No. 6 PARTICIPANT DISTRIBUTIONS—DIRECT ROLLOVERS VS. CASH-OUTS

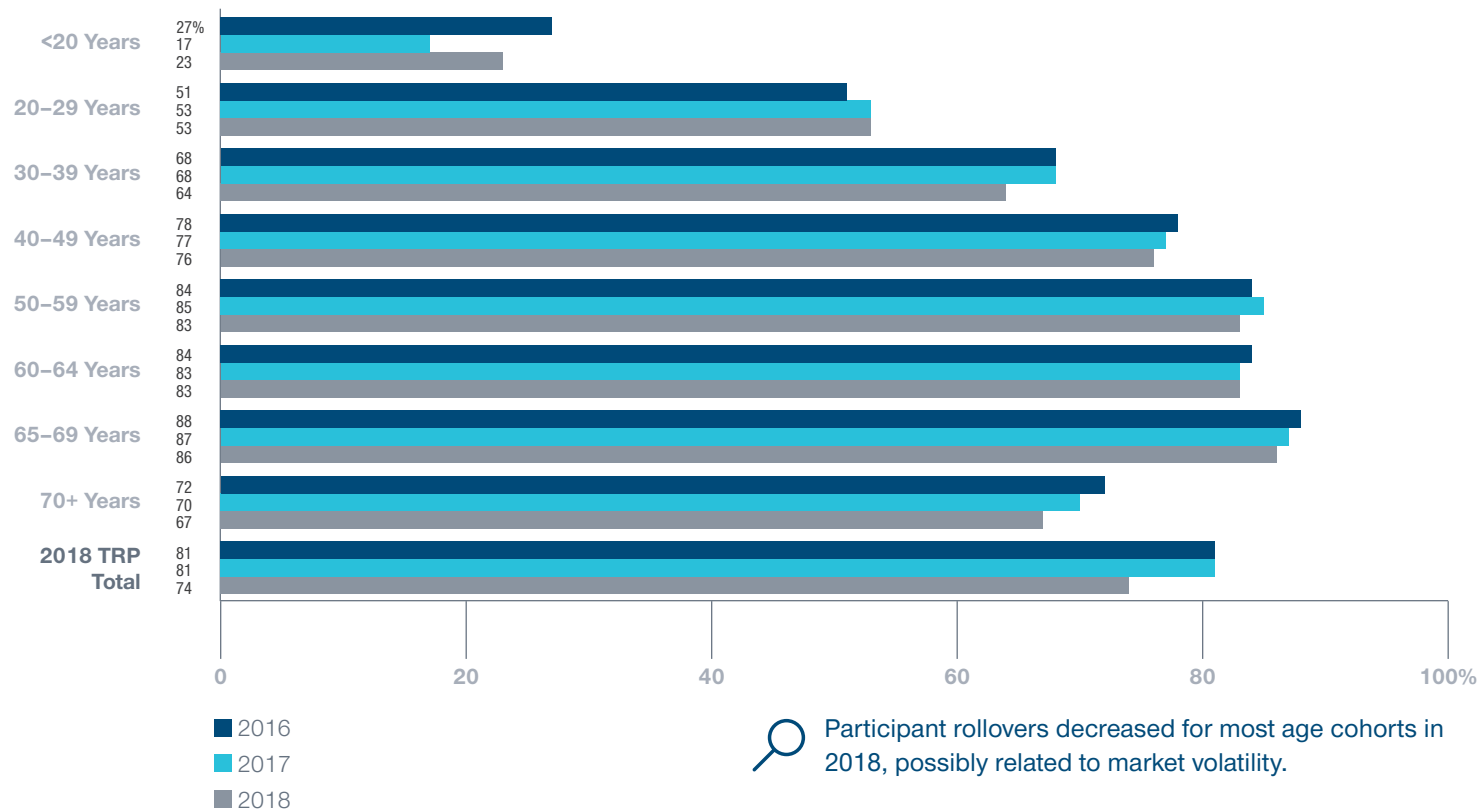


No. 7 PARTICIPANT DISTRIBUTIONS—BY AGE



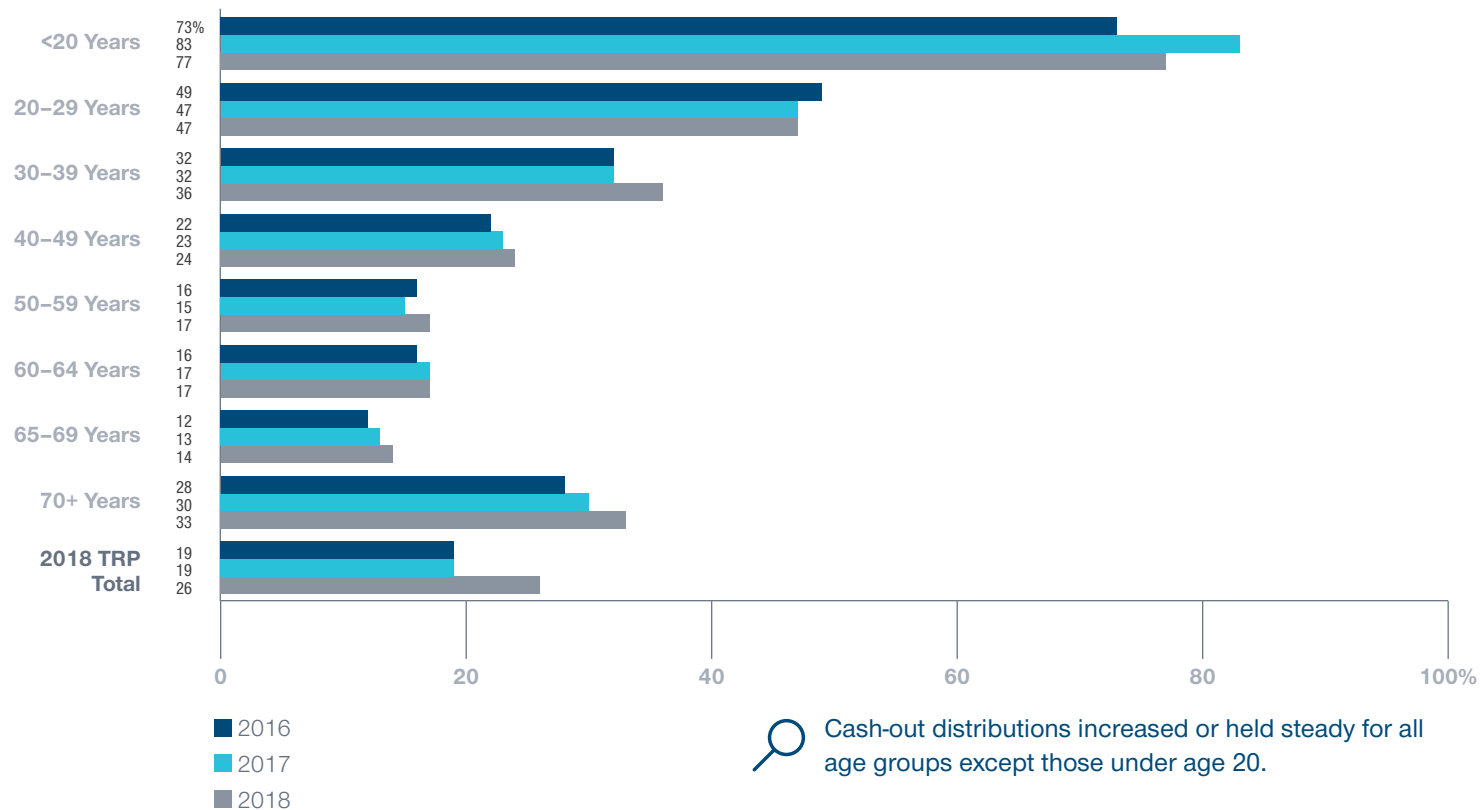


No.8 **PERCENT OF PARTICIPANT ROLLOVERS COMPARISON—BY AGE**





No.9 **PERCENT OF PARTICIPANT CASH-OUTS COMPARISON—BY AGE**





No. 10 **HARDSHIP WITHDRAWALS**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Percentage of Participants Taking Hardship Withdrawals	1.8%	1.9%	1.9%	1.7%	1.7%	1.6%	1.4%	1.4%	1.4%	1.3%
Percentage of Plans That Allow Hardship Withdrawals	—	—	—	—	71	73	72	69	70	72
Average Hardship Withdrawal Amount	\$5,628	\$5,905	\$5,632	\$5,703	\$5,810	\$6,469	\$6,685	\$6,923	\$7,059	\$7,080



While cash-out distributions increased sharply, hardship withdrawals fell again in 2018. The trend may indicate an increase in overall turnover, as the younger cohorts grow in size and cash out rather than roll over their savings.

Methodology

Unless otherwise noted, all data included in this report are drawn from the following sources: Data are based on the large-market, full-service universe—TRP Total—of T. Rowe Price Retirement Plan Services, Inc., retirement plans (401(k) and 457 plans), consisting of 657 plans and over 1.8 million participants.

Auto-enrollment, auto-increase, and default deferral rate results are based on participants of large-market, full-service 401(k) and 457 plans who were automatically enrolled in their plan during 2018. Trend results are based on findings at the calendar year-end from 2009–2018.

Auto-Reenrollment—An automatic reenrollment for participants who opted not to participate in their plan. This is run on-demand and could occur about once a year.

Auto-Restart—For participants who were contributing to their plan and have taken a hardship, once the suspension period is over, participants will have their contributions automatically restarted unless they opt out.

Auto-Rebalance—Provides participants with the tools they need to maintain a consistent investment strategy. If they are not investing 100% of their account in a diversified fund, auto-rebalance will automatically rebalance their account on a periodic basis (i.e., quarterly or annually).

Participation rates by age are participant weighted (total number of participants divided by the total number eligible to participate). Participant-weighted year-over-year participation rate averages are calculated by dividing the number of participants by the number eligible to participate. The plan-weighted year-over-year participation rate average is the sum of plan-level averages divided by the number of plans.

The data are based on any participants eligible to make contributions during the period. Participation results are based on all contributions. Participation rates by age are participant weighted (total number of participants divided by the total number eligible to participate).

This report sometimes treats percentage point increases/decreases as percentage changes to communicate a change in measurement.

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Methodology

Unless otherwise noted, all data included in this report are drawn from the following sources: Data are based on the large-market, full-service universe—TRP Total—of T. Rowe Price Retirement Plan Services, Inc., retirement plans (401(k) and 457 plans), consisting of 657 plans and over 1.8 million participants.

Employee and employer contributions are based on plans with contributions during the calendar years ended December 31, 2009, through December 31, 2018. Employer contributions include all types of employer money, such as matching contributions, discretionary contributions, and retirement contributions. Match percentages are the maximum percentage of participant contributions that a company will match. Company vesting percentages shown are an aggregated count of those plans and plan locations that have identifiable vesting schedules for reporting purposes.

Deferral results are based on employee pretax deferral percentages greater than zero for eligible participants over various time periods from calendar years ended December 31, 2009, through December 31, 2018. Average deferral by age is participant weighted (total of all participant deferral percentages divided by the total number of participants with a deferral percentage).

Catch-up contribution results for participant age breakdowns are based on the number of participants who made catch-up contributions during the various calendar year periods ended December 31, 2009, through December 31, 2018. These data capture the number of eligible participants over age 50 in plans that offer catch-up contributions.

Results for participant age breakdowns are based on the number of participants who made Roth contributions during the calendar year periods ended December 31, 2009, through December 31, 2018. These data capture the number of eligible participants in plans that offer Roth contributions at each calendar year-end from December 31, 2009, through December 31, 2018.

Roth qualified distribution—A qualified distribution is tax-free if taken at least five years after the year of the first Roth contribution and if the participant has reached age 59½, become totally disabled, or died. If the distribution is not qualified, any earnings withdrawn will be taxable. These rules apply to Roth distributions only from employer-sponsored retirement plans. Additional plan distribution rules apply. Participants are encouraged to consult with their tax advisor when determining if Roth contributions are right for them.

This report sometimes treats percentage point increases/decreases as percentage changes to communicate a change in measurement.

Methodology

Unless otherwise noted, all data included in this report are drawn from the following sources: Data are based on the large-market, full-service universe—TRP Total—of T. Rowe Price Retirement Plan Services, Inc., retirement plans (401(k) and 457 plans), consisting of 657 plans and over 1.8 million participants.

Loan availability and usage results are based on active participants with outstanding loan balances at calendar years ended December 31, 2009, through December 31, 2018. Participant loans are limited to plans that offer loans. Hardship withdrawal data represent all hardship withdrawals from qualified 401(k) and 457 plan types at calendar years ended December 31, 2009, through December 31, 2018.

Distribution data represent all distributions and hardship withdrawals from qualified 401(k) and 457 plan types for various time periods from calendar years ended December 31, 2009, through December 31, 2018. The rollover/cash-out percentage is based on the amount of assets cashed out or rolled out of a retirement plan account for any participant, including both active and terminated, during the calendar year ended December 31, 2018.

This report sometimes treats percentage point increases/decreases as percentage changes to communicate a change in measurement.



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