

# Russell 2000 6-Year Index Analysis

With a registered index-linked annuity from MassMutual Ascend Life Insurance Company, you can allocate funds to 6-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.

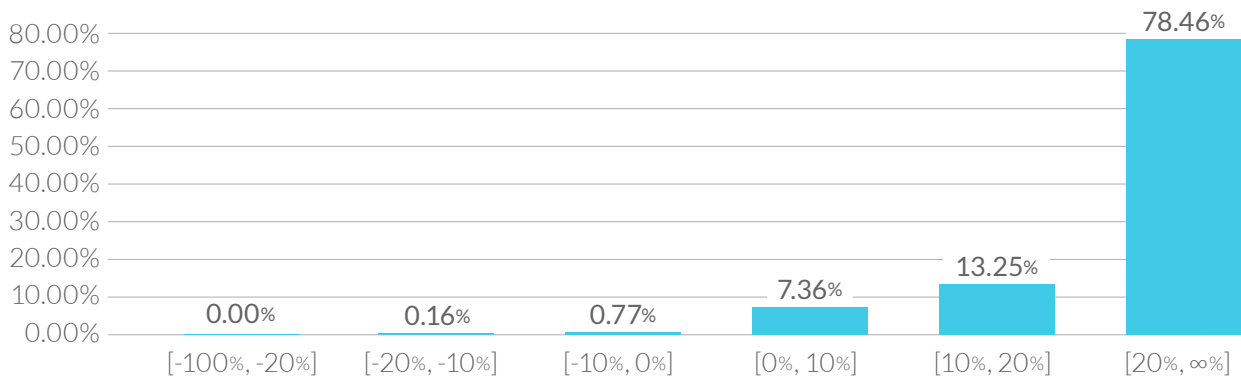
## Russell 2000 returns using rolling periods

The data below uses 6-year rolling returns<sup>1</sup> of the Russell 2000 Index from December 31, 2003 through December 31, 2023, for a total of 3,653<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
58.07%	58.66%	-4.84%	256.44%	3,619 (99%)	-17.75%	34 (1%)

## Russell 2000 return distribution

Using the same data set and assumptions, the return distribution graph below illustrates how frequently the 6-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%, ∞%]
<b>Average Russell 2000 Return by Range</b>	N/A	-13.96%	-2.88%	6.08%	14.82%	71.00%

MassMutual Ascend first offered annuities with 6-year Russell 2000 indexed strategies in May 2024.

<sup>1</sup>6-year rolling returns refers to every 6-year period that started on a business day after December 30, 2003 and ended before January 1, 2024.

<sup>2</sup>Zero flat 6-year periods, in which the Russell 2000 return was 0%, are included in the number of total observations.

<sup>3</sup>Maximum return: 6-year period ending 3/9/2015

<sup>4</sup>Minimum return: 6-year period ending 3/18/2020

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