NYSE® Zebra Edge® Index

An opportunity for consistent returns using behavioral finance
Behavioral finance is a field of economics that applies insights from cognitive psychology to reveal how and why some people make irrational investment decisions. Renowned economist Professor Roger Ibbotson and the team at Zebra applied behavioral finance to the equity markets and discovered that:

- **Irrational decisions by investors may add volatility and risk**
- **The most popular stocks historically have provided lower returns**

Zebra’s research methodology is combined with a daily risk control methodology to create the NYSE® Zebra Edge® Index, a rules-based index designed to potentially provide higher returns with less risk.

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**Roger G. Ibbotson, Ph.D.**

- Chairman and Chief Investment Officer, Zebra Capital Management
- Professor Emeritus, Yale School of Management
- Founder of Ibbotson Associates, now a Morningstar Company

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### Irrational Decisions

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<th>Annualized Performance, 1997-2017</th>
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<td>S&amp;P 500® Index</td>
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<td>5.2%</td>
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Source: Standard & Poors and Dalbar, Inc.  
From 12/31/97 to 12/31/17, S&P 500® Price Index.

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This brochure was designed to provide information on the NYSE® Zebra Edge® Index and should be used in conjunction with the Nationwide New Heights’ fixed indexed annuity materials. It does not describe the New Heights’ product or historical crediting rates of the product. For more information on New Heights, please ask your financial professional for a product brochure. Fixed indexed annuities are not an investment and do not directly invest in the stock market or any index.
Ibbotson’s behavioral finance filtering process

The NYSE® Zebra Edge® Index evaluates the 500 largest publicly traded companies in the United States each quarter and removes the riskiest and most volatile companies, leaving fewer irrational equities. The diagram below shows how every three months the NYSE® Zebra Edge® Index selects rational equities with the potential for higher returns with less risk.

Zebra Equity Selection Process

1. **Evaluate**
   - First, the 500 largest U.S. equities are evaluated for factors including trading frequency and risk to identify the most irrational equities.

2. **Filter**
   - Next, a filtering process using Ibbotson’s behavioral finance research removes approximately 300 of the most overpriced and irrational equities.

3. **Weight**
   - Then, the remaining rational equities are equally weighted to provide a more diversified and balanced opportunity for growth.

NYSE® applies a risk control methodology that makes daily adjustments to the allocations between the Zebra Equities, U.S. Treasuries and an interest-free cash account. This daily re-allocation further reduces risk when markets are volatile, moving rapidly up or down.

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1 The 500 largest publicly traded companies in the United States as represented by the NYSE® U.S. Large Cap Equal Weight Index.

2 The equities with the highest volatility over the previous three months and prior year are removed, and equities with the highest trading frequency are removed.

3 Approximately 200 Zebra Equities are selected through this quarterly selection process. The selection process occurs in February, May, August and November.

Risk control seeks to provide smoother returns and mitigate sharp market fluctuations. While this type of strategy can lessen the impact of market downturns, it can also lessen the impact of market upturns, potentially limiting upside potential. For additional information regarding the NYSE® Zebra Edge® investment strategy and related risks, please visit www.nyse.com/zedgeny.
The benefit of a rational long-term strategy

Over the last 18 years, U.S. Treasury Bills have failed to keep pace with inflation, and Large Cap U.S. Stocks have experienced significant drawdowns, reducing returns. Long-term bonds have been consistent, but today’s interest rates are near historic lows. The NYSE® Zebra Edge® Index rational equity strategy would have provided more stable returns.

Source: S&P Dow Jones, Board of Governors of the Federal Reserve System (US), NYSE®, 2018 SBBI Yearbook, Roger G. Ibbotson, Duff & Phelps. Growth of $1 7/6/00 to 12/31/18. Large Cap Stocks (as represented by the S&P 500® Price Index), Long-term Gov’t Bonds (as represented by 10-year Treasuries), U.S. Treasury Bills and Inflation results are actual for the full period and are not risk controlled (if applicable). Long-term Gov’t Bonds and U.S. Treasury Bills are guaranteed by the U.S. government.

The NYSE® Zebra Edge® Index was established on 10/11/2016. Performance for the NYSE® Zebra Edge® Index is back-tested by applying the NYSE® Zebra Edge® Index strategy, which was designed with the benefit of hindsight, to historical financial data. Certain components of the NYSE® Zebra Edge® Index were unavailable before 7/6/00. Back-tested performance is hypothetical and has been provided for informational purposes only. Past performance is not indicative of nor does it guarantee future performance. The NYSE® Zebra Edge® Index could underperform relative to other equity investment strategies. The hypothetical data includes index transaction fees.
Since 1792, the New York Stock Exchange (NYSE®) has been the symbol of the strength of the American financial system. Today, NYSE® and Intercontinental Exchange track more than $16 trillion in assets. The engineers and strategists at NYSE® Indices validate the methodology and daily performance of the NYSE® Zebra Edge® Index.
For more information on New Heights, please visit www.nationwidенewheights.com.
For more information on the NYSE® Zebra Edge® Index, please visit www.nyse.com/zedgeny.

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