... MassMutual Ascend



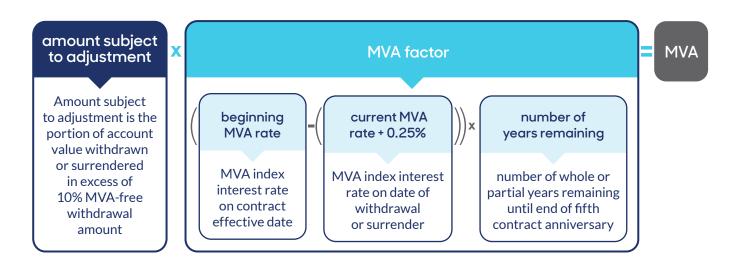
Index Protector 5 MVA

Understanding The Market Value Adjustment

The Index Protector 5 MVASM features a market value adjustment (MVA) that applies during the first five contract years. An MVA will apply if the contract is surrendered or if a withdrawal exceeding the 10% MVA-free withdrawal amount is taken.

How it's calculated

The MVA depends on changes in the MVA index interest rate (BofA Merrill Lynch 5-10 Year US Corporate Bond Index, ticker symbol C6A0) since the contract effective date and on the amount of time remaining until the fifth contract anniversary. Below is a breakdown of the MVA calculation, including important definitions of the various factors used. Once the MVA is calculated, it is applied to the account value prior to the withdrawal.



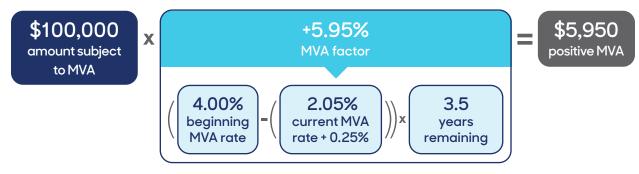
MVA in action

Let's take a look at an MVA in action. The examples on the next page assume:

- The MVA index interest rate on contract effective date is 4.00%
- The account value (AV) on the first contract anniversary is \$110,000
- The annuity is surrendered 18 months after the contract effective date, meaning 3.5 contract years remain until the fifth contract anniversary
- When the annuity is surrendered:
 - The AV is \$111,000
 - The MVA-free withdrawal amount is \$11,000 (\$110,000 AV on first contract anniversary x 10% MVA-free withdrawal allowance)
 - The amount subject to the MVA is \$100,000 (\$111,000 AV on the date of the surrender - \$11,000 MVA-free withdrawal amount)

Positive MVA

A positive MVA applies if the MVA index interest rate has decreased by more than 0.25%. This example assumes the MVA index interest rate has decreased to 2.05%.



Now that the **positive** MVA has been calculated, we can determine the adjusted account value.

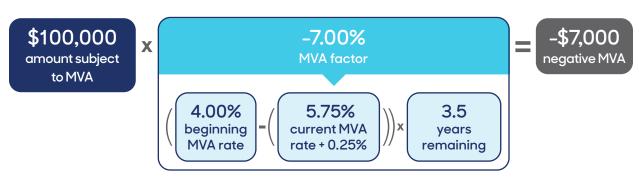
\$111,000
account value prior to withdrawal

+ \$5,950 positive MVA

= \$116,950 adjusted account value paid to client upon surrender

Negative MVA

A negative MVA applies if the MVA index interest rate has increased, stayed the same or decreased by less than 0.25%. This example assumes the MVA index interest rate has increased to 5.75%.



Now that the **negative** MVA has been calculated, we can determine the adjusted account value.



Frequently Asked Questions

Are there situations where an MVA does not apply?

An MVA does not apply to:

- an amount excluded as an MVA-free withdrawal.
- an amount deducted for premium or other tax.
- an amount withdrawn or surrendered on or after the fifth contract anniversary.
- an amount withdrawn under the extended care waiver rider or terminal illness waiver rider.

What is an MVA-free withdrawal?

The MVA-free withdrawal is the total amount excluded from MVAs if a withdrawal is taken or the contract is surrendered within the first five contract years. For the first contract year, it is equal to 10% of the purchase payments. For each subsequent contract year, it is equal to 10% of the account value as of the most recent contract anniversary. The MVA-free withdrawal amount is calculated separately for each contract year and only applies to that contract year.

Is there a maximum MVA?

This product does not have early withdrawal charges, which could be offset by the maximum positive MVA. Instead, negative and positive MVAs for this product are limited by the difference in the account value (AV) and guaranteed minimum surrender value (GMSV). The maximum MVA is the excess, if any, of the AV over the GMSV.

- A positive MVA can never increase the account value by an amount greater than the maximum MVA.
- A negative MVA can never decrease the account value by an amount greater than the maximum MVA. This means a negative MVA can never reduce the account value to less than the guaranteed minimum surrender value.

Do my clients pay any other charges?

Your clients won't pay any other charges to us for this annuity.

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