

Stable value in a rising rate environment

Now that the Fed has begun tightening monetary policy, one question stable value investors have is: how might stable value perform in a rising rate environment? We answer that question here and explain how this market environment highlights one of the benefits stable value can offer to investors - capital preservation.

What Is Important For You To Know?

Stable value funds are designed to provide investors with capital preservation and liquidity for participant-directed withdrawals while providing relatively stable returns in changing market environments. To achieve these objectives, most stable value funds are comprised of two components: 1) underlying high quality fixed income (bond) portfolios managed within a short to intermediate duration range, and 2) investment contracts, known as wrap contracts, that provide principal preservation and book value payments for participant-directed withdrawals, regardless of the value of the underlying bond portfolios. We will discuss this further in the section below.

Rising interest rate environments are nothing new for stable value funds. Since its inception, stable value has been through numerous market environments where interest rates have been both rising and falling. The unique structure of stable value, combining underlying short to intermediate duration bond portfolios with wrap contracts, is designed to provide investors with capital preservation and positive crediting rates in varying markets, even when interest rates are rising.

What we'll discuss

- How changing market environments affect stable value
- The impact of rising rates
- The current outlook

January 2017

Bond portfolio (MV)



Wrap contract (BV)



Stable value fund



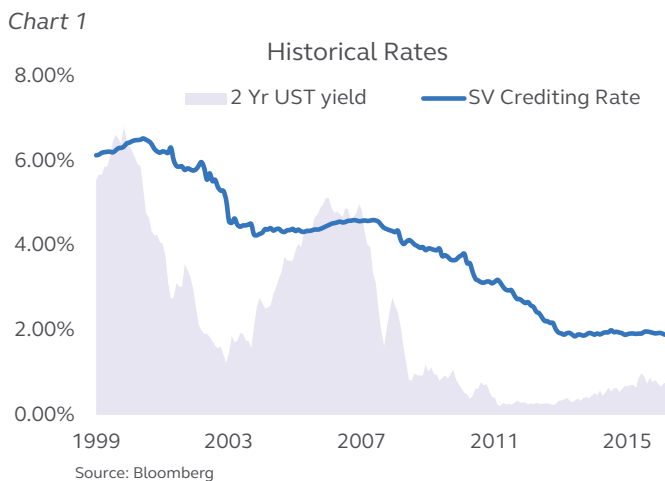
What makes stable value unique?

The two components of stable value, underlying high quality bond portfolios and wrap contracts, are often referred to as market value and book value, respectively. The underlying bond portfolio value, or market value, can fluctuate daily based on the price of the bonds in the portfolio. An inverse relationship exists between the yield on a bond and its market value; as the bond's yield rises, its market value falls and vice versa.

The wrap contract, the vehicle providing book value, smooths the interest earned by participants by amortizing the gains and losses of the underlying bonds through the crediting rate of the wrap contract. The crediting rate is calculated based on the characteristics of the underlying bond portfolio, specifically, the yield-to-maturity and duration, as well as the ratio of market value divided by book value or the market-to-book value ratio (MV/BV ratio).

How do changing market environments affect stable value?

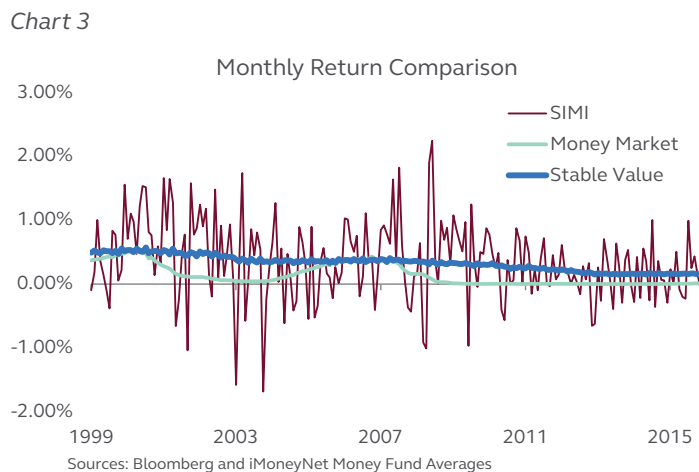
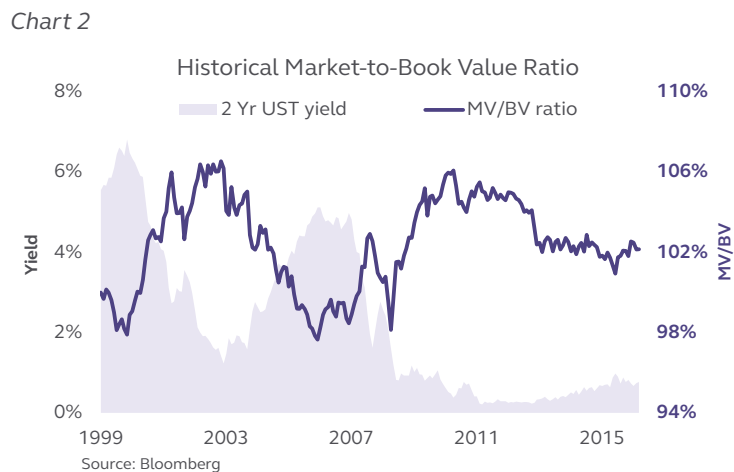
To illustrate the impact rising and falling interest rates have on stable value funds let's look at the crediting rates and the market-to-book value ratio (MV/BV ratio) of a hypothetical stable value fund. We have selected the Bloomberg Barclays Stable Income Market Index (SIMI) as the proxy for the underlying bond portfolio in our hypothetical stable value fund. This index was created several years ago by Barclays with input from many stable value industry participants and represents a duration and sector allocation typical in a stable value fund. We've applied a hypothetical wrap contract using a standard crediting rate formula. The SIMI data begins in July 1999, so we will review the crediting rate of the hypothetical stable value fund beginning in July 1999 through September 2016.



A quick refresher, MV is the market value of the underlying bond portfolio and BV is the value of the wrap contract which represents principal plus accrued interest. Shown above in Chart 1 is the crediting rate of the hypothetical stable value fund compared to the yield on the 2 Yr US Treasury note. As you can see, the crediting rate tracks the general direction of interest rates, though with a lag, and limited volatility because the crediting rate formula smooths the market value changes.

For our hypothetical stable value fund we assume a beginning MV/BV ratio of 100% in July 1999. Notice the inverse relationship between the MV/BV ratio and the US Treasury yields in Chart 2. Remember, as bond yields rise, the market value falls and vice versa. The benefit of amortizing the gains and losses of the underlying bond portfolio through the wrap contract's crediting rate is evidenced in Chart 3 by the lower volatility of monthly returns experienced by the stable value fund compared to the SIMI during the period displayed. The SIMI represents the bond portfolio experience; notice that some period of negative returns occur during rising rate environments.

The stable value fund would have provided a competitive positive return during both falling and rising rate environments relative to money market funds and short-term bond funds over the time period reflected in the charts below.

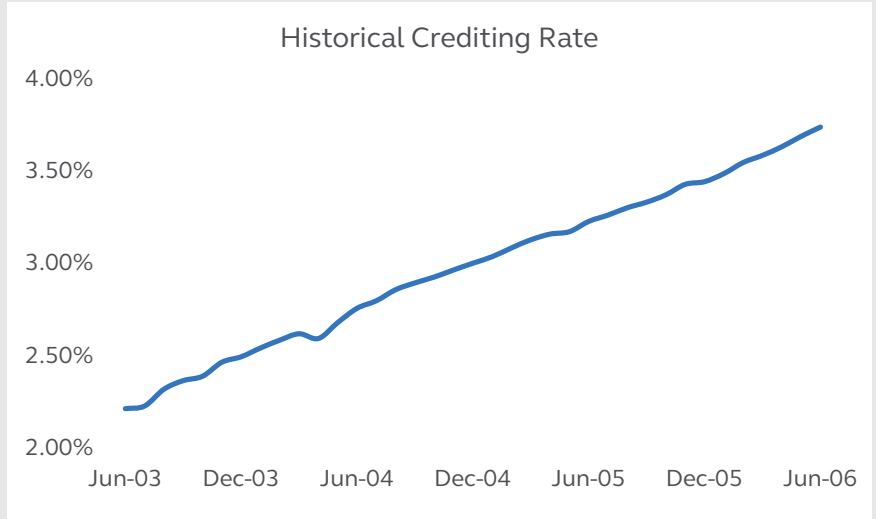


What is the impact of a rising rate environment on the crediting rate?

Using our hypothetical stable value fund, let's see what happens in an isolated rising rate period. The most recent prolonged rising rate period occurred from May 2003 to June 2006. During this period, the 2 Yr US Treasury note yield rose by over 380 bps while the 10 Yr US Treasury bond yield rose by over 175 bps. The yield on the SIMI, the proxy for our underlying bond portfolio, increased by 317 bps during this 37 month period. Now let's see what happens to the crediting rate on the stable value fund over this same period.

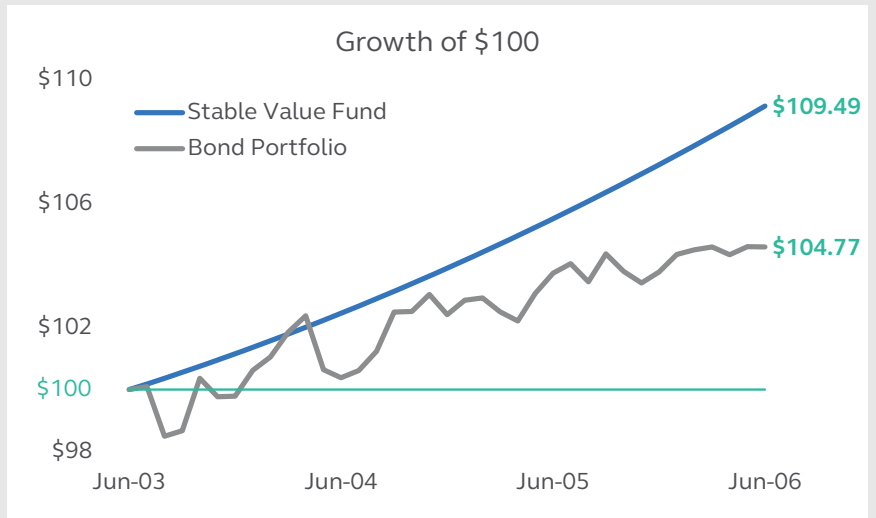
As illustrated in Chart 4, during this period of rising rates, the crediting rate on the hypothetical stable value fund rose consistently as principal and interest was reinvested at increasingly higher yield levels. We mentioned earlier that as bond yields rise, market values fall, thus as the stable value crediting rate rises, following the path of yields, the MV/BV ratio would likely fall. It is normal for the ratio to rise and fall as yields change (see Chart 2.) Often a falling rate period is preceded by a rising rate period. If this occurs, the negative impact to the MV/BV ratio may be mitigated.

Chart 4



Let's translate the crediting rate into growth of a participant's account balance. By combining a wrap contract with an underlying bond portfolio, investors can earn a positive rate of return in the stable value fund despite a rising rate environment; unlike a typical bond portfolio where a rising rate environment can result in negative returns and loss of principal. In Chart 5, we show the growth of \$100 in the stable value fund and the SIMI over the same rising rate period. The initial \$100 investment grew to \$109.49 in the stable value fund. In the SIMI, the proxy for the unwrapped bond portfolio, the \$100 only grew to \$104.77 and dipped below \$100 during a few periods.

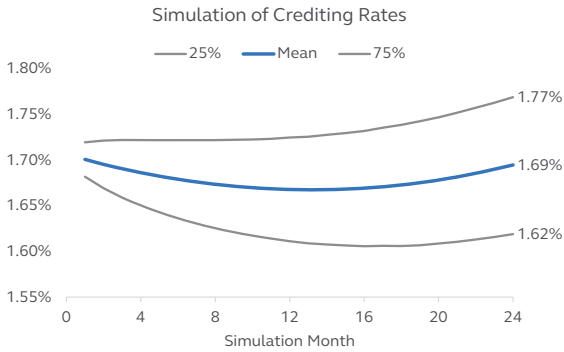
Chart 5



What is the current outlook?

We've looked at a historical period of rising rates, now let's explore what we might expect based on current rate levels. Again using a hypothetical stable value fund with SIMI as the proxy for our underlying bond portfolio, we have modeled a forward-looking scenario to illustrate the impact of a potential rising rate period on the crediting rate and the MV/BV ratio. The scenario is based on data from rising rate periods since 1976 from which we have simulated 100,000 different rising interest rate paths over 24 month periods using a probability simulation method. The simulation offers a distribution of bond portfolio yields that we use to evaluate impacts on a stable value fund. The projected impact of this forward-looking analysis on the crediting rate of our hypothetical stable value fund is displayed in Chart 6.

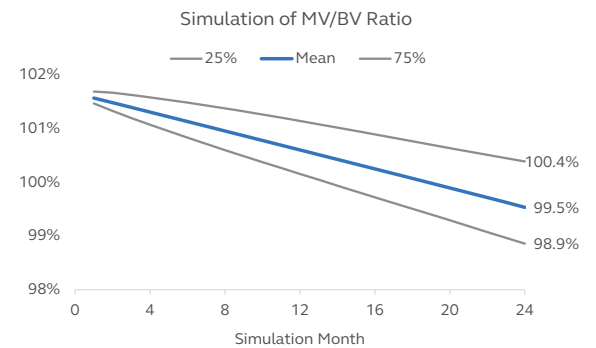
Chart 6



The blue line in the chart shows the mean, or average, crediting rate based on the distribution of interest rate paths. The two gray lines show the range of outcomes between the 25th and 75th percentiles in the distribution. The chart indicates that we would expect a relatively stable crediting rate that resets between the two gray lines fifty percent of the time over this simulated 24 month period.

In our historical analysis of the rising rate period during 2003 to 2006, we mentioned that the MV/BV ratio would likely fall as yields and the stable value fund crediting rate rose. The forward simulation of the MV/BV ratio, displayed in Chart 7, is consistent with the historical analysis and shows a trend of declining MV/BV ratios in this 24 month rising rate period. As you can see in this simulation, though falling, fifty percent of the observations landed in the narrow band within the gray lines.

Chart 7



The Bottom Line

In our historical analysis, the hypothetical stable value fund provided a positive crediting rate and positive returns for participants in a rising rate environment. Depending on the severity of a rate increase and the duration of bond portfolios, many unwrapped bond portfolios would experience negative returns in a similar environment. As illustrated in our review of historical rates, it is normal for the crediting rate of a stable value fund to lag interest rates as they move. It is also normal for the MV/BV ratio on stable value funds to fall below 100% from time to time. We understand that stable value funds are often the conservative investment option in savings and retirement plans; therefore, as experienced stable value managers we focus our strategies toward preserving capital while providing a stable competitive return relative to other capital preservation options in all market cycles.

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Glossary of terms

Amortize – The gradual release of a value over a period of time. For purposes of this publication, amortize refers to the gradual release of the gain or loss experienced by a bond portfolio over the duration of the portfolio through the crediting rate of a wrap contract.

Book value – The value of an original investment plus accrued interest minus withdrawals and expenses.

Capital preservation – An investment strategy where the primary goal is to prevent loss of invested principal, or capital.

Crediting rate – In the context of stable value, it is the rate of return credited to the book value of an investment contract (wrap) or stable value fund. A typical formula used within a wrap contract is:

$$\text{Crediting rate} = (1 + \text{yield}) * (\text{market value}/\text{book value})^{(1/\text{duration})} - 1 - \text{fees}$$

Current yield – A rate determined by dividing the annual income by the current price of a security. The current yield on a security trading at par, or 100, would be equal to its stated coupon rate. The current yield on a security trading below par would exceed its stated coupon rate.

Duration – The measure of the price sensitivity of a fixed income security to a change in interest rates, commonly presented in years. The duration of a portfolio is a weighted average of the duration of all securities within the portfolio. The longer the duration the more sensitivity the portfolio or security is expected to have to interest rate changes.

Federal Reserve – Often referred to as “the Fed”, is the central bank of the United States.

Market value – The value of a security determined by the price at which the security can be sold or bought in an open market.

Market-to-book value ratio (MV/BV ratio) – The result of dividing the market value of a portfolio by the book value of a wrap contract. The MV/BV ratio is a factor in the crediting rate formula; when the MV/BV ratio is above 100%, the wrap crediting rate would likely be higher than current yields; conversely, if the ratio falls below 100%, the crediting rate may be lower than current yields.

Standard deviation – A measure of dispersion, or amount of variation, of a set of values from its mean. The mean represents the average of a set of values, determined by dividing the sum of all values by the number of values summed.

Volatility – A measure of dispersion, or amount of variation, of a set of returns. Volatility can also be measured using standard deviation. Generally, higher volatility implies greater risk.

Yield-to-maturity – The internal rate of return expected on a bond that is held to maturity.

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Investing involves risk, including possible loss of principal. Fixed-income investments are subject to interest rate risk; as interest rates rise their value will decline. Fixed-income investment options that invest in mortgage securities, such as commercial mortgage-backed securities, are subject to increased risk due to real estate exposure.