



Managing Market Volatility

With an Index Frontier registered index-linked annuity
from MassMutual Ascend Life Insurance Company

The Index Frontier® registered index-linked annuities from MassMutual Ascend let you take advantage of market growth while receiving a level of protection if the market declines. These solutions offer indexed strategies with two types of protection – a buffer or a floor – and are linked to external indexes, like the S&P 500®.

The following example uses historical performance of the S&P 500 price return index (SPX) to show hypothetical annual returns of the following strategies:

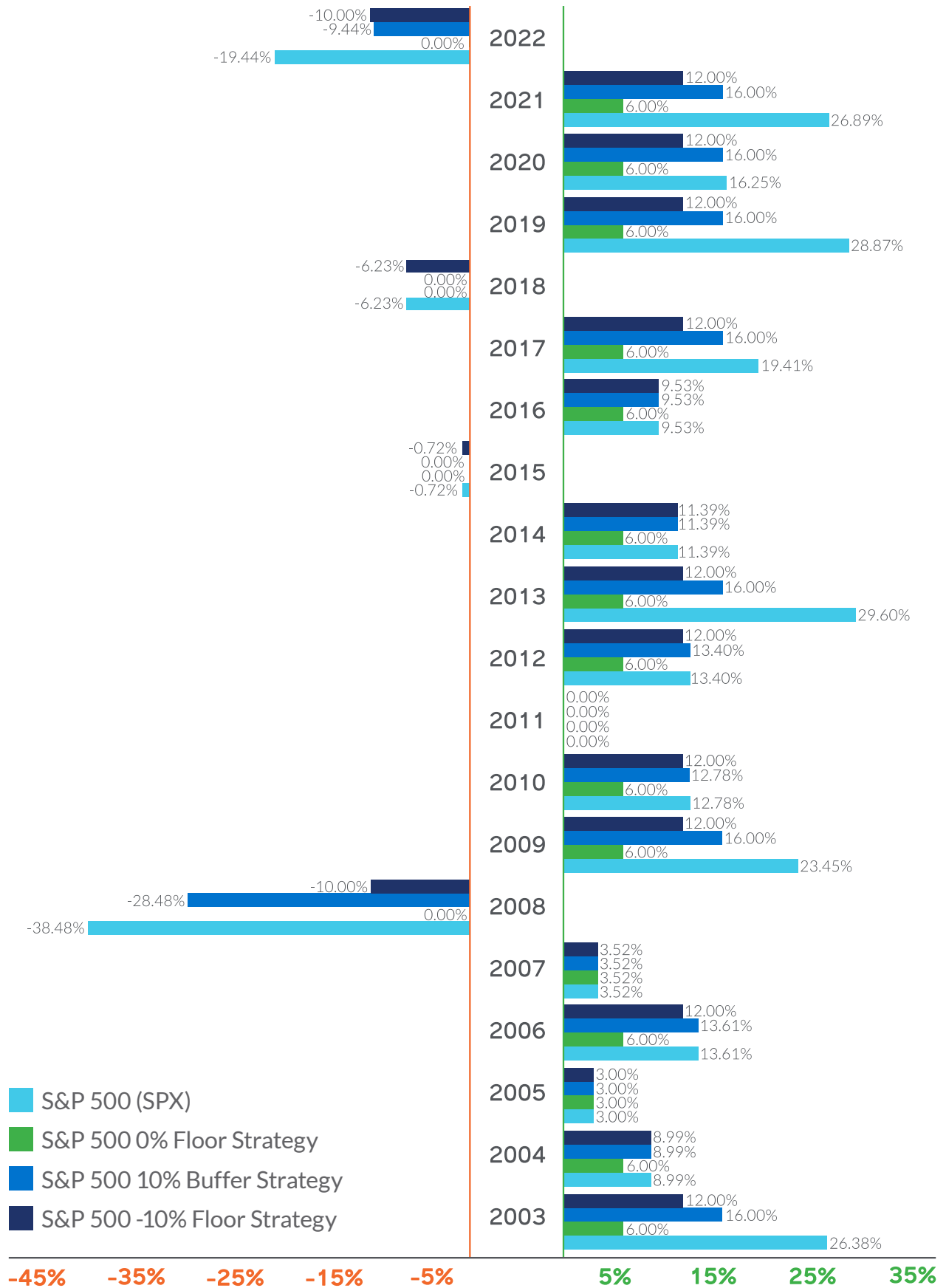
- S&P 500 1-Year 10% Buffer with Cap strategy with a 16% cap
- S&P 500 1-Year -10% Floor with Cap strategy with a 12% cap
- S&P 500 1-Year 0% Floor with Cap strategy with a 6% cap

The Index Frontier was first offered in March 2018. The hypothetical example on the following page is intended to demonstrate how buffer and floor strategies work, and assumes these caps applied for the entire 20-year period and that no withdrawals were made.

IMPORTANT INFORMATION ABOUT THIS EXAMPLE

- Different assumptions would lead to different results. Past performance does not guarantee future results. Performance can vary significantly over time.
- Strategy values shown are based on hypothetical performance for one-year terms ending on December 31. Actual terms begin on the 6th and 20th of each month, meaning values for such terms could differ from those shown in this example.
- Caps are set at the start of each term and are subject to change. Since inception, historical caps for 1-year S&P 500 strategies on this product varied from term to term and ranged from 2.10% to 26%.
- Before the end of a term, any strategy value increase is limited by the cap and a vesting factor.
- Under the best circumstances in an increasing market, you would be credited the cap each term. Under the worst circumstances in a decreasing market, you would lose 10% of your money in a -10% floor strategy and 90% of your money in the buffer strategy at the end of each term. The floor or buffer for a strategy will not change.
- Early withdrawal charges will apply if money is withdrawn during the early withdrawal charge period and will reduce contract values. 5 and 7-year early withdrawal charge periods are available.
5-year declining: 8%, 7%, 6%, 5%, 4%
7-year declining: 8%, 7%, 6%, 5%, 4%, 3%, 2%
- A withdrawal before the end of a term may have a positive or negative impact on the strategy value at the end of the term, which may be significant.
- When you buy a registered index-linked annuity, you own an insurance contract. You are not buying shares of any stock or index. You cannot invest directly in an index.
- The S&P 500 price return index (SPX) does not include dividends on the underlying stocks.

	S&P 500 (SPX)	S&P 500 0% Floor	S&P 500 10% Buffer	S&P 500 -10% Floor
2022	-19.44%	0.00%	-9.44%	-10.00%
2021	26.89%	6.00%	16.00%	12.00%
2020	16.25%	6.00%	16.00%	12.00%
2019	28.87%	6.00%	16.00%	12.00%
2018	-6.23%	0.00%	0.00%	-6.23%
2017	19.41%	6.00%	16.00%	12.00%
2016	9.53%	6.00%	9.53%	9.53%
2015	-0.72%	0.00%	0.00%	-0.72%
2014	11.39%	6.00%	11.39%	11.39%
2013	29.60%	6.00%	16.00%	12.00%
2012	13.40%	6.00%	13.40%	12.00%
2011	0.00%	0.00%	0.00%	0.00%
2010	12.78%	6.00%	12.78%	12.00%
2009	23.45%	6.00%	16.00%	12.00%
2008	-38.48%	0.00%	-28.48%	-10.00%
2007	3.52%	3.52%	3.52%	3.52%
2006	13.61%	6.00%	13.61%	12.00%
2005	3.00%	3.00%	3.00%	3.00%
2004	8.99%	6.00%	8.99%	8.99%
2003	26.38%	6.00%	16.00%	12.00%
AVG	9.11%	4.22%	7.51%	6.47%



IN TERMS WHEN THE S&P 500 WAS UP,
**the strategy values would
have increased, up to the cap.**

IN TERMS WHEN THE S&P 500 WAS DOWN,
**the 10% buffer and -10% floor
strategy values would have declined.
Funds in the 0% floor strategy would
have stayed protected.**

MassMutual Ascend's registered index-linked annuities can only be sold through a Broker/Dealer that is contracted with MassMutual Ascend Life Insurance Company.

This material must be preceded or accompanied by a prospectus. To obtain a copy of the prospectus, please visit [MassMutualAscend.com/RILArates](https://www.MassMutualAscend.com/RILArates).

In the Index Frontier contract and prospectus, a cap is referred to as a maximum gain and a floor is referred to as a maximum loss.

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

Index Frontier annuities also offer 0% floor and -10% floor strategies that calculate gains and losses based on the performance of certain exchange-traded funds. Hypothetical values for those strategies could be higher or lower than those shown in this example.

For purposes of this example, the investment in the stocks that make up the S&P 500 index is assumed to be an IRA so that the dividends, gains and losses over the period of comparison are tax-deferred. For most stock investments outside of a retirement plan, dividends are subject to income tax at capital gains rates when paid, and long-term capital gains are subject to income tax at capital gains rates when the stock is sold. For annuity contracts, income earned on the contract is subject to income tax as ordinary income when withdrawn. If you are under age 59½, the taxable amount may also be subject to a 10% federal penalty tax. Generally, income tax rates on ordinary income are higher than capital gains tax rates on long-term capital gains and qualified dividend income.

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