

# Russell 2000 1-Year Index Analysis

With a registered index-linked annuity from MassMutual Ascend Life Insurance Company, you can allocate funds to 1-year term indexed strategies that credit returns based on the Russell 2000 Index. This index measures the performance of about 2,000 small-cap U.S. equities. Let's take a closer look.

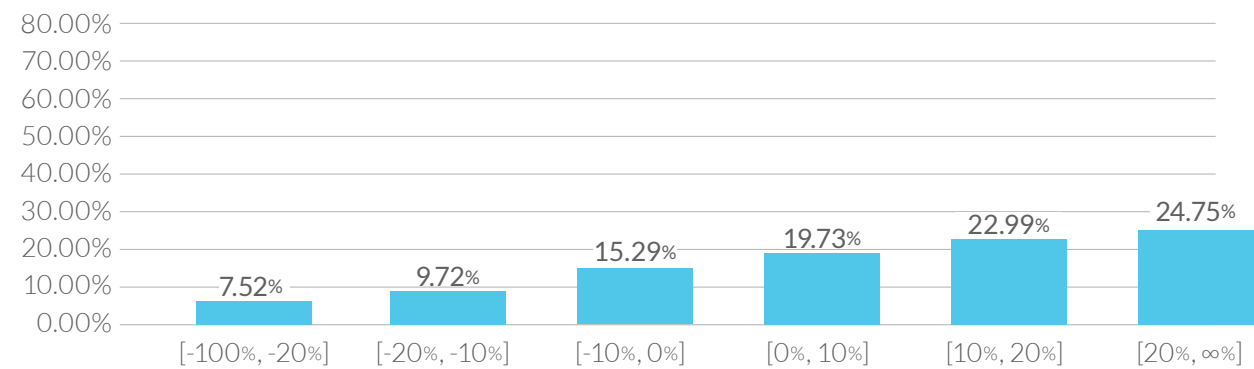
## Russell 2000 returns using rolling periods

The data below uses 1-year rolling returns<sup>1</sup> of the Russell 2000 Index from December 31, 2004 through December 31, 2024, for a total of 4,958<sup>2</sup> observations.

Average Performance			Positive Performance		Negative Performance	
Average Return	Average Gain	Average Loss	Maximum Return <sup>3</sup>	Num of Gains	Minimum Return <sup>4</sup>	Num of Losses
8.54%	19.21%	-13.55%	128.78%	3,344 (67%)	-48.89%	1,613 (33%)

## Russell 2000 return distribution

Using the same data set and assumptions, the return distribution graph below illustrates how frequently the 1-year 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%, ∞%]
Average Russell 2000 Return by Range	-30.23%	-14.11%	-4.99%	5.27%	14.76%	34.44%

MassMutual Ascend first offered annuities with 1-year Russell 2000 indexed strategies in May 2025.

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

<sup>2</sup>Zero flat 1-year periods, in which the Russell 2000 return was 0%, are included in the number of total observations.

<sup>3</sup>Maximum return: 1-year period ending 3/18/2021

<sup>4</sup>Minimum return: 1-year period ending 3/5/2009

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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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