THE NYSE® ZEBRA EDGE® INDEX:

A Systematic, Tactical Asset Allocation Strategy Seeking to Avoid Behavioral Bias

Research Note
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John J. Holmgren, Jr.
President and COO
Zebra Capital Management, LLC

Paul A. St. Pierre
Portfolio Management Analyst
Zebra Capital Management, LLC

EXECUTIVE SUMMARY

- The NYSE® Zebra Edge® Index (the "Index") was designed to leverage cutting-edge research in behavioral finance to avoid and exploit behavioral bias. The index seeks to generate higher returns with less risk.
- Nationwide New Heights® fixed indexed annuities ("New Heights®") offer options tracking the positive movement of the Index.
- A fixed indexed annuity ("FIA") is a contract issued by an insurance company that provides the opportunity to earn interest based on positive changes in an index. Regardless of index performance, indexed annuity contract values are not impacted by negative index returns. An FIA is not a stock market investment and does not directly participate in any stock or equity investment.
- The low daily volatility of the Index potentially allows for much higher FIA index participation rates, the amount of positive index performance used when calculating interest earnings, as compared to traditional large-cap index options.
- Within a stock-bond portfolio framework, shifting a modest allocation to a Nationwide New Heights® FIA with the NYSE® Zebra Edge® Index as an option for interest crediting ("New Heights® NYSE® Zebra Edge® Index FIA") may increase portfolio returns and reduce risk.
- For long-term investors seeking to de-risk their portfolios as they approach retirement, the NYSE® Zebra Edge® Index may be an attractive Nationwide New Heights® option for interest crediting.

THE NYSE® ZEBRA EDGE® INDEX

The NYSE® Zebra Edge® Index pursues a systematic, tactical asset allocation strategy that seeks to avoid and exploit behavioral bias. The Index dynamically allocates between stocks, bonds and cash in an attempt to deliver attractive and consistent risk-adjusted returns. The NYSE® Zebra Edge® Index targets a 5% annualized volatility daily, was launched on October 11, 2016 and is available as an index option for Nationwide New Heights® fixed indexed annuities.

FIXED INDEXED ANNUITIES: CONSIDER THE ALTERNATIVE

Roger G. Ibbotson, PhD.

In his recently published white paper, "Fixed Indexed Annuities: Consider the Alternative," our colleague and renowned professor of finance Roger Ibbotson made a strong case that in today's low interest rate environment, an FIA may be an attractive alternative to traditional fixed income options like bonds for people approaching retirement and those seeking to de-risk their portfolio.

Roger found that, in simulation, a "generic" uncapped FIA using dynamic participation rates for a large-cap U.S. equity index (many insurance companies today offer contracts with the S&P 500® Index as an option) outperformed long-term bonds with similar risk characteristics and provided better downside protection over the period 1927–2016. His main point, however, was not that the modeled FIA outperformed bonds in hindsight. His major message was that going forward bond returns will likely disappoint and the growth potential and floor guarantee profile offered by an uncapped FIA may be an attractive option to consider.

Roger is probably best known for his research in asset allocation and retirement planning. What people may not be aware of is his latest award-winning research in behavioral finance. The NYSE® Zebra Edge® Index, which leverages this new research, is based upon intellectual and other property rights developed by Roger and our team at Zebra Capital Management, LLC ("Zebra Capital"), which Zebra Capital then licensed to ICE Data Indices, an affiliate of the New York Stock Exchange (NYSE®).

ZEBRA CAPITAL: BUILDING A BETTER INDEX BY AVOIDING BEHAVIORAL BIAS

Academic research shows that people (or at least a significant minority) make irrational financial decisions, and the field of behavioral finance attempts to provide explanations for these decisions.[1]

Researchers have documented many decision-making behaviors called heuristics. A heuristic is a mental shortcut, strategy or simple rule of thumb to help people make complex decisions. A systematic error that results from the use of a heuristic is called a cognitive bias.

For example, many investors today are overwhelmed with information (news stories, social media and investment blogs). Try as we may, it is impossible to rationally process this volume. Without realizing it, we rely upon heuristics to help us deal with the barrage of data. Instead of considering all information, we tend to focus on and "overweight" more recent information ("Recency Bias"). If we have an opinion, we tend to gravitate to news or information to support that opinion ("Selective Perception"). We also have a strong preference for stories versus analysis. Stories are memorable.

Collectively, these heuristics may lead to bias, irrational behavior and, in the case of stock prices, overvaluation. Zebra Capital seeks to identify and exploit this irrational behavior. We theorize that investors focus too much on stocks with exciting stories and those in the news. As a result, investors systematically overtrade and overvalue these stocks. Conversely, investors undervalue relatively less popular stocks.

The NYSE® Zebra Edge® Index was designed to systematically avoid these irrational, overly popular stocks that research shows have tended to underperform over time.[2] An added benefit to this approach is that the remaining rational stocks also tend to be less volatile.

Managing volatility and risk is extremely important for long-term performance. Portfolios with higher volatility have lower compounded returns than portfolios with lower volatility (assuming average annual returns are the same). Exhibit 1 demonstrates the negative impact of volatility. Portfolio A has an average annual return of 5.00%, no volatility of annual returns (measured by standard deviation) and produces an annualized return of 5.00%. Portfolio B also has an average annual return of 5.00%, but the annualized volatility is 15.81%, which produces an annualized return of 3.92%. Portfolio C has an average annual return of 5.00% with volatility of 26.35% and produces an annualized return of 1.98%.

[1] Kahneman, Slovik and Tversky. "Judgment Under Uncertainty: Heuristics and Biases." *Science*, vol. 185, no. 4157, 27 September 1974, pp. 1124-1131.

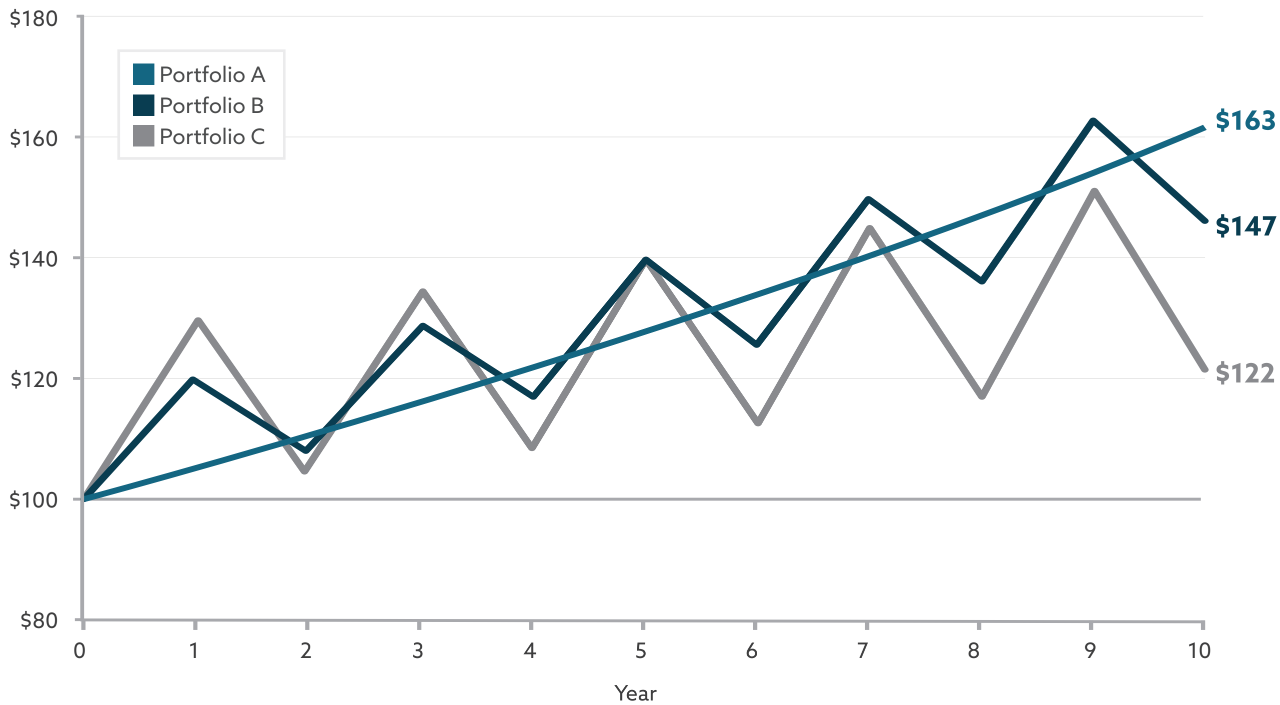
[2] Ibbotson & Kim, "Liquidity as an Investment Style: 2018 Update" [Ibbotson, Chen, Kim & Hu, FAJ 2013], available at zebracapital.com

The impact of volatility is sometimes referred to as "volatility drain" or "volatility drag" and is a very real consideration (Exhibit 2). One hundred dollars invested in Portfolio A would produce $162.89 after 10 years as compared to $146.93 for Portfolio B and $121.67 for Portfolio C. Clearly, all things being equal, we would much prefer the low volatility of Portfolio A.

Exhibit 1: Impact of Volatility on Three Hypothetical Portfolios

	Year	Portfolio A	Portfolio B	Portfolio C
	1	5%	20%	30%
	2	5%	-10%	-20%
	3	5%	20%	30%
	4	5%	-10%	-20%
	5	5%	20%	30%
	6	5%	-10%	-20%
	7	5%	20%	30%
	8	5%	-10%	-20%
	9	5%	20%	30%
	10	5%	-10%	-20%
Average Annual Return		**5%**	**5%**	**5%**
Volatility of Annual Returns		**0%**	**15.81%**	**26.35%**
Annualized Return		**5.00%**	**3.92%**	**1.98%**
Growth of $100		**$162.89**	**$146.93**	**$121.67**

Exhibit 2: Volatility Drain Hypothetical Example



The NYSE® Zebra Edge® Index is primarily focused on allocating to equities, but when volatility is high, the Index will systematically decrease its allocation to equities. The Index reduces allocation (and risk) in volatile environments attempting to avoid significant drawdowns. Because the Index is fully rules-based, emotion and bias that may adversely affect asset allocation decisions are eliminated.

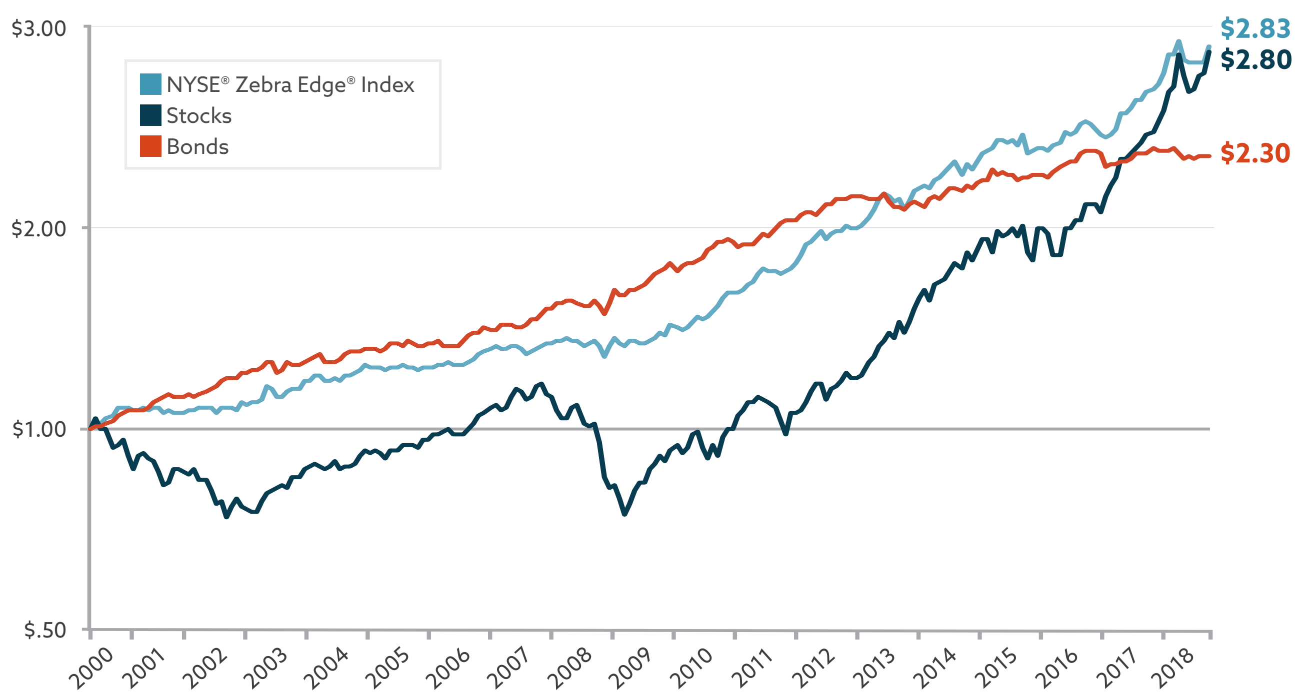
The NYSE® Zebra Edge® Index's "rational" equity strategy offers the potential for higher returns with less volatility and is well matched for a long-term FIA accumulation strategy. The unique design of the FIA eliminates any additional downside risk from a sudden negative market event, and the low daily volatility of the NYSE® Zebra Edge® Index strategy allows Nationwide® to potentially offer much higher participation rates (in comparison to a traditional large-cap equity strategy).

BUILDING UPON "FIXED INDEXED ANNUITIES: CONSIDER THE ALTERNATIVE"

Building upon the framework of "Consider the Alternative," we wanted to explore how the new NYSE® Zebra Edge® Index performed versus stocks and bonds and then as an index option inside an uncapped FIA. Although the NYSE® Zebra Edge® Index went live in 2016, ICE Data Indices backtested and published performance back to August 2000. As a result, our data and analysis are limited to the period August 2000–July 2018. Throughout this report, we use the S&P 500® Index (Total Return) as our proxy for stocks and the Bloomberg Barclays US Aggregate Index as our proxy for bonds.

Exhibit 3 below shows the performance of the Index, stocks and bonds for the period August 2000–July 2018.

Exhibit 3: The NYSE® Zebra Edge® Index, Stocks and Bonds (August 2000–July 2018)[3]



Source: Zebra Capital, Bloomberg, ICE Data Indices and S&P Dow Jones Indices.

[3] The NYSE® Zebra Edge® Index was established on 10/11/16. Performance for the period beginning on 10/11/16 represents the actual performance of the Index. For the period prior to 10/11/16, simulated performance data has been provided as an illustration of how the Index would have performed during the relevant period had the Index sponsor been calculating the Index using the current Index methodology. Such simulated performance data has inherent limitations, as the simulated data is produced by the retroactive application of a backtested methodology. Simulated performance data is based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may have positively affected its performance and may reflect a bias toward strategies that have performed well in the past. This data does not reflect actual performance nor was a contemporaneous investment model run of the Index. Certain components of the Index were unavailable before 7/6/00. Past performance is not indicative of nor does it guarantee future performance. The Index could underperform relative to other equity investment strategies. This hypothetical data includes index transaction fees.

For more information, please see "Important Disclosures" beginning on page 18 and in particular "Simulated Performance Results."

Exhibit 4 shows performance statistics for the Index, stocks and bonds over the period August 2000–July 2018. The Index performed better than bonds with comparable risk metrics. The Index performed comparably with stocks with much lower risk. This low volatility is very important and allows Nationwide to potentially offer higher participation rates, the percentage of positive index performance used to calculate interest credited, within the New Heights® NYSE® Zebra Edge® Index FIA.

Exhibit 4: The NYSE® Zebra Edge® Index, Stocks and Bonds (August 2000–July 2018)[4]

	Annualized Return	Standard Deviation	Return to Risk Ratio	Maximum Drawdown
NYSE® Zebra Edge® Index	5.95%	4.71%	1.26	-6.01%
Stocks	5.89%	14.36%	0.41	-50.95%
Bonds	4.74%	3.41%	1.39	-3.83%

Source: Zebra Capital, Bloomberg, ICE Data Indices and S&P Dow Jones Indices.

NEW HEIGHTS® NYSE® ZEBRA EDGE® INDEX FIA VERSUS BONDS

Since the Index was not available as an FIA option prior to 2017, we do not have a previous live history for the New Heights® NYSE® Zebra Edge® Index FIA. We can, however, use hypothetical crediting factors as a baseline for the entire period and make some relative inferences.[5]

[4] See footnote 3.

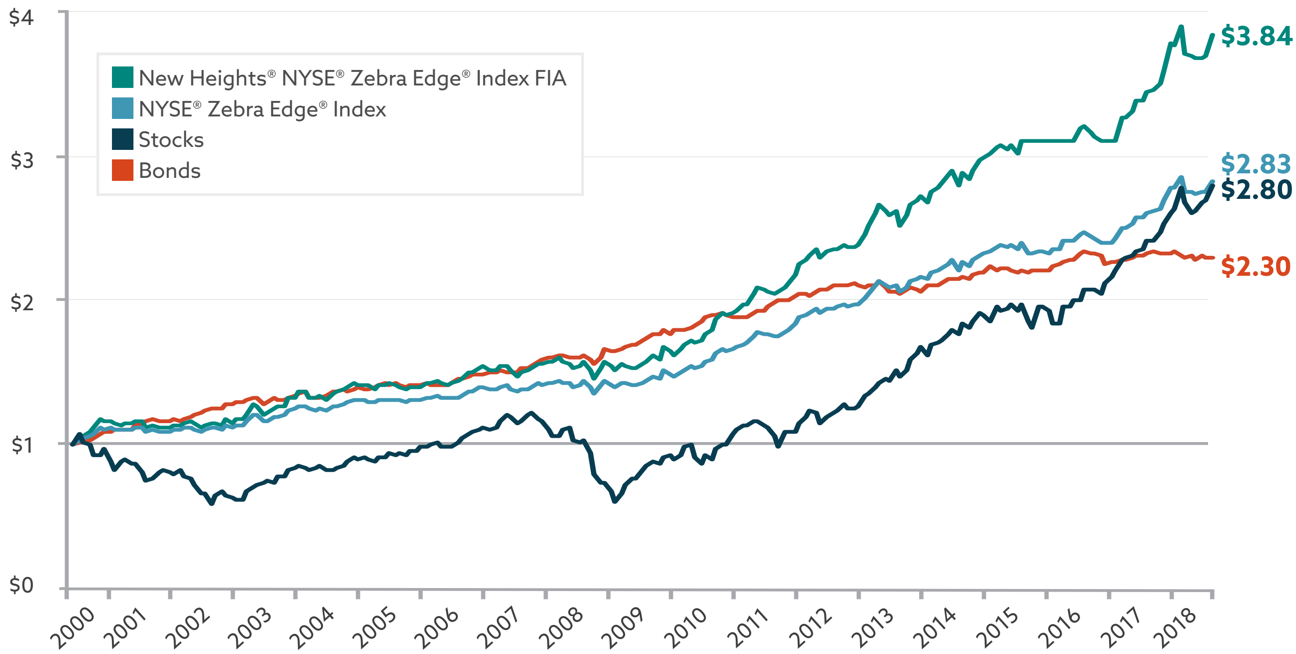
[5] A 12-year contract term, 3-year strategy term and a minimum 3-year net return of 0.00% were assumed. In addition, crediting factors of a 150% uncapped Index Allocation (participation rate), 0% Declared Rate Allocation, 0% Declared Rate and a 1% annual strategy spread were also assumed. A spread is an annual percentage rate that is deducted when calculating earnings and applied to increase the participation rate. In practice, crediting factors are guaranteed for the first strategy term only and are subject to change in each additional term.

Historical Approach

One approach to analyze how a hypothetical FIA "might have" credited interest relative to bonds is to assume fixed crediting factors (in this case, a 150% participation rate and a 1% spread) and then simulate the growth of the FIA and investments over a time frame.

Exhibit 5 shows hypothetical cumulative performance for the Index, New Heights® NYSE® Zebra Edge® Index FIA, stocks and bonds over the period August 2000–July 2018, and Exhibit 6 summarizes the growth.

Exhibit 5: Cumulative Performance (Growth of $1) of the NYSE® Zebra Edge® Index, New Heights® NYSE® Zebra Edge® Index FIA (with 150% Participation Rate and 1% Spread), Stocks and Bonds (August 2000–July 2018)[6]



Source: Zebra Capital, Bloomberg, ICE Data Indices and S&P Dow Jones Indices.

[6] The NYSE® Zebra Edge® Index was established on 10/11/16. Performance for the period beginning on 10/11/16 represents the actual performance of the Index. For the period prior to 10/11/16, simulated performance data has been provided as an illustration of how the Index would have performed during the relevant period had the Index sponsor been calculating the Index using the current Index methodology. Such simulated performance data has inherent limitations, as the simulated data is produced by the retroactive application of a backtested methodology. Simulated performance data is based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may have positively affected its performance and may reflect a bias toward strategies that have performed well in the past. This data does not reflect actual performance nor was a contemporaneous investment model run of the Index. Certain components of the Index were unavailable before 7/6/00. Past performance is not indicative of nor does it guarantee future performance. The Index could underperform relative to other equity investment strategies. This hypothetical data includes index transaction fees.

A 12-year contract term, 3-year strategy term and a minimum 3-year net return of 0.00% were assumed. In addition, crediting factors of a 150%, or varying as noted in following exhibits, uncapped Index Allocation (participation rate), 0% Declared Rate Allocation, 0% Declared Rate and a 1% annual strategy spread were also assumed. In practice, crediting factors are guaranteed for the first strategy term only and are subject to change in each additional term. This hypothetical example does not include the impact of withdrawals or charges, including CDSC or optional rider charges, or Market Value Adjustment (MVA).

For more information, please see "Important Disclosures" beginning on page 18 and in particular "Simulated Performance Results."

Exhibit 6: Cumulative Performance Summary of the New Heights® NYSE® Zebra Edge® Index FIA (with 150% Participation Rate and 1% Spread), Stocks and Bonds (August 2000–July 2018)[7]

	New Heights® NYSE® Zebra Edge® Index FIA	Stocks	Bonds
Term 1 (Aug 00–Jul 03)	20.15%	-27.61%	27.75%
Term 2 (Aug 03–Jul 06)	18.13%	36.02%	11.46%
Term 3 (Aug 06–Jul 09)	9.39%	-17.36%	20.86%
Term 4 (Aug 09–Jul 12)	51.75%	48.65%	21.99%
Term 5 (Aug 12–Jul 15)	32.15%	62.55%	4.87%
Term 6 (Aug 15–Jul 18)	23.47%	42.46%	4.55%
Annualized Return	**7.77%**	**5.89%**	**4.74%**
Maximum Drawdown	**-9.30%**	**-50.95%**	**-3.83%**
Minimum 3-Year Return	**9.39%**	**-27.61%**	**4.55%**
Cumulative Return	**284.46%**	**180.11%**	**130.18%**

Source: Zebra Capital, Bloomberg, ICE Data Indices and S&P Dow Jones Indices.

Over this period, the New Heights® NYSE® Zebra Edge® Index FIA would have grown more than stocks and bonds and had a 7.77% annualized return versus 5.89% for stocks and 4.74% for bonds.

It may seem unusual to have a drawdown for an FIA, since FIAs by definition are principal protected. New Heights® tracks values daily, however, so positive strategy change may be reduced during a crediting term – which is tracked here as a Maximum Drawdown – but will never be less than zero.

The historical approach, however, does have shortcomings. The major flaw is that the results are very dependent and sensitive to the start date. We should therefore be somewhat cautious about drawing inferences from this result because it is only one possible result.

[7] See footnote 6.

AN ALTERNATE APPROACH:
RANDOM AND CONDITIONAL HISTORICAL ANALYSIS

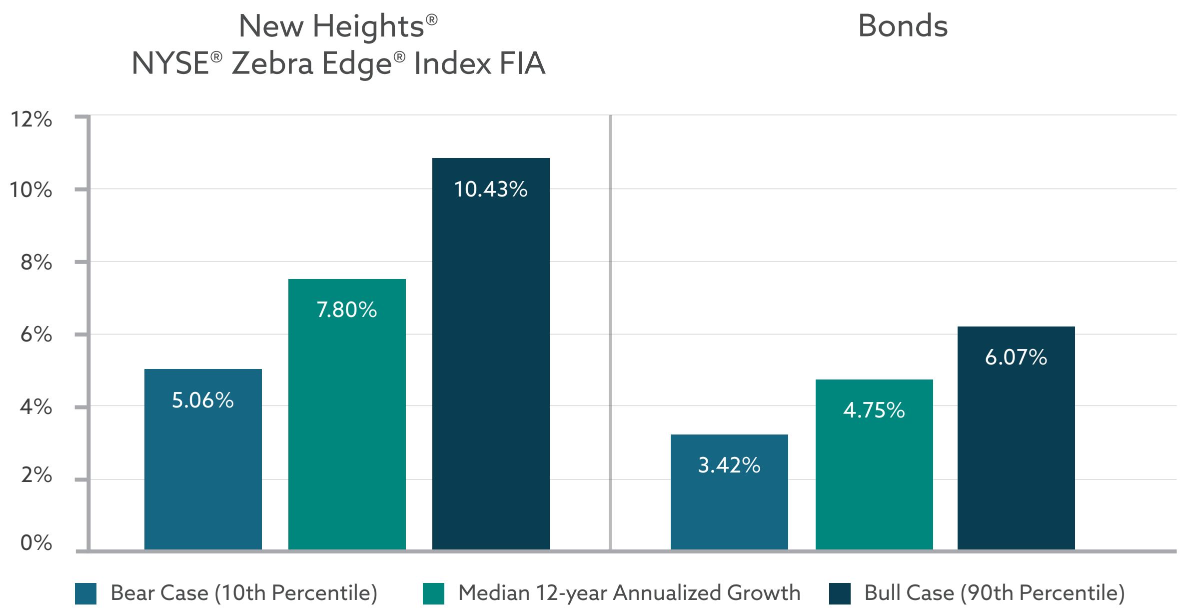
An alternate and potentially more informative approach is to use Monte Carlo random sampling techniques and conditional analysis (i.e., varying participation rates). Like the Historical Approach, we assume hypothetical crediting factors are fixed for a 12-year time frame. However, in contrast to the Historical Approach of simulating the time frames based upon the actual monthly returns (in the order they occurred), we create a 12-year simulation randomly drawing 144 monthly returns from the pool of known returns. This alternate approach has the advantage of better capturing extreme events (such as a random clustering of poor monthly returns) and addresses the timing issue of our historical approach. We then run the simulation 10,000 times and report on the distribution of results.

Exhibit 7 shows the results of our 10,000 trials. The "Bear Case" represents the 10th percentile break point of the simulations (sorted worst to best), and the "Bull Case" represents the 90th percentile break point. Focusing on the median results, the New Heights® NYSE® Zebra Edge® Index FIA beat out bonds by a wide margin (7.80% 12-Year Median Annualized Return vs 4.75% for bonds).

The above analysis assumes fixed crediting factors (in this case, a 150% participation rate and a 1% spread). Of course, participation rates do change over time, and these rates have a major impact on performance. Participation rates are influenced in part by the volatility of the underlying index, interest rates and the slope of the yield curve. Generally speaking, higher interest rates and a steeper yield curve should positively influence participation rates. We wanted to explore how sensitive the New Heights® NYSE® Zebra Edge® Index FIA might be to varying participation rates. Exhibit 8 shows the 12-Year Annualized Returns that could have been achieved with varying participation rates and Exhibit 9 shows the 12-Year Growth of $100 given the same assumptions.

A word of caution: Monte Carlo simulation techniques are certainly informative but do have limitations. In our case, although we created 10,000 trials of 12-year returns randomly sampling monthly returns (1.44 million random draws), the "pool" of monthly returns we draw from are limited to the actual Index returns for the period August 2000–July 2018. There is an implicit assumption that these past returns (return and risk) reflect future returns. Modeling the past is relatively easy. Predicting the future is impossible.

Exhibit 7: Randomly Sampled Historical Results (with 150% Participation Rate and 1% Spread) – 12-Year Annualized Growth[8]

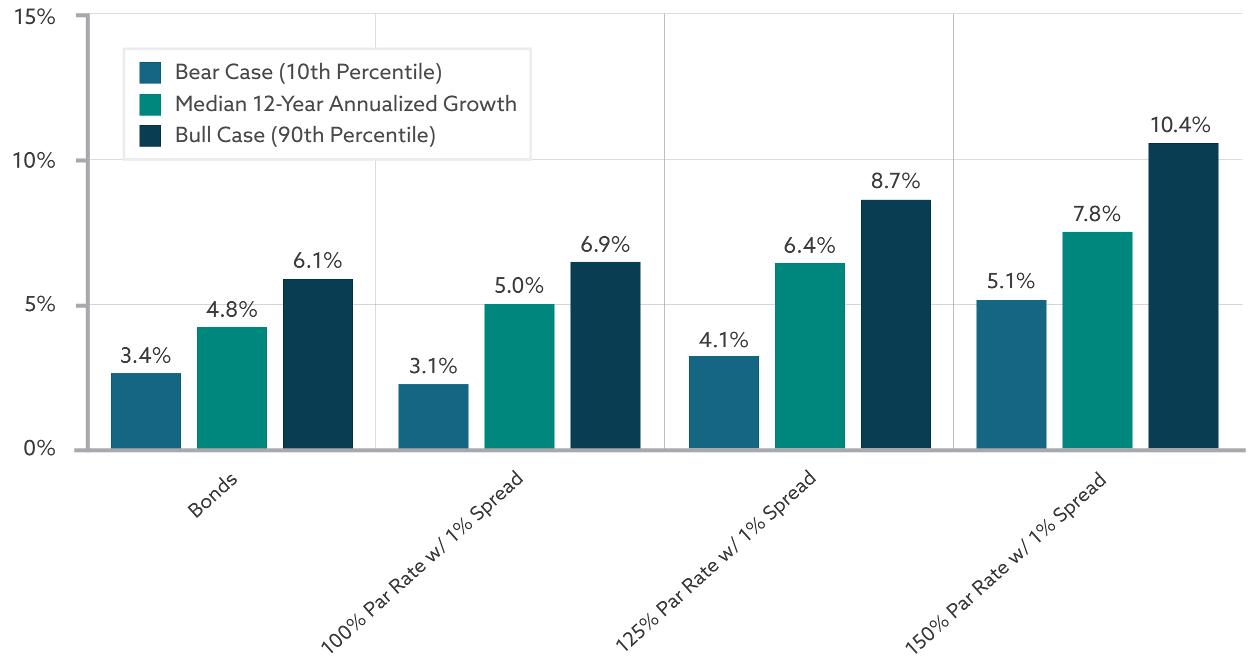


Source: Zebra Capital, Bloomberg and ICE Data Indices.

[8] See footnote 6.

Monte Carlo is an analytical method used to simulate random returns of uncertain variables to obtain a range of possible outcomes. Such simulation does not analyze specific security holdings but instead analyzes the identified asset classes. The historical simulation generated is not a guarantee or projection of future results but rather a tool to identify a range of potential outcomes that could potentially be realized. Results noted may vary with each use and over time.

Exhibit 8: Random and Conditional Historical Results (with Varying Participation Rates) – 12-Year Annualized Growth[8]



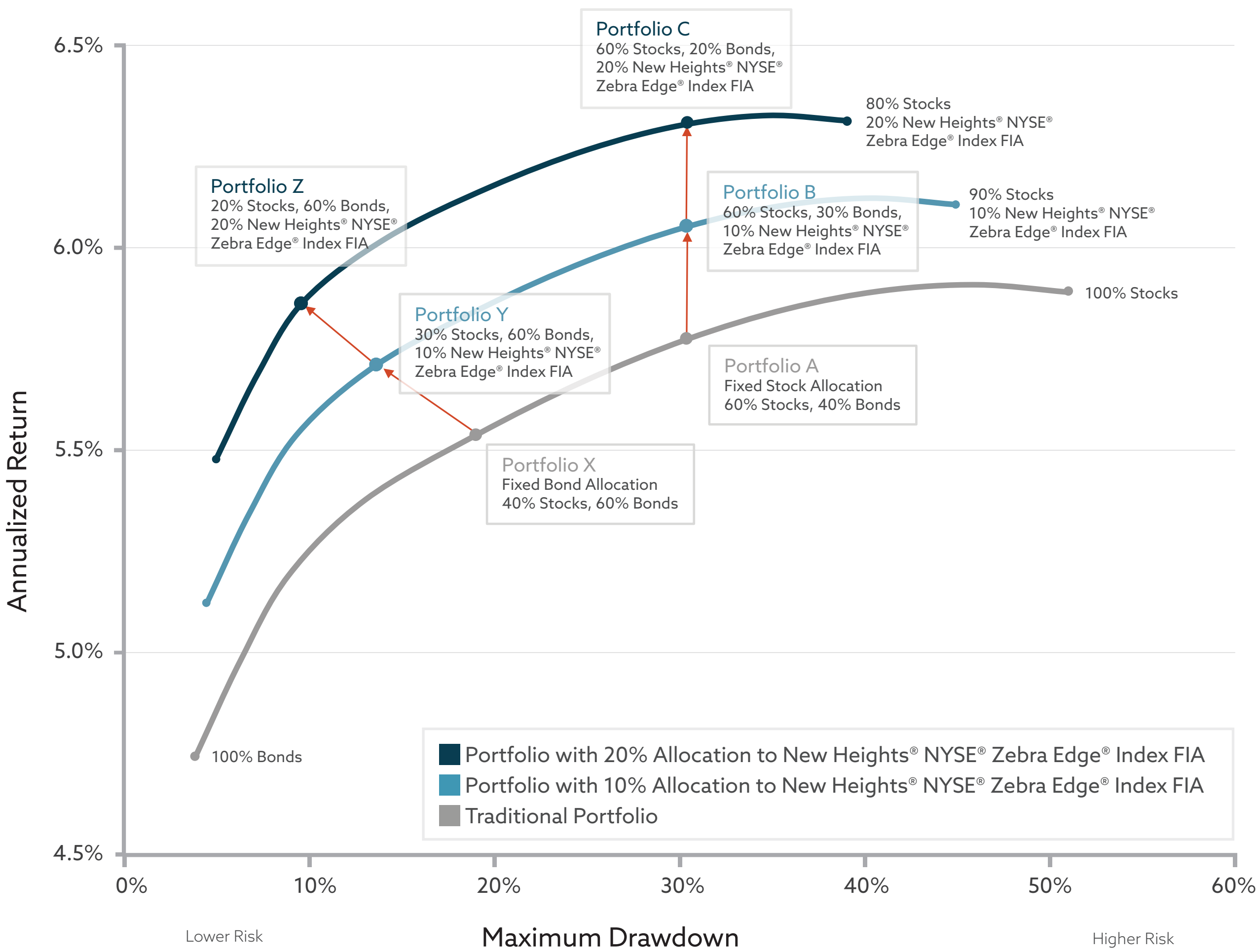
Source: Zebra Capital, Bloomberg and ICE Data Indices.

Exhibit 9: Random and Conditional Historical Results (with Varying Participation Rates) – 12-Year Growth of $100[8]

Source: Zebra Capital, Bloomberg and ICE Data Indices.

Lastly, we wanted to explore the historical portfolio impacts of allocating to the New Heights® NYSE® Zebra Edge® Index FIA versus "traditional" stock and bond portfolios. We formed portfolios of stocks, bonds and the New Heights® NYSE® Zebra Edge® Index FIA (150% Participation Rate with 1% Spread) for the period August 2000–July 2018. Stock and bond allocations were rebalanced yearly to target. Exhibit 10 summarizes the results.

Exhibit 10: Impact of Adding the New Heights® NYSE® Zebra Edge® Index FIA (with 150% Participation Rate and 1% Spread) to "Traditional" Portfolios, August 2000–July 2018[9]



Source: Zebra Capital, Bloomberg, ICE Data Indices and S&P Dow Jones Indices.

[9] See footnote 6.

Approach #1: Deallocate from bonds, allocate to the New Heights® NYSE® Zebra Edge® Index FIA

Portfolios A, B and C illustrate the result of a fixed allocation to stocks beginning with a traditional portfolio of 60% stocks and 40% bonds. Over this period, Portfolio A had an annualized return of 5.77% with a maximum drawdown of 30.39%. Portfolio B represents a repositioned portfolio holding our stocks allocation at 60%, reducing our bond allocation from 40% to 30% and allocating 10% to the New Heights® NYSE® Zebra Edge® Index FIA. Doing so would have increased the annualized return to 6.05% with a comparable maximum drawdown. Portfolio C similarly holds our stocks allocation at 60% but allocates 20% to bonds and 20% to the FIA. Portfolio C had an annualized return of 6.30% with a maximum drawdown of 30.06%. Over this timeframe, holding our stocks allocation fixed, reducing allocation to bonds and increasing allocation to the New Heights® NYSE® Zebra Edge® Index FIA resulted in an increase in portfolio return with a minor reduction in risk (maximum drawdown).

Approach #2: Deallocate from stocks, allocate to the New Heights® NYSE® Zebra Edge® Index FIA

Portfolios X, Y and Z take a slightly different approach: we choose to hold our bond allocation fixed. Portfolio X is a traditional conservative portfolio of 40% stocks and 60% bonds, which realized an annualized return of 5.54% with a maximum drawdown of 19.00%. Portfolio Y deallocates 10% from stocks and allocates 10% to the New Heights® NYSE® Zebra Edge® Index FIA. Portfolio Y had an annualized return of 5.71% with a maximum drawdown of 13.59%. Portfolio Z represents a portfolio of 20% stocks, 60% bonds and 20% New Heights® NYSE® Zebra Edge® Index FIA. This portfolio realized an annualized return of 5.87% with a maximum drawdown of 9.69%. Over this time frame, holding our bond allocation fixed, reducing allocation to stocks and increasing our allocation to the New Heights® NYSE® Zebra Edge® Index FIA resulted in an increase in portfolio return with a significant reduction in risk (maximum drawdown).

In summary, over this time frame, allocating to the New Heights® NYSE® Zebra Edge® Index FIA created more efficient portfolios. Deallocating from bonds effectively increased returns with comparable risk. Deallocating from stocks not only increased returns but reduced risk (maximum drawdown) significantly.

CONCLUSIONS

- Roger Ibbotson's white paper "Fixed Indexed Annuities: Consider the Alternative" modeled a "generic" large cap FIA and found that, in simulation, the FIA outperformed long-term bonds with similar risk characteristics and offered better downside protection.
  - Roger argued that, going forward, bond returns will likely disappoint and that the equity exposure and downside protection profile offered by an FIA may be an attractive option to consider.
- The NYSE® Zebra Edge® Index was designed to leverage cutting-edge research in behavioral finance to avoid and exploit behavioral bias and improve upon traditional large-cap index results, potentially generating higher returns with less risk.
  - The Index dynamically allocates between stocks, bonds and cash seeking to deliver attractive and consistent risk-adjusted returns. Because the Index targets volatility at 5%, Nationwide may be able to offer higher participation rates within the New Heights® NYSE® Zebra Edge® Index FIA.
  - Assuming a participation rate of 150% with a 1% spread, our analysis demonstrated that, in simulation, New Heights® NYSE® Zebra Edge® Index FIAs have the potential to outperform bonds given these assumptions. These results were consistent with the findings in "Consider the Alternative."
- Participation rates do vary over time and have a major impact on performance. We estimate that the New Heights® NYSE® Zebra Edge® Index FIA with participation rates as low as 100% with a 1% spread would have historically compared favorably with bonds during the period August 2000–July 2018.
- Within a traditional stock-bond portfolio framework, shifting a modest allocation to a New Heights® NYSE® Zebra Edge® Index FIA can increase portfolio returns and reduce risk.
- For long-term investors seeking to de-risk their portfolios as they approach retirement, the NYSE® Zebra Edge® Index (available through Nationwide New Heights®) may be an attractive index option within an FIA.

LEARN MORE: ADDITIONAL INFORMATION & RESOURCES

For more information on these topics, please follow the links below:

Zebra Capital

http://www.zebracapital.com

NYSE® Zebra Edge® Index

https://www.nyse.com/zedgeny

Nationwide New Heights®

http://www.nationwidenewheights.com

Fixed Indexed Annuities

http://www.finra.org/investors/indexed-annuities

Monte Carlo Simulations

http://www.annx.us/MonteCarlo

IMPORTANT DISCLOSURES

John J. Holmgren, Jr. is a Member and Chief Operating Officer of Zebra Capital Management, LLC ("Zebra Capital") and Paul A. St. Pierre is the Portfolio Management Analyst of Zebra Capital.

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Annuities have limitations. They are long-term vehicles designed for retirement purposes. They are not intended to replace emergency funds, to be used as income for day-to-day expenses or to fund short-term savings goals. In addition, guarantees and protections are subject to the claims-paying ability of the issuing carrier.

Past performance is no guarantee of future results. No representation is made that any investor will or is likely to achieve results similar to those shown in this material.

Zebra Capital is entitled to receive certain compensation in consideration for, among other things, the granting of certain license rights and/or sub-licensing rights of certain of its intellectual and other property rights to one or more third parties for the creation, sponsorship, compilation, maintenance and calculation, among other things, of one or more indices to which certain fixed indexed annuities make reference.

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The information contained in this material is given as of a specific date, is likely to change over time, may not provide a full explanation of the topics presented and/or discussed in this material, and is not intended to be read in isolation. In addition, the opinions expressed in this presentation are subject to change.

* * *

NYSE® Zebra Edge® Index (Ticker "ZEDGENY")

The NYSE® Zebra Edge® Index is an excess return index that targets a 5% annualized volatility by allocating between three components: (1) the NYSE® Zebra Edge® U.S. Equity Index, and either (2) the ICE® U.S. 5 Year Treasury Futures Index or the ICE® U.S. 10 Year Treasury Futures Index, and (3) non-interest cash account.

Stocks: S&P 500® Total Return Index (Ticker "SPXT")

The S&P 500® is widely regarded as the best single gauge of large-cap U.S. equities. The index includes the 500 largest companies with stock listed on NYSE and NASDAQ weighted by market cap. The index includes dividends, if any, reinvested.

Bonds: Bloomberg Barclays US Aggregate Bond Index (Ticker "LBUSTRUU")

The Bloomberg Barclays US Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS and CMBS (agency and non-agency).

IMPORTANT DISCLOSURES

Simulated Performance Results:

The simulated performance results presented herein were prepared using computer models, were derived by backtesting, not from actual accounts, and are provided for informational purposes only. Simulated performance data has inherent limitations, as the simulated data is produced by the retroactive application of a backtested methodology. Simulated performance data is based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may have positively affected its performance and may reflect a bias toward strategies that have performed well in the past. Simulated performance does not represent actual account performance and should not be interpreted as an indication of such performance. In addition, simulated performance does not represent the impact that material economic and market factors might have on an investment adviser's decision-making process, if any, if the adviser were actually managing clients' money. Future performance cannot be predicted based on simulated performance described herein.

* * *

Nationwide New Heights fixed indexed annuities are issued by Nationwide Life and Annuity Insurance Company, Columbus, Ohio. New Heights does not directly participate in the stock market or any index. It is not possible to invest in an index. Withdrawals are subject to income tax, and withdrawals before age 59½ may be subject to a 10% federal tax penalty.

Neither Nationwide nor any of its affiliates are affiliated with Zebra Capital or any of its affiliates.

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