

S&P 500 5-Year Index Analysis

With a fixed-indexed or registered index-linked annuity from MassMutual Ascend Life Insurance Company, you can allocate funds to 5-year term indexed strategies that earn returns based on the S&P 500 Index. This index includes stocks issued by 500 of the top companies in leading industries in the U.S. economy. Let's take a closer look.

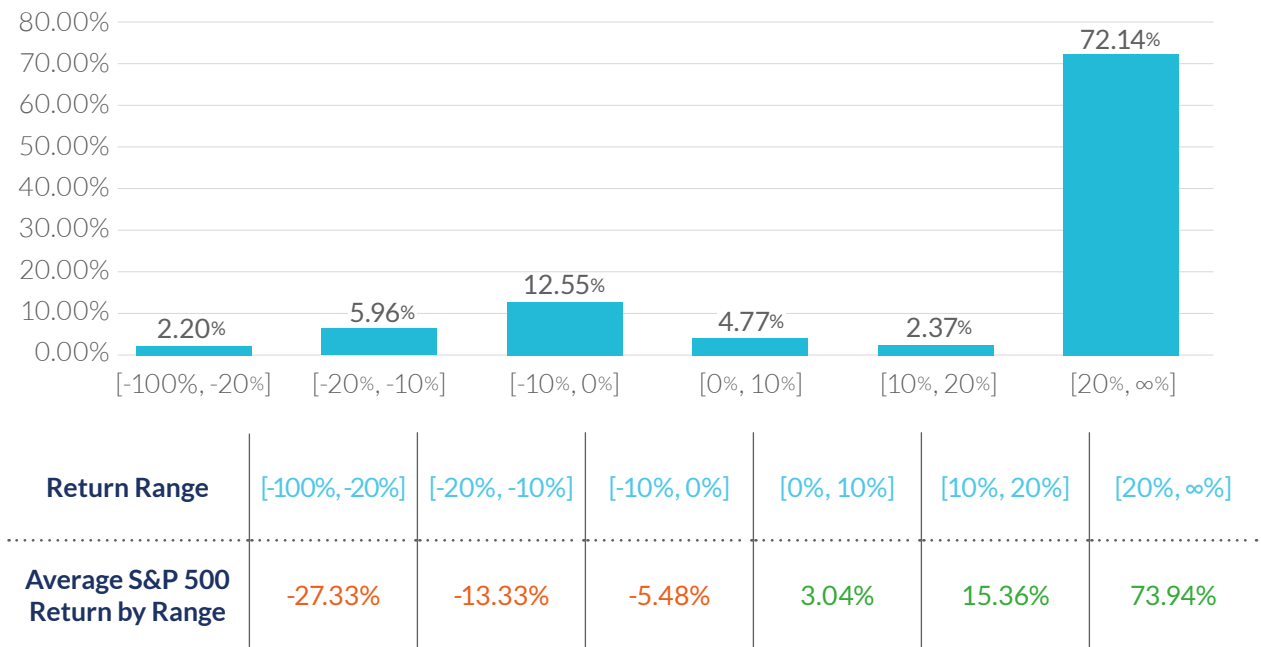
S&P 500 returns using rolling periods

The data below uses 5-year rolling returns¹ of the S&P 500 price return index (SPX) from December 31, 2004 through December 31, 2024, for a total of 4,175² 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
51.76%	67.93%	-10.06%	174.75%	3,310 (79.28%)	-41.00%	604 (14.47%)

S&P 500 return distribution

Using the same data set and assumptions, the return distribution graph below illustrates how frequently the 5-year returns fell into specific ranges. The table below the graph shows the average return by range.



MassMutual Ascend first offered annuities with 5-year S&P 500 indexed strategies in May 2024.

¹5-year rolling returns refers to every 5-year period that started on a business day after December 30, 2004 and ended before January 1, 2025.

²Zero flat 5-year periods, in which the S&P 500 return was 0%, are included in the number of total observations.

³Maximum return: 5-year period ending 3/7/2014

⁴Minimum return: 5-year period ending 3/5/2009

Not a bank or credit union deposit or obligation • Not FDIC or NCUA-Insured • Not insured by any federal government agency
May lose value • Not guaranteed by any bank or credit union

MassMutual Ascend offers several types of annuities, which have varying levels of upside potential and 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.

MassMutual Ascend's registered index-linked annuities can only be sold through a Broker/Dealer that is contracted with MassMutual AscendSM. This material must be preceded or accompanied by a prospectus. To obtain a copy of the prospectus, please visit MassMutualAscend.com/RILArates.

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

The "S&P 500[®] Index" is a product of S&P Dow Jones Indices LLC or its affiliates ("SPDJI") and has been licensed for use by MassMutual Ascend Life Insurance Company. S&P[®], S&P 500[®], US 500, The 500, iBoxx[®], iTraxx[®] and CDX[®] are trademarks of S&P Global, Inc. or its affiliates ("S&P"); Dow Jones[®] is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones") and these trademarks have been licensed for use by SPDJI and sublicensed for certain purposes by MassMutual Ascend Life Insurance Company. MassMutual Ascend Life Insurance Company's products are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates, and none of such parties make any representation regarding the advisability of investing in such products nor do they have any liability for any errors, omissions, or interruptions of the S&P 500[®] Index.

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 ICC20-P1144420NW, ICC20-P1144420NW-NoMVA, ICC20-P1144520NW, ICC20-P1144520NW-NoMVA, ICC20-P1474420NW, ICC20-P1474420NW-NoMVA, ICC21-P1152021NW, ICC21-P1152121NW, ICC21-P1476721NW, P1074514NW, P1074514ID, P1080010NW, P1080010ID, P1110416NW, P1110416ID, P1112916NW, P1112916ID, P1113516NW, P1113516ID, P1126818NW, P1126818ID, P1129918NW, P1129918ID, P1129918NW-NoMVA, P1129918ID-NoMVA, P1134618NW, P1134618ID, P1134618NW-NoMVA, P1134618ID-NoMVA, P1135619NW, P1135619ID, P1140119NW, P1140119ID, P1140219NW, P1140219ID, P1146620NW, P1146620ID, P1470017NW, P1470017ID, P1470218NW, P1470218ID, P1471718NW, P1471718ID, P1822217NW, P1822217ID, P1822317NW, P1822317ID, P1825218NW, P1825218ID, P1833421NW, P1833421ID, P1833521NW, P1833521ID, P1833621NW, P1833621ID, P1841622NW, P1841622ID, P1841722NW and P1841722ID. Contract form numbers may vary by state. All guarantees subject to the claims-paying ability of MassMutual Ascend.

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

NOT A BANK OR CREDIT UNION DEPOSIT OR OBLIGATION • NOT FDIC OR NCUA-INSURED • NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY • MAY LOSE VALUE • NOT GUARANTEED BY ANY BANK OR CREDIT UNION

∴ MassMutual Ascend