

Market Value Adjustment (MVA) Rider

This policy is issued with an MVA Rider. An MVA may increase or decrease the amount of a withdrawal in excess of any unexercised Free Withdrawal, or the Cash Surrender Value. The MVA does not apply to Free Withdrawals, any death benefit, the MGCV, or any distributions after the Contract Term.

In general, as the MVA Index increases, the Cash Surrender Value and any excess withdrawal amounts decrease. As the MVA Index decreases, the Cash Surrender Value and any excess withdrawal amounts increase. However, an MVA will never cause the Cash Surrender Value to exceed the Account Value or fall below the Minimum Guaranteed Contract Value (MGCV).

The following describes the terms and formulas for the MVA

The MVA Index is the:

Dow Jones Equal Weight U.S. Issued Corporate Bond Index (Yield-to-Worst)

The MVA Basis is the Contract Value less any unexercised Free Withdrawal

The MVA limit is the lesser of:

- (a) = the Contract Value less the Cash Surrender Value Before MVA
- (b) = the Cash Surrender Value Before MVA less the Minimum Guaranteed Contract Value

The Preliminary MVA Percentage equals $((A / B)^t - 1) \times C$, where:

- A = 1 + the closing effective yield of the MVA Index on the Policy Date
- B = 1 + the closing yield on the day preceding the day of surrender or withdrawal
- C = MVA Percentage Factor = 100%
- t = number of days from the date of surrender or withdrawal to the next Policy Anniversary divided by 365 plus the number of whole years from the next Policy Anniversary to the end of the Contract Term

The Preliminary MVA equals the MVA Basis multiplied by the Preliminary MVA Percentage

The MVA on Cash Surrender equals the lesser of (A) and (B), the result multiplied by (C), where:

- (a) = the absolute value of the Preliminary MVA
- (b) = the MVA Limit
- (c) = 1 if the Preliminary MVA Percentage ≥ 0 , otherwise = -1

The MVA on Withdrawal of Cash equals $(A/B) \times C$, where:

- (a) = MVA on Cash Surrender
- (b) = MVA Basis
- (c) = Withdrawal in excess of any unexercised Free Withdrawal

Here are two hypothetical examples which illustrate how the change in the MVA Index could affect the MVA.

Example 1 – Upward MVA Adjustment caused by decrease in the MVA Index

Contract Value	\$100,000
Free Withdrawal Available	\$5,000
MVA Basis	\$95,000
Withdrawal Charge rate	5.00%
Cash Surrender Value	\$95,250
MGCV	\$88,375
MVA Index on Policy Date	3.00%
MVA Index at Surrender	1.00%
Time remaining in Contract Term	3.50 years
MVA Percentage Factor	100%

Preliminary MVA Percentage

$$0.07104 = [(1.03/1.01)^{3.50} - 1] \times 100\%$$

Preliminary MVA

$$\$6,748.75 = \$95,000 \times 0.07104$$

MVA Limit = lesser of

$$(\$100,000 - \$95,250, \$95,250 - \$88,375) = \$4,750$$

MVA on Cash Surrender = Minimum of

$$(|\$6,748.75|, \$4,750) \times 1 = \$4,750 \times 1 = \$4,750$$

Cash Surrender Value after MVA

$$\$95,250 + \$4,750 = \$100,000$$

MVA adjustment on \$20,000 partial withdrawal in excess of 5,000 Free Withdrawal:

$$\$750.00 = (\$4,750 / \$95,000) \times (\$20,000 - \$5,000)$$

Partial Withdrawal after withdrawal charge and MVA:

$$\begin{aligned} \$20,000 &= \$20,000 - 5.00\% \times (\$20,000 - \$5,000) + \$750.00 = \\ &= \$20,000 - \$750 + \$750 \end{aligned}$$

Example 2 – Downward MVA Adjustment caused by increase in the MVA Index

Contract Value	\$100,000
Free Withdrawal Available	\$5,000
MVA Basis	\$95,000
Withdrawal Charge rate	8.00%
Cash Surrender Value	\$92,400
MGCV	\$88,375
MVA Index on Policy Date	3.00%
MVA Index at Surrender	5.00%
Time remaining in Contract Term	3.50 years
MVA Percentage Factor	100%

Preliminary MVA Percentage

$$-0.06509 = [(1.03/1.05)^{3.50} - 1] \times 100\%$$

Preliminary MVA

$$\$6,183.97 = \$95,000 \times -0.06509$$

MVA Limit = lesser of

$$(\$100,000 - \$92,400, \$92,400 - \$88,375) = \$4,025$$

MVA on Cash Surrender = Minimum of

$$(|\$6,183.97|, \$4,025) \times -1 = \$4,025 \times -1 = \$(4,025)$$

Cash Surrender Value after MVA

$$\$92,400 + \$(4,025) = \$88,375$$

MVA adjustment on \$20,000 partial withdrawal in excess of 5,000 Free Withdrawal:

$$\$635.53 = (\$(4,025) / \$95,000) \times (\$20,000 - \$5,000)$$

Partial Withdrawal after withdrawal charge and MVA:

$$\begin{aligned} \$18,164.47 &= \$20,000 - 8.00\% \times (\$20,000 - \$5,000) + \$635.53 = \\ &= \$20,000 - \$1,200 + \$635.53 \end{aligned}$$