

A Transparent Look: Index Frontier 7 Renewals

A registered index-linked annuity

The Index Frontier® 7 registered index-linked annuity from MassMutual Ascend Life Insurance Company offers two types of strategies:

- Indexed strategies, which let you take advantage of positive market performance up to a cap while providing a level of protection against market downturns
- A declared rate strategy, which provides a fixed rate of return and complete downside protection

All strategies offer one-year terms, which begin on the 6th and 20th of each month. At the end of each term, you have the opportunity to reallocate funds to different strategies. Prior to the start of a new term, we set the caps and declared rates that will be offered upon renewal, which are known as renewal rates.

A Closer Look At Strategies

Downside Protection

Each indexed strategy provides partial protection from loss through either a floor or buffer. A 0% floor strategy provides complete protection against index loss at the end of each one-year term. A -10% floor strategy provides protection against index losses in excess of -10% at the end of each one-year term. A 10% buffer strategy* provides protection against the first 10% of index losses at the end of each one-year term.

Upside Potential

When the index change is positive for a term, you earn a return limited by a cap. A cap is the maximum return that will be credited for a term. Strategy caps are set at the start of each term and are guaranteed for that term. Renewal caps are set at the end of each term and may be higher or lower than the initial caps, but will never be less than 1%.

Bailout Feature

The bailout feature allows you to withdraw money from an indexed strategy at the end of a term without incurring early withdrawal charges if the cap rate offered for the next term is below its bailout trigger.

In addition to the bailout feature, the Index Frontier 7 allows you to withdraw up to 10% each year without incurring early withdrawal charges. All early withdrawal charges end after seven contract years.

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

*The 10% buffer strategy and two MSCI EAFE strategies were first offered May 7, 2020. To view the most current renewal rates, please visit [MassMutualAscend.com/RILArates](https://www.massmutualascend.com/RILArates).

Prior to the end of a term, the buffer is less than 10%. It is calculated daily as a prorated share of 10%. Before the end of a term, any increase in a strategy value is also limited by a vesting factor.



Here is a closer look at the renewal history for the Index Frontier 7 for Third Quarter 2020-2023 (for purchase payments \$250,000).

Declared Rate Strategy

Start of First Term	Declared Rate Strategy				
	Initial	2020	2021	2022	2023
7/6/19	2.45%	2.45%	2.45%	2.45%	2.45%
8/6/19	2.45%	2.45%	2.45%	2.45%	2.45%
9/6/19	2.45%	2.45%	2.45%	2.45%	2.45%
7/6/20	1.15%	N/A	1.15%	1.15%	1.15%
8/6/20	1.15%	N/A	1.15%	1.15%	1.15%
9/6/20	1.15%	N/A	1.15%	1.15%	1.15%
7/6/21	1.55%	N/A	N/A	1.55%	1.55%
8/6/21	1.40%	N/A	N/A	1.40%	1.40%
9/6/21	1.40%	N/A	N/A	1.40%	1.40%
7/6/22	2.30%	N/A	N/A	N/A	2.30%
8/6/22	2.30%	N/A	N/A	N/A	2.30%
9/6/22	2.30%	N/A	N/A	N/A	2.30%

S&P 500 Strategies

Start of First Term	0% Floor Strategy Cap Rates					-10% Floor Strategy Cap Rates					10% Buffer Strategy Cap Rates*			
	Initial	2020	2021	2022	2023	Initial	2020	2021	2022	2023	Initial	2021	2022	2023
7/6/19	4.00%	3.95%	4.10%	4.05%	3.60%	12.00%	9.70%	10.00%	9.20%	6.25%	N/A	N/A	N/A	N/A
8/6/19	4.00%	3.85%	4.00%	4.05%	3.55%	12.00%	9.10%	9.75%	9.50%	6.00%	N/A	N/A	N/A	N/A
9/6/19	4.00%	4.00%	3.95%	3.95%	4.00%	12.00%	9.75%	9.60%	8.80%	6.00%	N/A	N/A	N/A	N/A
7/6/20	3.05%	N/A	2.90%	3.00%	3.00%	8.75%	N/A	8.30%	8.50%	6.00%	18.50%	11.95%	12.60%	6.00%
8/6/20	3.05%	N/A	3.10%	3.10%	3.00%	8.75%	N/A	9.05%	8.50%	6.00%	18.50%	13.85%	13.25%	6.00%
9/6/20	3.05%	N/A	2.95%	3.00%	4.00%	9.00%	N/A	8.50%	7.70%	6.35%	18.50%	13.95%	10.95%	6.65%
7/6/21	3.25%	N/A	N/A	3.35%	3.00%	9.75%	N/A	N/A	9.60%	6.20%	19.50%	N/A	16.50%	7.15%
8/6/21	3.25%	N/A	N/A	3.25%	3.00%	9.25%	N/A	N/A	8.65%	6.00%	17.50%	N/A	16.00%	6.10%
9/6/21	3.25%	N/A	N/A	3.25%	4.00%	9.25%	N/A	N/A	8.30%	6.90%	17.50%	N/A	13.50%	7.70%
7/6/22	4.75%	N/A	N/A	N/A	4.15%	12.00%	N/A	N/A	N/A	8.15%	20.00%	N/A	N/A	10.15%
8/6/22	4.75%	N/A	N/A	N/A	4.10%	12.00%	N/A	N/A	N/A	8.05%	20.00%	N/A	N/A	9.45%
9/6/22	4.75%	N/A	N/A	N/A	4.90%	12.00%	N/A	N/A	N/A	9.80%	18.25%	N/A	N/A	11.45%

Gold Shares Strategies

Start of First Term	0% Floor Strategy Cap Rates					-10% Floor Strategy Cap Rates				
	Initial	2020	2021	2022	2023	Initial	2020	2021	2022	2023
7/6/19	4.75%	6.15%	6.00%	5.40%	4.10%	13.00%	30.00%	30.00%	22.80%	9.05%
8/6/19	4.75%	5.85%	5.65%	5.00%	3.85%	13.00%	30.00%	30.00%	19.75%	7.90%
9/6/19	4.75%	6.55%	5.95%	4.85%	4.00%	13.00%	30.00%	30.00%	17.60%	7.90%
7/6/20	3.50%	N/A	3.30%	3.00%	3.00%	19.50%	N/A	17.65%	10.80%	6.00%
8/6/20	3.75%	N/A	3.55%	3.10%	3.00%	21.00%	N/A	18.45%	10.20%	6.00%
9/6/20	3.75%	N/A	3.45%	3.00%	4.00%	23.00%	N/A	20.55%	9.90%	6.00%
7/6/21	4.50%	N/A	N/A	3.95%	3.15%	24.50%	N/A	N/A	14.30%	6.35%
8/6/21	4.25%	N/A	N/A	3.65%	3.00%	24.50%	N/A	N/A	12.95%	6.00%
9/6/21	4.25%	N/A	N/A	3.55%	4.00%	24.50%	N/A	N/A	11.75%	6.20%
7/6/22	6.75%	N/A	N/A	N/A	5.35%	23.00%	N/A	N/A	N/A	11.75%
8/6/22	6.75%	N/A	N/A	N/A	5.85%	23.00%	N/A	N/A	N/A	14.50%
9/6/22	6.75%	N/A	N/A	N/A	6.65%	20.00%	N/A	N/A	N/A	13.10%

iShares U.S. Real Estate Strategies

Start of First Term	0% Floor Strategy Cap Rates					-10% Floor Strategy Cap Rates				
	Initial	2020	2021	2022	2023	Initial	2020	2021	2022	2023
7/6/19	5.50%	5.25%	5.95%	5.25%	4.65%	20.00%	13.30%	14.45%	10.05%	6.80%
8/6/19	5.50%	5.60%	5.70%	5.05%	4.25%	20.00%	13.95%	12.80%	9.40%	6.00%
9/6/19	5.50%	5.65%	6.15%	5.20%	4.60%	20.00%	12.75%	15.95%	9.50%	6.25%
7/6/20	3.05%	N/A	3.00%	3.00%	3.00%	13.00%	N/A	13.35%	9.65%	6.60%
8/6/20	3.05%	N/A	3.25%	3.00%	3.00%	15.00%	N/A	24.55%	11.70%	8.05%
9/6/20	3.05%	N/A	3.00%	3.00%	4.00%	15.00%	N/A	17.80%	10.25%	8.20%
7/6/21	3.50%	N/A	N/A	3.25%	3.00%	16.50%	N/A	N/A	10.75%	7.60%
8/6/21	3.25%	N/A	N/A	3.00%	3.00%	16.50%	N/A	N/A	10.25%	6.90%
9/6/21	3.25%	N/A	N/A	3.00%	4.00%	16.50%	N/A	N/A	9.90%	7.90%
7/6/22	5.50%	N/A	N/A	N/A	5.20%	13.75%	N/A	N/A	N/A	11.60%
8/6/22	5.50%	N/A	N/A	N/A	5.20%	13.75%	N/A	N/A	N/A	11.35%
9/6/22	5.50%	N/A	N/A	N/A	6.05%	13.75%	N/A	N/A	N/A	13.30%

iShares MSCI EAFE Strategies

Start of First Term	0% Floor Strategy Cap Rates*				-10% Floor Strategy Cap Rates*			
	Initial	2021	2022	2023	Initial	2021	2022	2023
7/6/19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8/6/19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9/6/19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7/6/20	3.05%	3.00%	3.00%	3.00%	9.50%	13.40%	9.25%	6.00%
8/6/20	3.75%	3.85%	3.65%	3.00%	13.50%	14.20%	10.05%	6.00%
9/6/20	3.75%	3.40%	3.25%	4.00%	13.50%	11.60%	9.00%	6.00%
7/6/21	3.50%	N/A	3.20%	3.00%	15.00%	N/A	9.85%	6.00%
8/6/21	3.25%	N/A	3.10%	3.00%	12.50%	N/A	9.30%	6.00%
9/6/21	3.25%	N/A	3.10%	4.00%	12.50%	N/A	9.50%	6.00%
7/6/22	4.50%	N/A	N/A	4.15%	12.00%	N/A	N/A	8.40%
8/6/22	4.50%	N/A	N/A	4.00%	12.00%	N/A	N/A	8.10%
9/6/22	4.50%	N/A	N/A	4.75%	12.00%	N/A	N/A	9.05%

Charts show the initial declared rates and indexed strategy caps for terms that started on the 6th of each July, August and September starting 7/6/2019 and the corresponding declared rates and caps when the terms renewed in years 2020-2023. They do not include information about the declared rates or cap rates for terms that started on the 20th of such months. Although the charts show the caps/maximum indexed interest rate for each strategy for each Chart Term, they do not show the indexed interest rate for any strategy for any Chart Term, which may be less than the cap.

*No data for 2019 available for the S&P 500 10% Buffer Strategy Cap Rates, iShares MSCI EAFE 0% Floor Strategy Cap Rates or the iShares MSCI EAFE -10% Floor Strategy Cap Rates.

Caps, rates and renewal rates shown are for purchase payments of \$250,000 and over. Information shown is not a guarantee or representation of future renewal declared or cap rate decisions. Future indexed strategies could offer different cap guarantees, buffers and floors.

The Index Frontier 7 can only be sold through a Broker/Dealer that is contracted with MassMutual Ascend. This material must be preceded or accompanied by a prospectus for MassMutual Ascend's Index Frontier 7. To obtain a copy of the prospectus, please visit [MassMutualAscend.com/RILArates](https://www.massmutualascend.com/RILArates).

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

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.

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