

S&P 500 Risk Control 10% 1-Year Index Analysis

With a fixed-indexed annuity from MassMutual Ascend Life Insurance Company, you can allocate funds to 1-year term indexed strategies that credit interest based on the S&P 500 Risk Control 10% Index. This index provides access to the S&P 500 Index while limiting its risk exposure. Let's take a closer look.

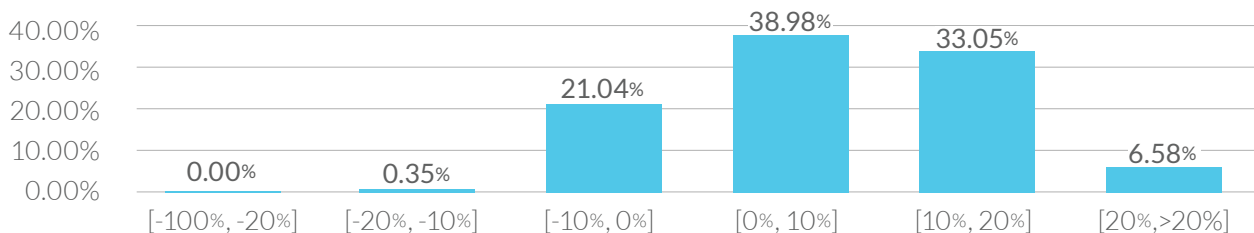
S&P 500 Risk Control 10% returns using rolling periods

The data below uses 1-year rolling returns¹ of the S&P 500 Risk Control 10% Index from December 31, 2013 through December 31, 2025, for a total of 2,871² observations.

Average Performance			Positive Performance		Negative Performance	
Average Return	Average Gain	Average Loss	Maximum Return ³	Num of Gains	Minimum Return ⁴	Num of Losses
7.35%	10.62%	-4.68%	30.12%	2,257 (79%)	-10.59%	608 (21%)

S&P 500 Risk Control 10% return distribution

Using the same data set and assumptions, the return distribution graph below illustrates how frequently the annualized returns fell into specific ranges. The table below the graph shows the average return by range.



Return Range	[-100%, -20%]	[-20%, -10%]	[-10%, 0%]	[0%, 10%]	[10%, 20%]	[20%, >20%]
Average S&P 500 Risk Control 10% Return by Range	N/A	-10.32%	-4.54%	4.83%	15.00%	22.88%

¹1-year rolling returns refers to every 1-year period that started on a business day after December 30, 2013 and ended before January 1, 2026.

²Four flat years, in which the S&P 500 Risk Control 10% return was 0%, is included in the number of total observations.

³Maximum return: 1-year period ending 10/29/2024

⁴Minimum return: 1-year period ending 11/9/2022

**MassMutual Ascend offers several fixed-indexed annuities,
which offer upside potential and complete downside
protection. Annuities also offer benefits such as tax deferral
and guaranteed lifetime income. Talk with your financial
professional about how an annuity can fit into your portfolio
and help you reach your goals.**

The S&P 500 Risk Control 10% Index refers to the S&P 500 Average Daily Risk Control 10% USD Price Return Index. The launch date of this index was April 4, 2013. Indexed strategies are based on the price change of the index during the term. Returns are limited by a cap or participation rate.

Annuities are long-term investments and may not be suitable for all investors. Withdrawals from an annuity contract may have tax consequences.

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Principal Underwriter/Distributor: MM Ascend Life Investor Services, LLC, member FINRA and an affiliate of MassMutual Ascend.

Annuities issued by MassMutual Ascend Life Insurance CompanySM (Cincinnati, Ohio), a wholly owned subsidiary of Massachusetts Mutual Life Insurance Company (MassMutual) under contract forms P1074514NW, P1074514ID, P1074514OR, ICC25-P1470025NW, ICC21-P1152121NW, ICC21-P1476721NW, P1140119NW, P1140119ID, P1140119OR, P1140219NW, P1140219ID, P1140219OR, P1110416NW, P1110416ID, P1110416OR, ICC25-P1178825NW, P1129918NW, P1129918ID, P1129918OR, P1146620NW, P1146620ID, P1146620OR, ICC21-P1152021NW, ICC20-P1144420NW, ICC20-P1144420NW-NoMVA, ICC20-P1144520NW, ICC20-P1144520NW-NoMVA, ICC20-P1474420NW, and ICC20-P1474420NW-NoMVA. Form numbers may vary by state. Products and features may vary by state. Not available in all states.

All guarantees subject to the claims-paying ability of MassMutual Ascend Life Insurance Company.

This content does not apply in the state of New York.

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