

Rethinking Retirement

THE ROLE OF FIXED INDEX ANNUITIES
IN AN OPTIMIZED PORTFOLIO

Just over ten years ago, in a small Southwestern Montana town, nestled in the valley of the most spectacular mountains in the Rocky Mountain Range, Wade Dokken and Lincoln Collins founded a financial company with plans to make a national impact.

The valleys and peaks that surround the office offer breathtaking views and often, inviting scenery. However, if unprepared, these very mountains, rivers, and views that encourage people to live and play here, can be harsh; not unlike the journey into retirement.

Understanding the common goal of a comfortable, enjoyable and appealing retirement and, recognizing the changing and often unpredictable dynamic of the markets, longer lifespans and increased numbers of retirees, Dokken and Collins founded WealthVest.

At WealthVest, our mission is to help people retire with dignity and confidence, through strategic messaging and dedicated distribution of the most effective retirement products to trusted financial planners.

WealthVest calls Montana home as a constant reminder that preparation is key. The weather can change at a moment's notice, and so can the markets. Calling on this daily hint from our surroundings, we at WealthVest, provide the tools and knowledge that empower our clients to be prepared, educated and comfortable in this unpredictable financial landscape.

Elevating business and relationships for our partners is our intent. Helping clients across the country to prepare and succeed in their retirement journey is our goal and honor.

ABOUT THE AUTHORS



// **Wade Dokken** is Co-Founder and Co-President of WealthVest Marketing, alongside his partner, Lincoln Collins. WealthVest designs, markets, and distributes private pension solutions focused on high consumer value. Wade was among the founding U.S. executives and served as National Sales Manager, Chief Marketing Officer, and CEO of American Skandia, a \$43 billion variable annuity company. Dokken oversaw the sale of American Skandia by Goldman Sachs to Prudential Insurance in 2003. Dokken is also the author of “New Century, New Deal,” a public policy analysis of the challenges facing Social Security in the coming decades. Dokken’s career started at PaineWebber in 1984.



// **Lincoln Collins** is a senior financial services executive with an entrepreneurial spirit. He led the launch of the Hartford Life Limited, Europe as the Chief Executive Officer, and within four years, generated sales over \$1.25 billion and was a top-ten provider of both variable annuities and private pensions.

Prior to The Hartford, Lincoln helped launch American Skandia as employee number 14 in 1988. He was the leader of Skandia’s strategy and product development teams before being named Chief Operating Officer. Lincoln played a major role in the development of the annuity platform, mutual funds, 401(k), and variable life product lines.



// **Jack Marrion** is president of a research consultancy that publishes the Index Compendium newsletter, the consumer education materials of Safe Money Places, and the Advantage Compendium research studies. He is frequently referenced by regulators and in SEC rule filings relating to annuities, as well as appearing as an expert witness.

In 2006, the National Association of Insurance Commissioners asked him to address their annual meeting and teach regulators the realities of index annuities. He was invited back in 2009 to talk to the NAIC about the effects of aging on senior decision-making.

He has an MBA from the University of Missouri and has conducted doctoral studies in the area of cognitive bias in decision-making.



// **Drew Dokken** attended the University of Denver, graduating with a Bachelor of Science degree in international studies and a minor in economics. He studied abroad in 2012, attending Fudan University in Shanghai, China, during this time. After graduating college in 2013, Drew attended the Career Development Program at Jackson National Life. In 2016, Drew completed his Masters in International Business at Hult University in San Francisco.

// **Jacek Szandula** is a PhD, and Assistant professor at the Wroclaw University of Economics. He owns and operates his own websites and specializes in modeling economic forecasts.

Jacek is the author of over 20 publications in addition to publications in a variety of scientific and academic journals.



FOR THE LAST SEVERAL DECADES, INTEREST RATES IN THE U.S. HAVE BEEN TRENDING LOWER.

Over the last three decades, interest rates in the United States have been trending lower. Since the market value of outstanding bonds, which have higher interest rates, tends to increase when interest rates decline, long-term bond investors have reaped the benefits of a three-decade bull market in bonds.

TODAY, HOWEVER, INVESTORS ARE IN A QUANDARY.

As of early-June 2019, nominal interest rates (rates before inflation) on benchmark 10-year Treasuries are near 2.1%, and real rates (rates after inflation) are near .4%.¹ It's possible that there is little room for real rates to fall further. This, in turn, will increase portfolio risk as outstanding bond values in the secondary market typically decline in a rising interest rate environment.

Uncertainty about the future of interest rates has many financial professionals assessing the performance potential of portfolio components. Are investors better off holding onto their bonds? Or can risk-adjusted performance be improved by adding equity-linked fixed-income alternatives, such as fixed index annuities (FIAs), to portfolios?

To help answer this question, we measured the performance of portfolios comprised of different combinations of stocks, bonds, and FIAs to determine the various risk-adjusted returns.

// FIXED INDEX ANNUITIES HAVE A ROLE TO PLAY.

As FIAs are a part of our optimized portfolio research, it is important to define them.

A fixed index annuity is a tax-deferred, long-term retirement savings vehicle issued by an insurance company. FIAs are designed to meet long-term needs for retirement income. While product and feature availability may vary by the insurance carrier and state, in general, FIAs provide guarantees of premiums (backed on the financial strength and claims-paying ability of the issuing company), credited interest (subject to surrender charges), and a death benefit for beneficiaries. Any distributions may be subject to ordinary income taxes and if taken prior to age 59 1/2, an additional 10% federal tax. Early withdrawals may result in loss of the premium and credited interest due to surrender charges.

¹ US. Federal Reserve - Selected Interest Rates: [<http://www.federalreserve.gov/releases/h15/current/#fn10>]

EXECUTIVE FINDINGS

// METHODOLOGY

We constructed portfolios with different weightings of stocks (S&P 500® Index with reinvested dividends), bonds (10-Year U.S. Treasuries), and FIAs (index annuity returns without reinvested dividends, using a 50% participation rate, in the S&P 500®).

Then, we measured each portfolio's historical performance – from 1928-2018, 1966-1981, and from 1950-2018 a period that encompassed a wide range of financial market conditions – by calculating Sharpe ratios. We wanted to test the value of FIAs relative to bonds in both rising and

falling interest rate environments - and learned that FIAs can be a competitive alternative to traditional U.S. Treasury bonds.

The Sharpe ratio helps determine whether a portfolio's performance can be attributed to wise investment decisions or excessive risks. The ratio is a measurement of the average return earned in excess of the risk-free rate, and generally, the higher the Sharpe ratio is, the better the portfolio's risk-adjusted performance. As a general rule, portfolios that perform well provide higher returns without taking too much additional risk.

// OUR KEY FINDINGS WERE THAT:

Investors, who want to avoid losses in the years immediately before retirement or during retirement, may be able to reduce overall portfolio risk and optimize performance by adding FIAs to their portfolios.

During periods of rising interest rates, adding FIAs and reducing or eliminating bond exposure helped improve risk-adjusted performance. The study found that adding index annuities to a portfolio during a rising interest rate environment while reducing the percentage of bonds helped improve Sharpe ratios. We may now be on the cusp of a period of rising interest rates.

/ **From 1950 to 2018**, introducing FIAs to portfolios increased Sharpe ratios – indicating an improvement in risk-adjusted portfolio performance. This time-horizon includes periods of rising interest rates, such as 1966-1981, to the falling interest rate environment, we have experienced in more recent years.

This is the most important finding in our research because this period resembles the current environment. Both are periods of high stock valuations and comparatively low bond yields.

Our research set out to find the contribution a fixed index annuity made when added to a portfolio of stocks and bonds. We wanted to understand whether an FIA was a unique asset class due to its fixed-income characteristics but lack of principal risk.

Fixed index annuity guarantees are based on the financial strength and claims paying ability of the issuing company and do not apply to the performance of the index which will fluctuate with market conditions. Fixed index annuities are long-term products and can be subject to restrictions, limitations and surrender charges.

Although an external index may affect your interest credited, the contract does not directly participate in any equity investments. A purchase of a fixed index annuity is not buying shares in an index. The index value does not include dividends paid on the underlying equity index. These dividends are not reflected in the interest credited to the account value of the contract.

EFFICIENT FRONTIER AND OPTIMIZED PORTFOLIOS

// THE EFFICIENT FRONTIER

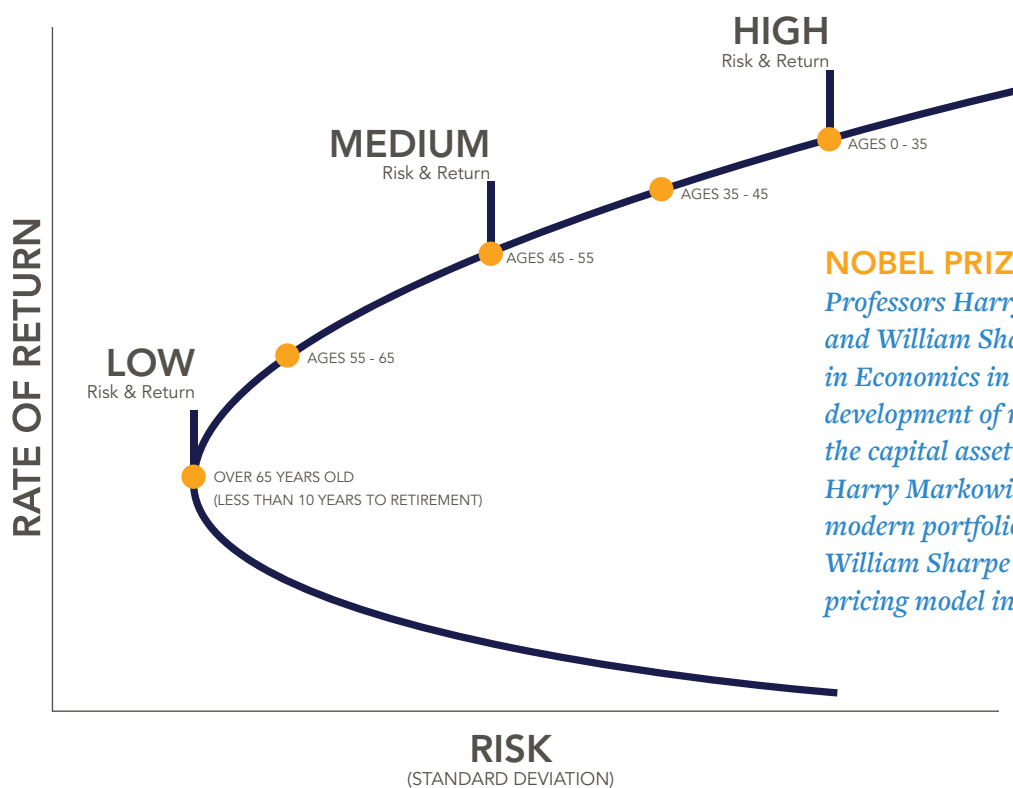
The Efficient Frontier is a cornerstone of modern portfolio theory. It holds that a set of portfolio constructions will provide optimal performance for various levels of risk, as shown in the diagram below.

- / Portfolios on the line are expected to deliver the highest return for a given level of risk.
- / Portfolios below the line are not efficient because they do not provide enough return.
- / Portfolios above the line are not efficient because they take on too much risk.

// PRESERVING RETIREMENT ASSETS

Each investor chooses a portfolio that aligns with the amount of risk he or she is willing to accept financially and tolerate emotionally. Often, financial professionals match efficient frontier portfolios with levels of risk based on investors' ages. Generally, as investors grow older, they opt for more conservative portfolios with lower levels of risk.

Reducing risk exposure may be particularly important for investors who are approaching retirement and seek to avoid large swings in the value of their retirement nest eggs.



The most common use of different efficient frontier portfolios is to manage risk matched to the investors' ages. Generally, as investors approach retirement, they may seek to avoid the risk of large swings in the underlying retirement nest egg that can come from stock market exposure.

CHART SOURCE: Explaining the Efficient Frontier: <http://www.investopedia.com/video/play/explaining-efficient-frontier/>

A RETROSPECTIVE:

Six Decades of 10-Year U.S. Treasury Bond Yields

Since 1950, the United States has experienced both the worst bear market for bonds in its history and the greatest bull market for bonds in its history. These two events divide the last 69 years into two distinct periods.

On the first day of 1950, a 10-year U.S. Treasury bond yielded 2.32%. The minimum wage was 75 cents an hour, and a first-class postage stamp cost three cents.^{2,3}

// IT WAS THE START OF THE WORST BEAR MARKET FOR BONDS IN U.S. HISTORY

From 1950 through 1981, many investors purchased bonds with locked-in interest rates. Those who needed to sell their bonds into the secondary market prior to maturity may have found that the bonds in their portfolio lost value.

On the first day of 1982, the yield on a 10-year U.S. Treasury bond had climbed to 14.59%. The minimum wage had risen to \$3.35, and a first-class postage stamp cost 20 cents.^{2,3}

The table below details the impact of rising interest rates on bond funds with varying durations.

// POTENTIAL CHANGE IN BOND VALUES

| | | BOND DURATION (YEARS) | | | | | | | | | |
|-------------------------|-----|-----------------------|------|------|------|------|------|------|------|------|--|
| | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| CHANGE IN INTEREST RATE | +1% | -2% | -3% | -4% | -5% | -6% | -7% | -8% | -9% | -10% | |
| | +2% | -4% | -6% | -8% | -10% | -12% | -14% | -16% | -18% | -20% | |
| | +3% | -6% | -9% | -12% | -15% | -18% | -21% | -24% | -27% | -30% | |
| | +4% | -8% | -12% | -16% | -20% | -24% | -28% | -32% | -36% | -40% | |
| | +5% | -10% | -15% | -20% | -25% | -30% | -35% | -40% | -45% | -50% | |

// FOR BOND INVESTORS IN THE SECONDARY MARKET, THE GREATEST BULL MARKET FOR BONDS IN OUR NATION'S HISTORY WAS ABOUT TO BEGIN.

From 1982 through 2013, a record decline in interest rates was a boom for investors. Many received a guaranteed rate of return on the bonds in their portfolios and realized appreciation in the value of those bonds as interest rates fell.

By the first day of 2013, the yield on a 10-year U.S. Treasury bond had fallen to 1.9%. The minimum wage was \$7.25, and a first-class postage stamp cost 46 cents (and it was used less often because of electronic mail).^{2,3}

On the first day of 2019, the yield on a 10-year U.S. Treasury bond was about 2.71%. There is little room for rates to fall further. Rather, it seems likely that rates may start to rise or remain stagnant, which could increase portfolio risk for many investors buying bonds today since bond values in the secondary market tend to decline in a rising interest rate environment.

FINRA issued an Investor Alert giving the following example: "...a bond fund with 10-year duration will decrease in value by 10 percent if interest rates rise one percent."⁴

2. U.S. Department of Labor - <http://www.dol.gov/whd/minwage/coverage.htm>

3. U.S. Postal Service - <https://about.usps.com/who-we-are/postal-history/domestic-letter-rates-since-1863.pdf>

4. FINRA, Duration - What an Interest Rate Hike Could Do to Your Bond Portfolio <http://bit.ly/1ktg1GX>

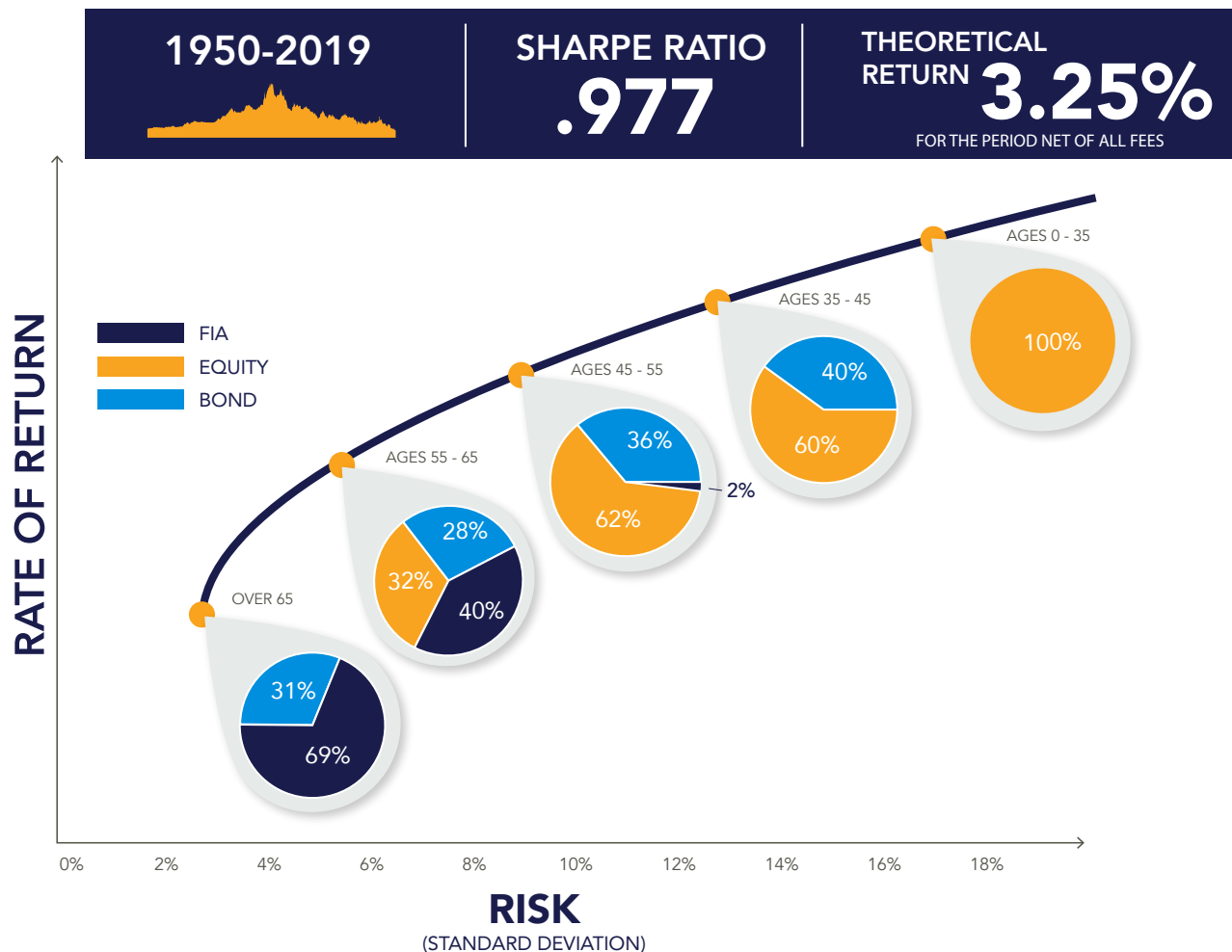
FIXED INDEX ANNUITIES REDUCE RISK IN AN OPTIMIZED PORTFOLIO

1950-2018:
OPTIMIZING
PERFORMANCE
THROUGH
REDUCING
PRINCIPAL RISK

It's important to understand that an efficient portfolio is not a constant. Different combinations of investments deliver optimal risk-adjusted performance based upon different performance relationships in the underlying investments.

The first period we measured encompassed both bear and bull markets for bonds. From 1950 to 2019, returns on the portfolios we constructed ranged from 5.60% (69% FIA and 31% 10-year Treasury bonds) to 11.31% (100% equities).

Adding FIAs improved risk-adjusted performance during a period that included both rising and falling interest rates. While past performance is no guarantee of future results, it's possible that Americans who seek to reduce portfolio risk as they approach retirement or retire, may be able to achieve optimal portfolio performance by increasing the weighting of fixed index annuities in their portfolios. Of course, they should consider the overall suitability of the annuity, such as the ability to meet liquidity needs in light of surrender charges and other restrictions, limitations, and risks.



WealthVest first researched the role of fixed index annuities in an optimized portfolio in 2015. We have been analyzing different time periods and different index strategies since that original research. Recently, the highly recognized economist, Roger Ibbotson⁵, introduced similar research into fixed index annuities as a component of an optimized portfolio in a WealthManagement.com interview.

There are slight differences in the approaches of WealthVest and Roger Ibbotson. The time periods vary slightly. Ibbotson uses a three-year index (which tends to generate higher market participation due to lower hedging costs amortized over the multi-year period), while WealthVest uses a single year annual point to point strategy.

Finally, and most consequentially, Ibbotson uses a dynamic hypothetical assessment of fixed index annuity market participation---which varies according to interest rates and therefore the market participation varies greatly by year. WealthVest uses a fixed 50% participation rate, which is currently available in the market. What is ultimately important is that both sets of data conclude that adding FIAs to your portfolio can help mitigate the risk of stocks and bonds, while locking in gains.

// WEALTHVEST SUMMARY STATISTICS 1928-2019 WITH ALL FEES AND 30% FIA PARTICIPATION RATE

| | BONDS | S&P 500® | S&P 500® FIA 30% PARTICIPATION RATE |
|----------------------------------|--------|----------|-------------------------------------|
| ANNUALIZED RETURN | 3.76% | 8.57% | 3.62% |
| MEAN RETURN | 4.03% | 10.45% | 3.69% |
| MEDIAN RETURN | 2.16% | 12.75% | 3.19% |
| STANDARD DEVIATION | 7.67% | 19.58% | 3.79% |
| MINIMUM ANNUALIZED 3-YEAR RETURN | -2.29% | -28.43% | 0.00% |
| MAXIMUM ANNUALIZED 3-YEAR RETURN | 20.00% | 29.73% | 8.52% |

5. Britton, Diana. "Ibbotson: Fixed Indexed Annuities Beat Out Bonds." Wealth Management, 7 Mar. 2018, www.wealthmanagement.com/insurance/ibbotson-fixed-indexed-annuities-beat-out-bonds.

IBBOTSON SUMMARY STATISTICS 1927-2016 WITH MANAGEMENT FEES AND DYNAMIC PARTICIPATION RATES

A key rationale for WealthVest’s original research was to determine the benefits of a fixed index annuity relative to bonds. WealthVest believes this is very timely today. Over the past five years, bonds have flirted with interest rates at 5,000 year lows⁶. WealthVest believes that this means that interest rates are likely to increase over the coming decade, and this is negative for secondary bond market values.

Further, WealthVest’s research suggests that FIAs perform very well relative to bonds—and as part of a stock and bond portfolio during periods of rising interest rates. *The Ibbotson research echoes the WealthVest findings.*

// WEALTHVEST OVERALL RETURNS 1928-2018

| | OVERALL PERIOD AVERAGE RETURN |
|---|-------------------------------|
| BONDS – FEES | 4.03% |
| S&P 500® WITH DIV – FEES | 10.45% |
| FIA WITH 50% PARTICIPATION RATE IN S&P 500® | 3.69% |
| 60/40 (STOCKS/BONDS) | 7.88% |
| 60/20/20 (STOCKS/BONDS/FIA) | 7.82% |
| 60/40 (STOCKS/FIA) | 7.75% |

// IBBOTSON OVERALL RETURNS 1927-2016

| | OVERALL PERIOD AVERAGE RETURN |
|-----------------------------|-------------------------------|
| LONG TERM GOVERNMENT BONDS | 5.43% |
| LARGE CAP STOCKS | 10.63% |
| FIA | 5.98% |
| 60/40 (STOCKS/BONDS) | 8.55% |
| 60/20/20 (STOCKS/BONDS/FIA) | 8.66% |
| 60/40 (STOCKS/FIA) | 8.77% |

6. WealthVest, “5,000 Years of Interest rates”, 2018.

A PARABLE FOR TODAY'S STOCK AND BOND VALUATIONS

Finally, when evaluating stocks and bonds both asset classes are at historic highs—which mean both asset classes have a high probability of future returns being lower than those of recent years.

If history is a guide, stock returns could be negative over the next decade and bond returns could be very low.

Fixed index annuities can be attractive because they protect principal value. The investors' core retirement funds are guaranteed by an insurance company. Therefore it is a bonus that index annuities typically outperform bonds and sometimes stocks during periods of rising interest rates.

// WEALTHVEST OPTIMIZATION RESEARCH FOR FIAs 1966-1981 WITH ALL FEES AND 50% FIA PARTICIPATION RATE

| | BONDS | S&P 500® | S&P 500® FIA 30% PARTICIPATION RATE |
|---|--------|----------|-------------------------------------|
| ANNUALIZED RETURN | 2.50% | 4.83% | 2.66% |
| MEAN RETURN | 2.67% | 6.30% | 2.70% |
| MEDIAN RETURN | 1.74% | 7.54% | 1.31% |
| STANDARD DEVIATION | 6.15% | 17.91% | 3.20% |
| MINIMUM ANNUALIZED 3-YEAR RETURN | -2.29% | -10.12% | 0.77% |
| MAXIMUM ANNUALIZED 3-YEAR RETURN | 8.52% | 17.35% | 5.00% |

An important time period for consideration is 1966-1981. Stock market valuations were similar to 2018. Bond yields were much higher, but they were about to increase from 4.84% to over 12%, an unprecedented increase in America's history.

These similarities make 1966-1981 an attractive point of comparison. During this period the average return of the S&P 500® after fees, was roughly 1.75% higher than our hypothetical FIA and on an annualized basis the FIA return was less than .5% lower.

Guarantees are backed by the financial strength and claims-paying ability of the issuing insurance company and do not apply to the performance of the index, which will fluctuate with market conditions. Annuities are designed to meet long-term needs of retirement income. Early withdrawal charges will apply if money is withdrawn during the early withdrawal charge period. Before purchasing an annuity, read and understand the disclosure document for the early withdrawal charge schedule. The purchase of an annuity is an important financial decision. Talk to your financial professional to learn more about the risks and benefits of annuities.

Standard & Poor's® and S&P 500® are registered trademarks of Standard & Poor's Financial Services LLC. WealthVest is not affiliated with, nor does it have a direct business relationship with Standard & Poor's Financial Services LLC. When you buy a fixed index annuity, you own an insurance contract. You are not buying shares of any stock or index.

IN CLOSING

A critical intellectual pillar of portfolio management is the study of the efficient frontier. By optimizing portfolios, financial professionals can deliver levels of return that are commensurate with investors' risk tolerance. That, in turn, may help producers address two of investors' worst fears regarding retirement.

#1. LOSING RETIREMENT SAVINGS

When it comes to balancing risk and return for retirement savings, Americans tip toward the cautious end of the spectrum. *During 2014, 64% of all investors participating in a national survey indicated they would prefer a secure investment even if the potential for growth was low.*⁷ A separate survey found that the vast majority of investors have become less comfortable with investment risk during the past 10-years.⁸ About 30% are uncomfortable with the idea of putting any of their savings at risk, and 44% indicated they could tolerate the loss of 5% of their savings.

#2. OUTLIVING RETIREMENT SAVINGS

Not too long ago, Social Security benefits, pension plan income, and personal savings provided steady income that retirees could rely on receiving throughout retirement. Today, pension plans are rapidly disappearing, and worries about inflation, high healthcare costs, inadequate savings, and other issues, have many investors worried they will outlive their savings during retirement. In fact, the possibility of outliving retirement savings is more *frightening than the prospect of dying for 62% of Americans age 45 and over.*⁸

Optimizing portfolios, so that investors receive the greatest potential return for the level of risk they are willing to incur, is a solution that makes sense. The research presented in this paper indicates that fixed index annuities should be included when analyzing portfolio optimization options.

Fixed index annuities may not be appropriate for all pre-retirees and retirees; however, the results of our quantitative analysis are telling. If an investor is evaluating risk and return opportunities, fixed index annuities should be considered in the portfolio, along with more traditional types of investments.

This is not a comprehensive overview of all the relevant features and benefits of these products. Before making a decision to purchase a fixed index annuity, a potential customer should be sure to review all of the material details about the product and discuss the suitability of the product for his/her financial planning purposes with a qualified financial advisor.

7. Saad, Lydia. "Investors Risk-Averse When It Comes to Retirement Savings." Gallup.com, 31 Mar. 2014: <http://bit.ly/1LjcPdr>

8. WealthVest Investors on Risk Survey, Conducted 2018

UNDERLYING ASSUMPTIONS

The calculations in this study include the application of various fees commonly involved in investing as follows: the study assumes a fee of .07% for all calculations involving stocks, which was the average expense ratio of long-term equity mutual fund investors in 2019, and a fee of 0.07% for calculations involving bonds, which was the average bond fund expense during 2019.⁹ The hypothetical FIA returns used in this study do not reflect any fees. The study also assumes a 1.07% annual advisory fee, which is based on the annual average fee for households with managed assets of \$1 million to \$1.5 million, on top of these fees.¹⁰

// BONDS AND S&P 500® DATA:

Return data for bonds and the S&P 500® alongside historical S&P 500® Dividends Yields, were sourced from New York University (NYU) Stern School of Business.

// FIA RETURNS:

The study used a hypothetical FIA with an S&P 500® index-linked interest crediting method. It used a 30% S&P 500® participation rate to approximate FIA returns for the time-period between 1950 and 2019. Note that, past performance is based on hypothetical historical data and is not indicative of future results. Actual results will vary based on market conditions, index allocations, crediting methods, and index strategies.

// RISK- FREE RATE:

WealthVest uses .71% as the assumption for its risk-free rate.

9. ICI. Trends in the Expenses and Fees of Mutual Funds, 2018. <https://www.ici.org/pdf/per25-01.pdf>

10. Price Metrix. The State of Retail Wealth Management, 2018.

<https://www.pricemetrix.com/cms/wp-content/uploads/State-of-Retail-Whitepaper-2018.pdf?t=1557498703>

KEY TERMS

Fixed Index Annuity:

A fixed index annuity (FIA) is a tax-deferred, long-term retirement savings vehicle issued by an insurance company. FIAs are designed to meet long-term needs for retirement income. While product and feature availability may vary by insurance carrier and state, in general, FIAs provide guarantees of premium (backed on the financial strength and claims paying ability of the issuing company,) credited interest (subject to surrender charges) and a death benefit for beneficiaries. Any distributions may be subject to ordinary income tax and, if taken prior to age 59 1/2, an additional 10% federal tax. Early withdrawals may result in loss of premium and credited interest due to surrender charges.

Standard & Poor's 500 Index - S&P 500®:¹¹

An index of 500 stocks chosen for market size, liquidity, and industry grouping, among other factors. The S&P 500® is designed to be a leading indicator of U.S. equities and is meant to reflect the risk/return characteristics of the large cap universe.

Dow Jones Industrial Average - DJIA:¹²

The Dow Jones Industrial Average is a price-weighted average of 30 significant stocks traded on the New York Stock Exchange and the NASDAQ. The DJIA was invented by Charles Dow in 1896.

Sharpe Ratio:¹³

The Sharpe Ratio is a measure for calculating risk-adjusted return, and this ratio has become the industry standard for such calculations. It was developed by Nobel laureate William F. Sharpe. The Sharpe ratio is the average return earned in excess of the risk-free rate per unit of volatility or total risk. Subtracting the risk-free rate from the mean return, the performance associated with risk-taking activities can be isolated. One intuition of this calculation is that a portfolio engaging in "zero risk" investment, such as the purchase of U.S. Treasury bills (for which the expected return is the risk-free rate), has a Sharpe ratio of exactly zero. Generally, the greater the value of the Sharpe ratio, the more attractive the risk-adjusted return.

Ex-Post Sharpe Ratio:¹³

The Ex-Post Sharpe Ratio is the average return in excess of the risk-free rate per unit of volatility using realized returns.

Theoretical Return:

Fixed Index Annuities were introduced in 1995, so this study uses the process of back-testing to approximate performance where actual performance does not exist. Past performance is not an indication of future results. Back-tested performance is not actual historical performance, but is hypothetical. The back-test period does not necessarily correspond to the entire available history of the index. Additionally, back-tested calculation is prepared with the benefit of hindsight and the data reflects the application of the index methodology and selection of index constituents in hindsight.

Optimized Portfolio:¹⁴

Determination of weights of securities in a portfolio so that it best suits a given objective, e.g. maximize return for a given risk.

Risk-Free Rate:¹⁵

The risk-free rate of return is the theoretical rate of return of an investment with zero risk. The risk-free rate represents the interest an investor would expect from an absolutely risk-free investment over a specified period of time.



11. Standard & Poor's 500 Index: <http://www.investopedia.com/terms/s/sp500.asp>

12. Dow Jones Industrial Average: <http://www.investopedia.com/terms/d/djia.asp>

13. Sharpe Ratio, Ex-Post Sharpe Ratio: Investopedia: <http://www.investopedia.com/terms/s/sharperatio.asp>

14. Optimized Portfolio: <http://www.nasdaq.com/investing/glossary/p/portfolio-optimization>

15. Risk-Free Rate: <https://www.investopedia.com/terms/r/risk-freerate.asp>

FIXED INDEX ANNUITIES MAY PROVIDE:

PREMIUM PROTECTED

Your annuity value and all annual interest credits are protected from market loss



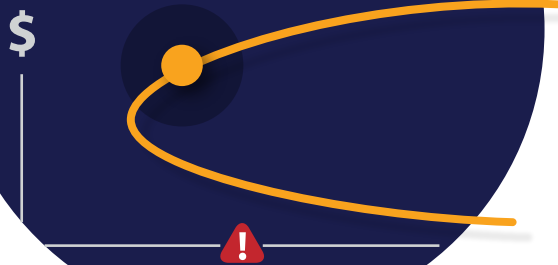
INCOME SECURED

Income from your FIA can be guaranteed for life and is guaranteed to grow the longer you wait.



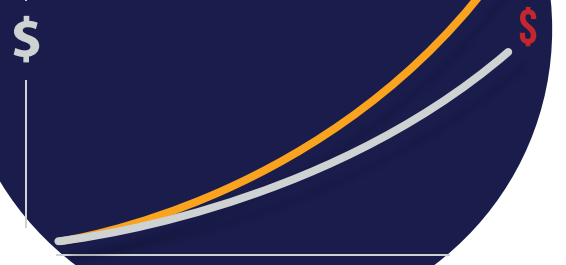
GROWTH OPTIMIZED

Adding FIA's to your portfolio adds safety, while preserving return.



TAX DEFERRED

Interest credits are tax-deferred during accumulation.



Annuities are designed to meet long-term needs for retirement income. They provide guarantees of premium and credited interest, subject to surrender charges, and a death benefit for beneficiaries.

The interest credited on an annuity contract may be affected by the performance of an external index. However, the annuity contract does not directly participate in the index or any equity or fixed interest investments. The annuity contract does not constitute buying shares of an index. The index value does not include the dividends paid on any equity investments underlying any equity index or any interest paid on any fixed income investments underlying any bond index. These dividends and interest are not reflected in the interest credited to the annuity contract. This material is intended for informational purposes only and is not intended to serve as the basis for any investment or purchasing decision.

Guarantees are backed by the financial strength and claims paying ability of the issuing company.



Photo: Hyalite Canyon, Bozeman MT



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