

2-Part Webinar Series:

Applying Behavioral Finance in Emotionally Charged Times

Part 2: How to Build Wealth with a Behavioral Approach to Portfolio Construction



Introductions

Moderator:



Jean Heath

*Managing Director
Head of Asset Manager Network
Envestnet*

Guest Speakers:



C. Thomas Howard, PhD

*CEO and Chief Investment Officer
AthenaInvest
Emeritus Professor of
Finance, University of Denver*



**Marc Odo, CFA[®], FRM,
CAIA, CIPM, CFP[®]**

*Client Portfolio Manager
Swan Global Investments*



Lambert Bunker

*Vice President
AthenaInvest*



Today's Discussion

How to Build Wealth....

with a Behavioral Approach to Portfolio Construction

Section 1:

Behavioral Finance Foundation

Section 2:

Strategically Address Loss Aversion & Market Risk

Section 3:

Staying Invested with a Dynamic Approach

Section 1:

The Influence of Behavioral Finance in Today's Markets & Financial Services

C. Thomas Howard, PhD
CEO and Chief Investment Officer
AthenaInvest





Nobel Prize Recognizes Behavioral Researchers

KEY CONCLUSIONS

PEOPLE ARE NOT RATIONAL
MARKETS ARE NOT EFFICIENT

THESE BUILT THE FOUNDATION FOR
BEHAVIORAL
PORTFOLIO MANAGEMENT

**Daniel
Kahneman**
Prospect Theory

2002



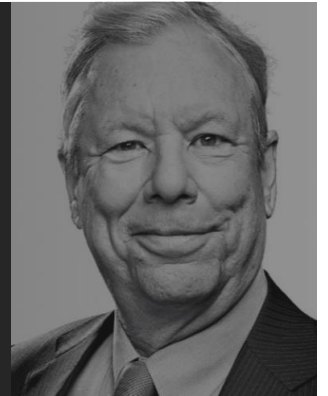
**Robert
Shiller**
Market Volatility

2013



**Richard
Thaler**
Behavioral Nudging

2017





AthenaInvest Foundation and Research



**C. Thomas
Howard**

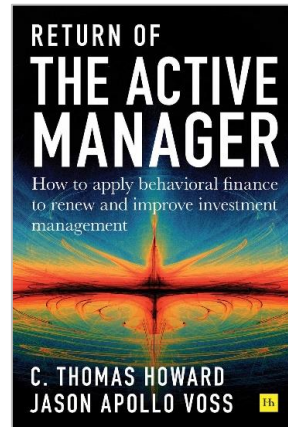
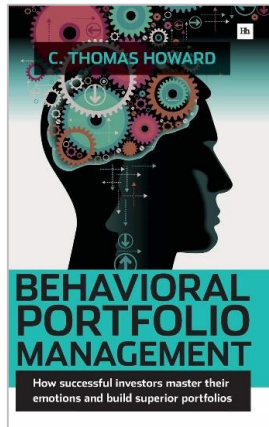
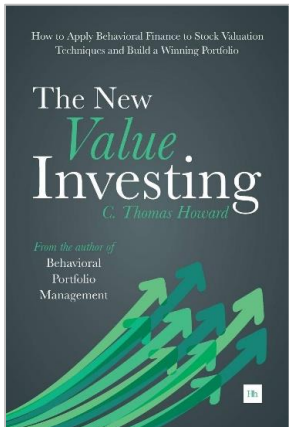
Professor Emeritus
University of Denver

CEO and Director of Research



Patented Behavioral Research

Six US and International Patents



STRATEGY
CATEGORIES

FUND AND
STOCK RATINGS

MARKET
BAROMETERS



Behavioral Foundational Concepts

1. Market prices are dominated by emotional crowds.
2. Behavioral research reveals unique market opportunities.
3. In large part, emotions determine investment outcomes.
4. Behavioral management can dramatically improve success.



How Our Brain Works in Decision Making

Fast - System 1 Thinking

Slow - System 2 Thinking

Automatic and easy

Conscious effort

Emotional

Logical

Heuristics (mental short cuts)

Analytical methods



Humans make 95% of decisions with System 1 Thinking.

Daniel Kahneman, *Thinking, Fast and Slow*, 2011, Farrar, Straus and Giroux
Andrew Lo, *Adaptive Markets*, 2017, Princeton University Press



Common Cognitive Errors

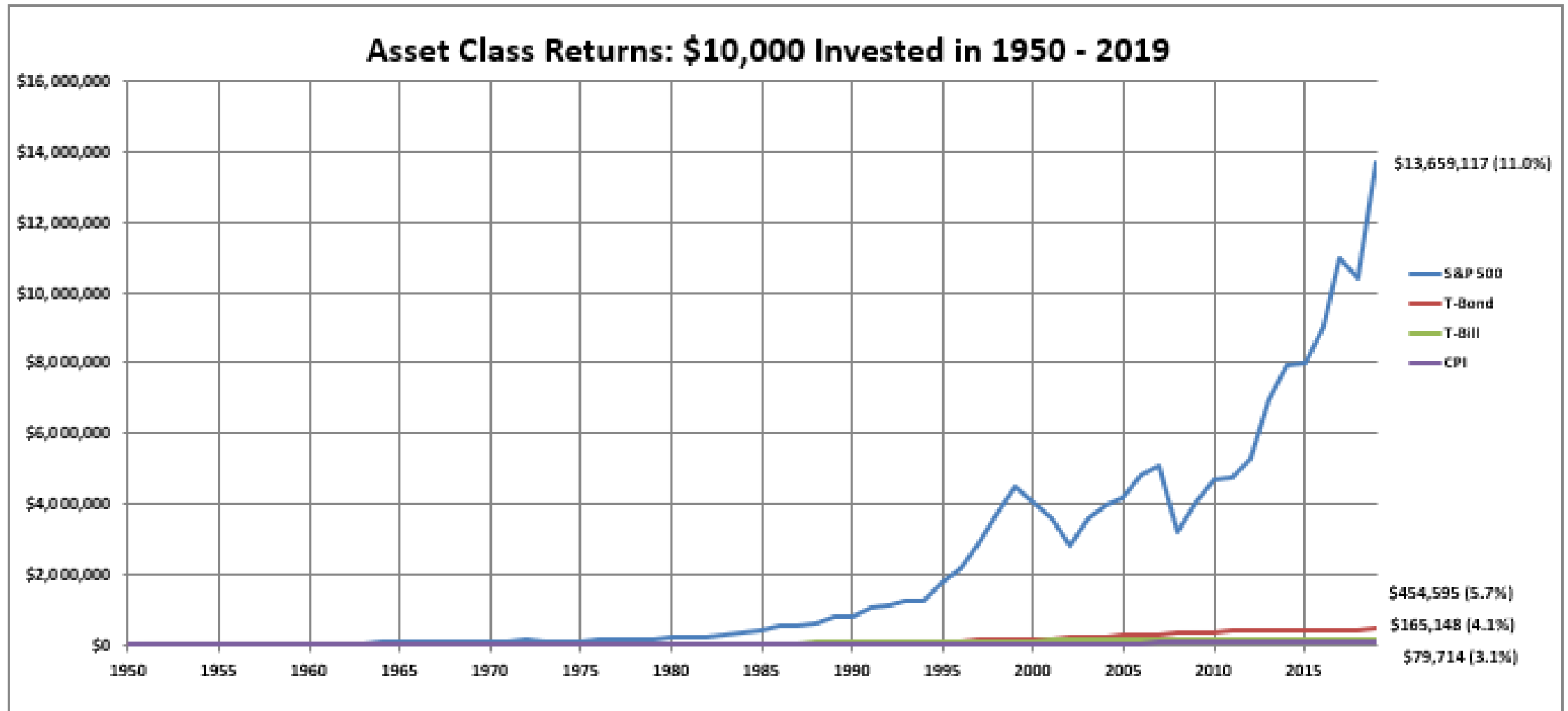


People make investment mistakes in **consistent** and **predictable** ways:

- They overvalue recent and readily-available information
- They overreact to uncertainty and potential loss
- They are poor at estimating the likelihood of events
- They are subject to social validation



Power of Compounding in Growth Portfolios

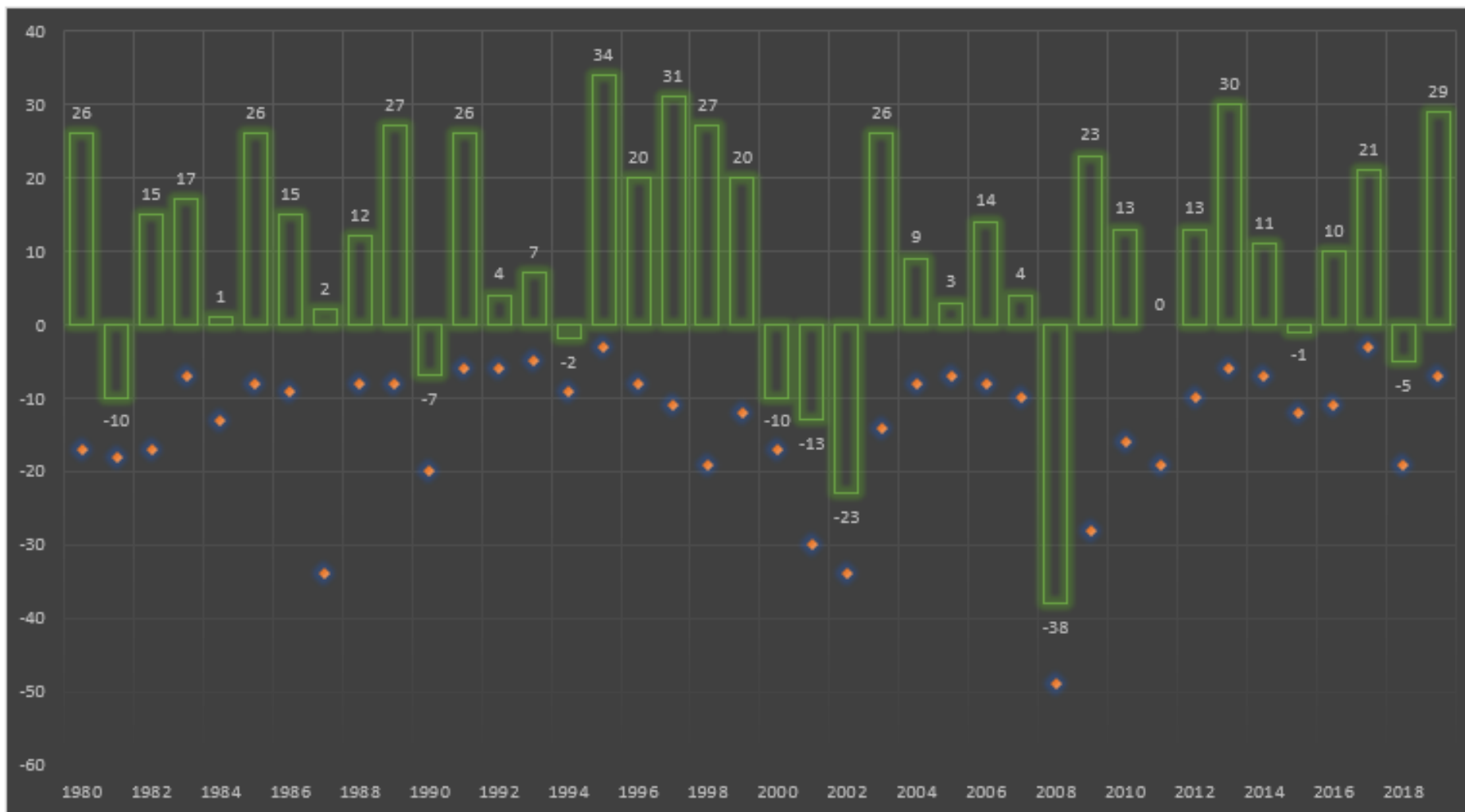


Sources: AthenaInvest, Thomson-Reuters Financial, Center For Research In Securities Prices, St Louis Federal Reserve FRED data base.

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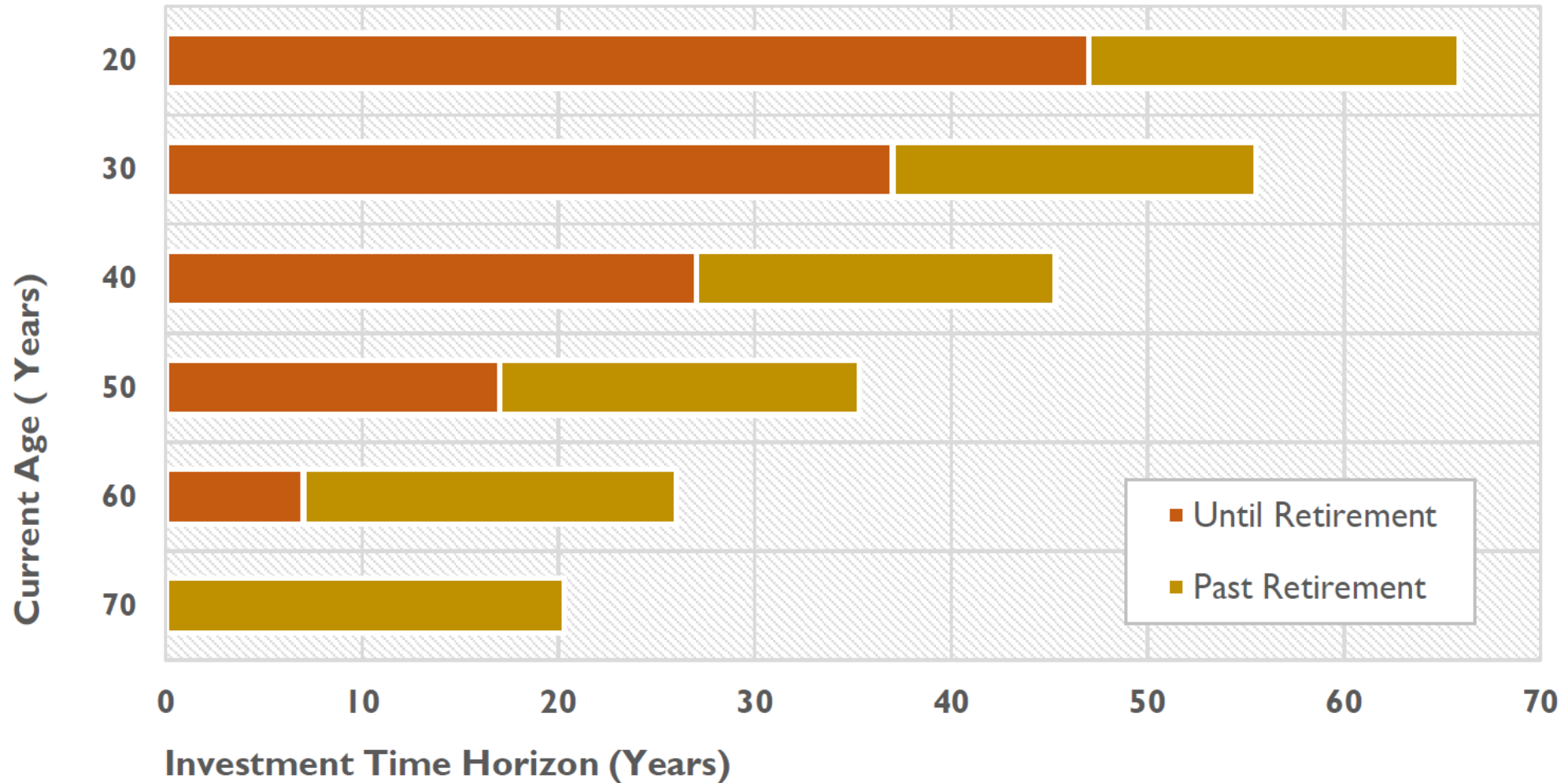
Intra-Year Drawdowns



The average intra-year pullback in the SP-500 since 1980 has been roughly 14%.
Despite the 14% intra-year decline, the SP-500 has closed positive 30 out of 39 years.

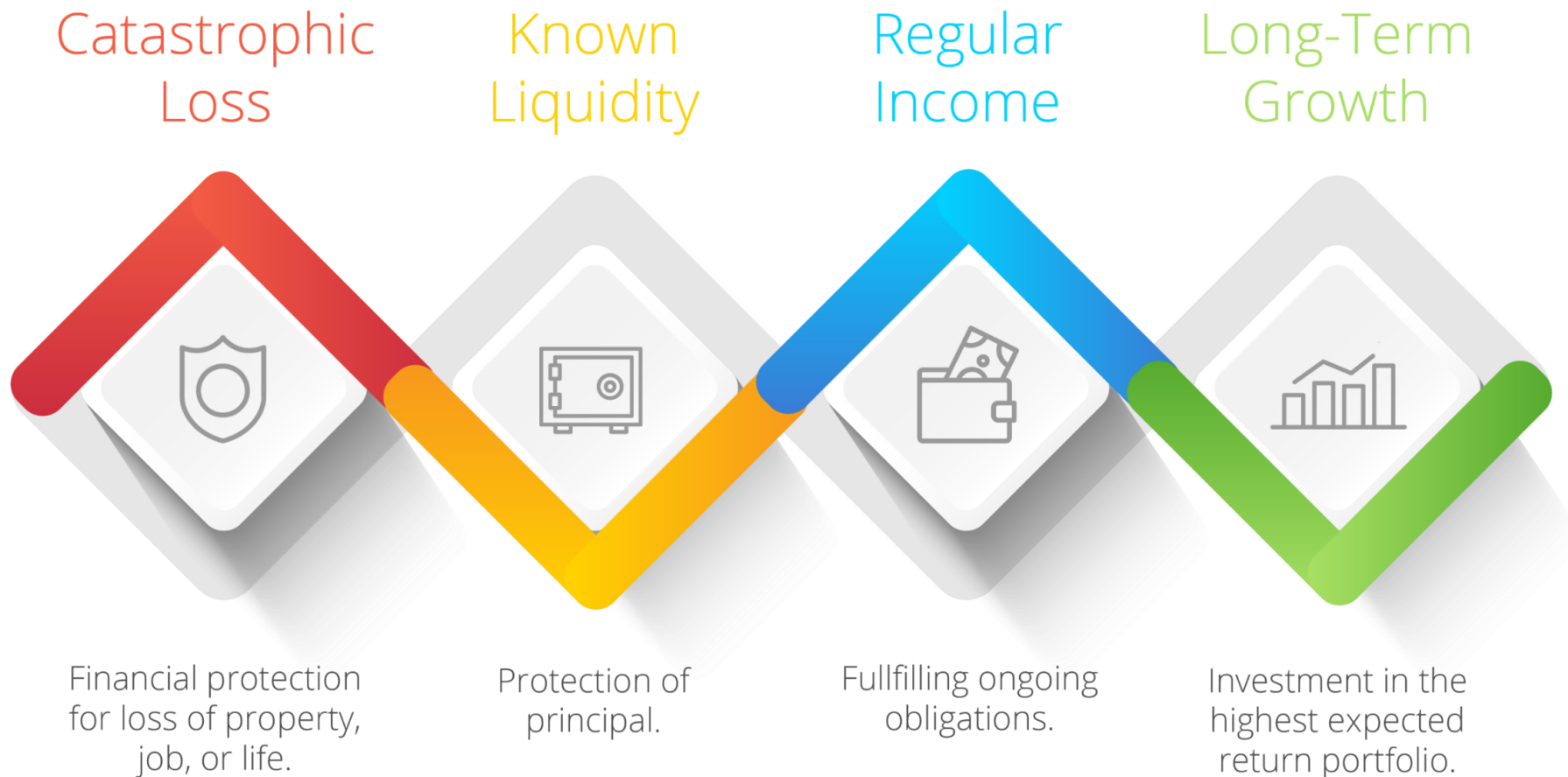


Long-term is Longer Than Investors Think





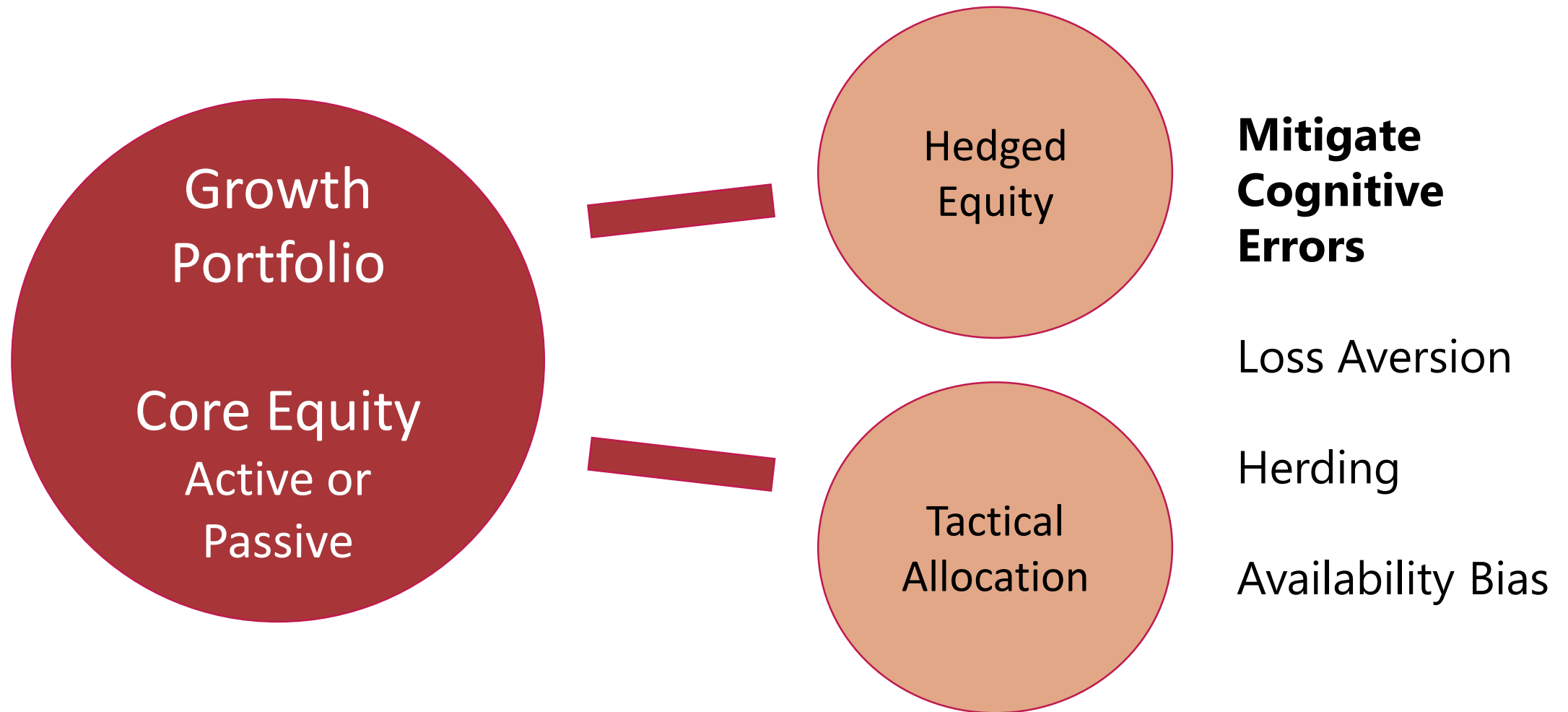
Needs Based Planning



Creating Client Confidence



Complements to Core Equity Can Help Manage Behaviors and Keep Clients Invested



Section 2:

Strategically Address Loss Aversion & Market Risk

Marc Odo, CFA[®], FRM, CAIA,
CIPM, CFP[®]

Client Portfolio Manager
Swan Global Investments





The Big Emotion Driver

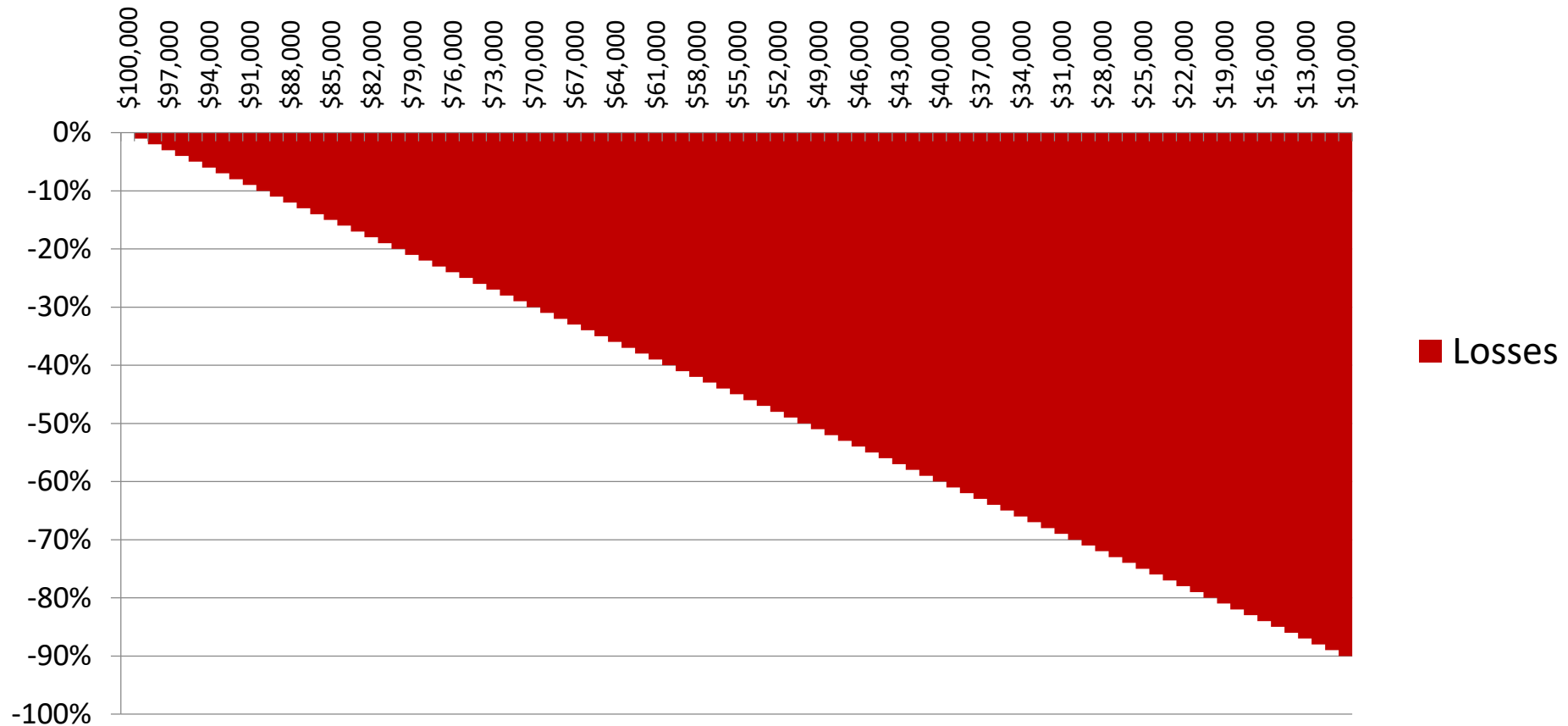
Loss Aversion Theory

- “Losses loom larger than gains”
- Investors feel the pain of losses more than pleasure from gains
- Loss aversion is entirely rational and justified



Math Matters: Avoiding Large Losses

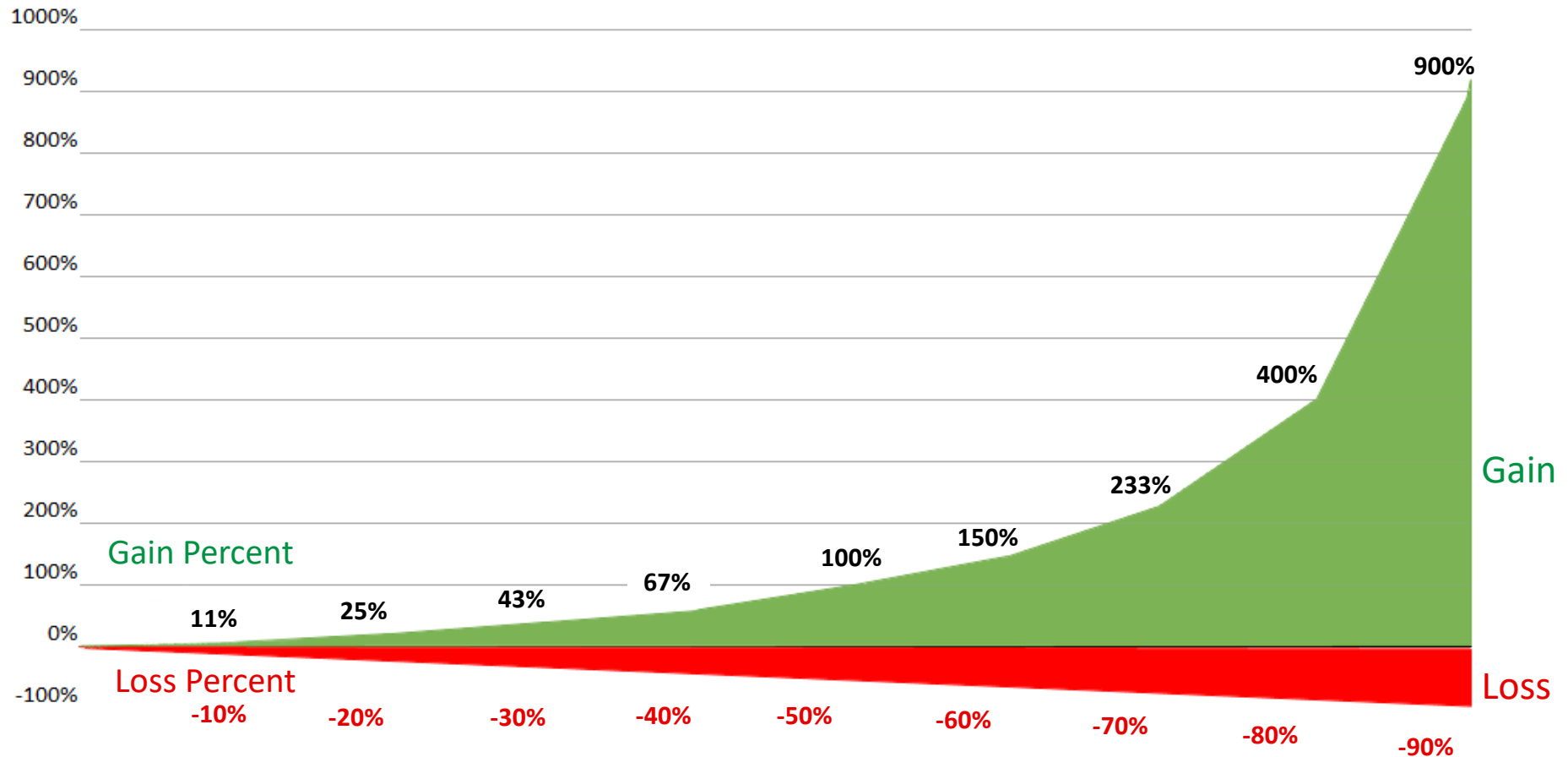
Losses are linear, however...





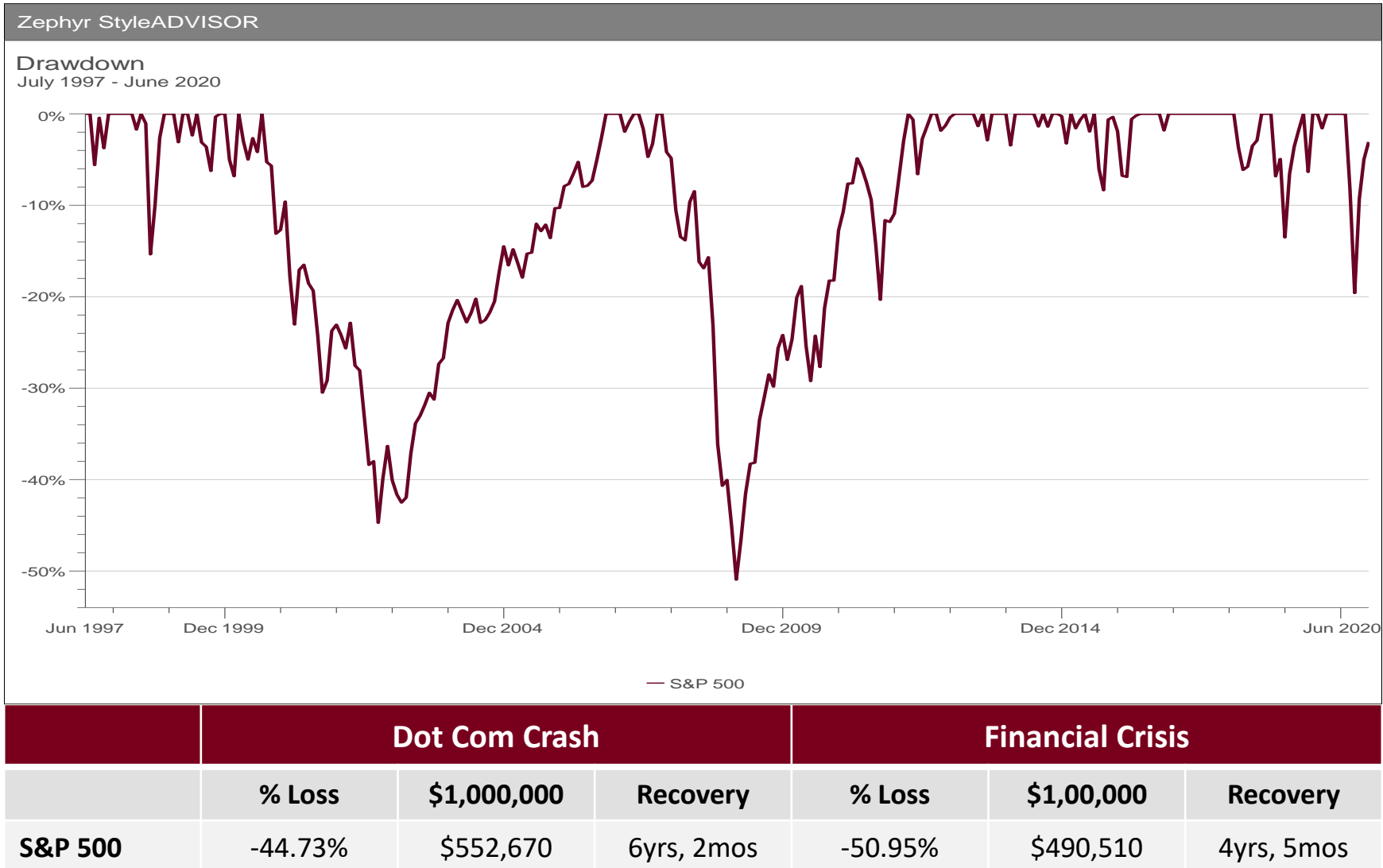
Math Matters: Avoiding Large Losses

The deeper the hole, the steeper the climb





Challenge: Minimize Losses in Bear Markets





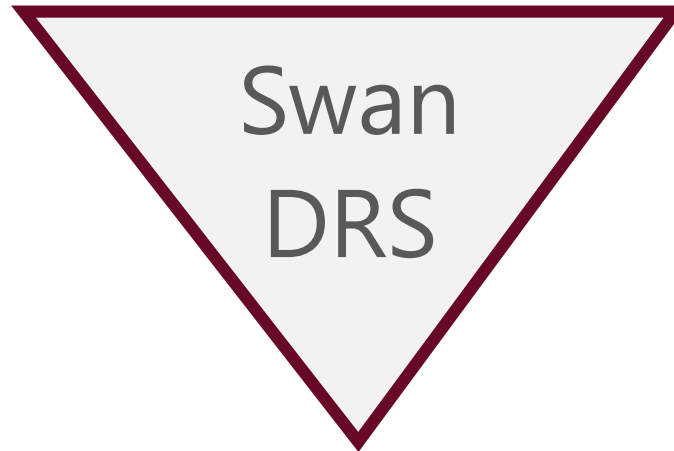
Case Study: Defined Risk Strategy (DRS)

Always Invested, Always Hedged



Equity

for Portfolio
Growth



Hedge

for Portfolio
Preservation



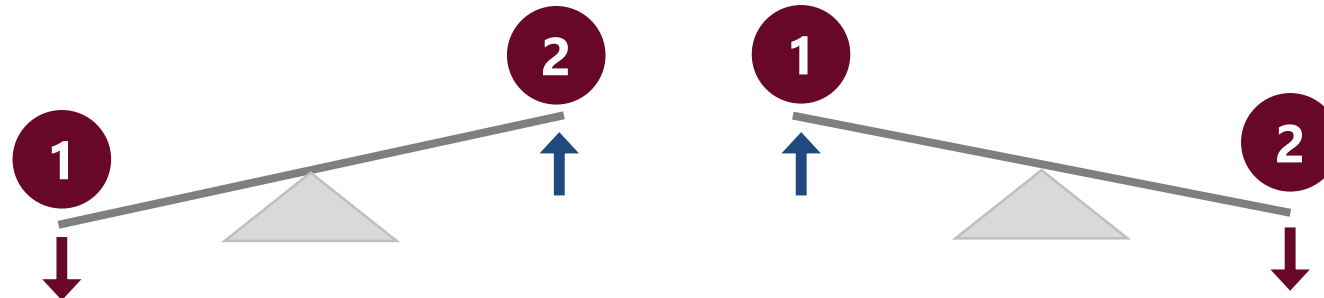
Options

Offset Hedge Cost



Case Study: Defined Risk Strategy

Process: Passive + Active





Case Study: Defined Risk Strategy

Why the LEAP?

Benefits of Long-Term Hedge for Long-Term Investors



Defense

Direct way to mitigate undiversifiable market risk.



Keep Calm

Helps investors avoid big losses and emotional reactions.



Reliable Hedge

A reliable hedge during large selloffs and longer duration than typical bear markets.



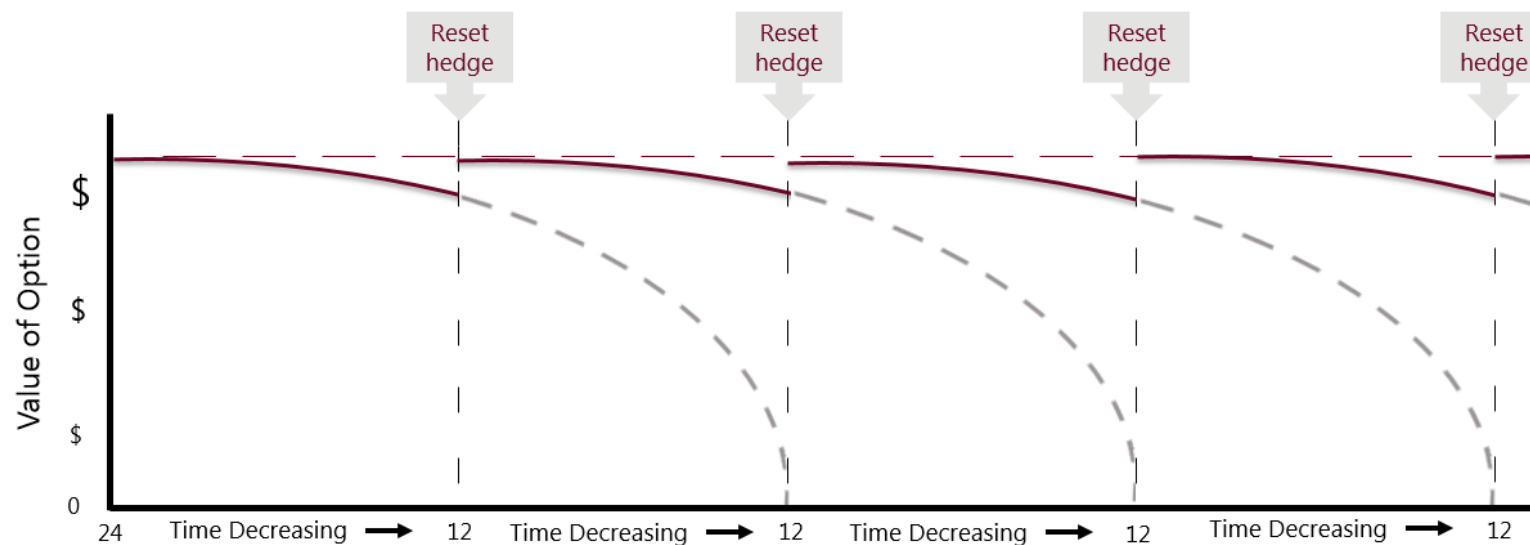
Acquire More Equity

As it gains value during a selloff, the LEAPS can be sold to buy more equity at a low.



Case Study: Defined Risk Strategy

Process: Rolling the Hedge



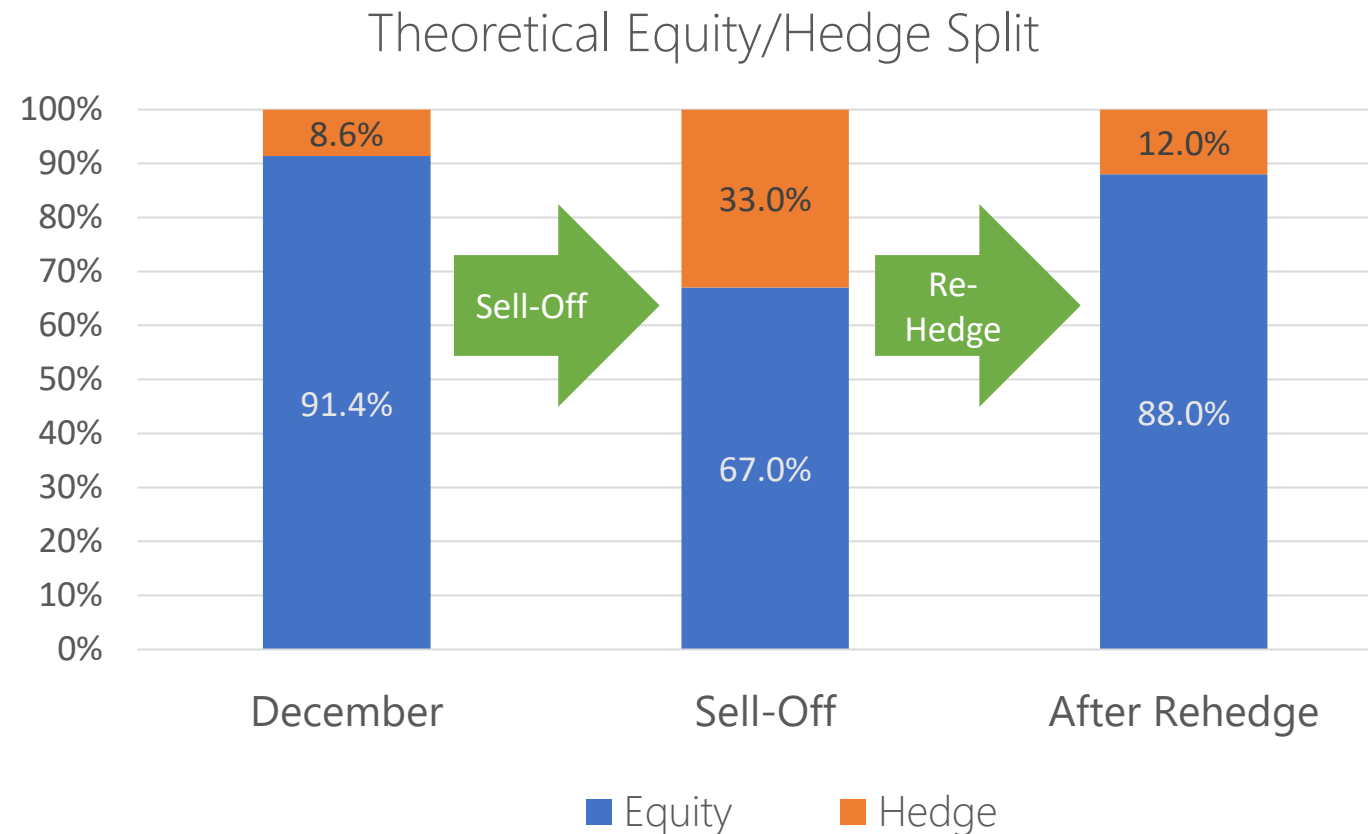
By rolling the hedge annually, the portfolio is:

- Always hedged;
- Not under duress to seek protection;
- Not exposed to the steeper drop off in value of put option.



Case Study: Defined Risk Strategy

Process: Re-Hedge





Case Study: Defined Risk Strategy

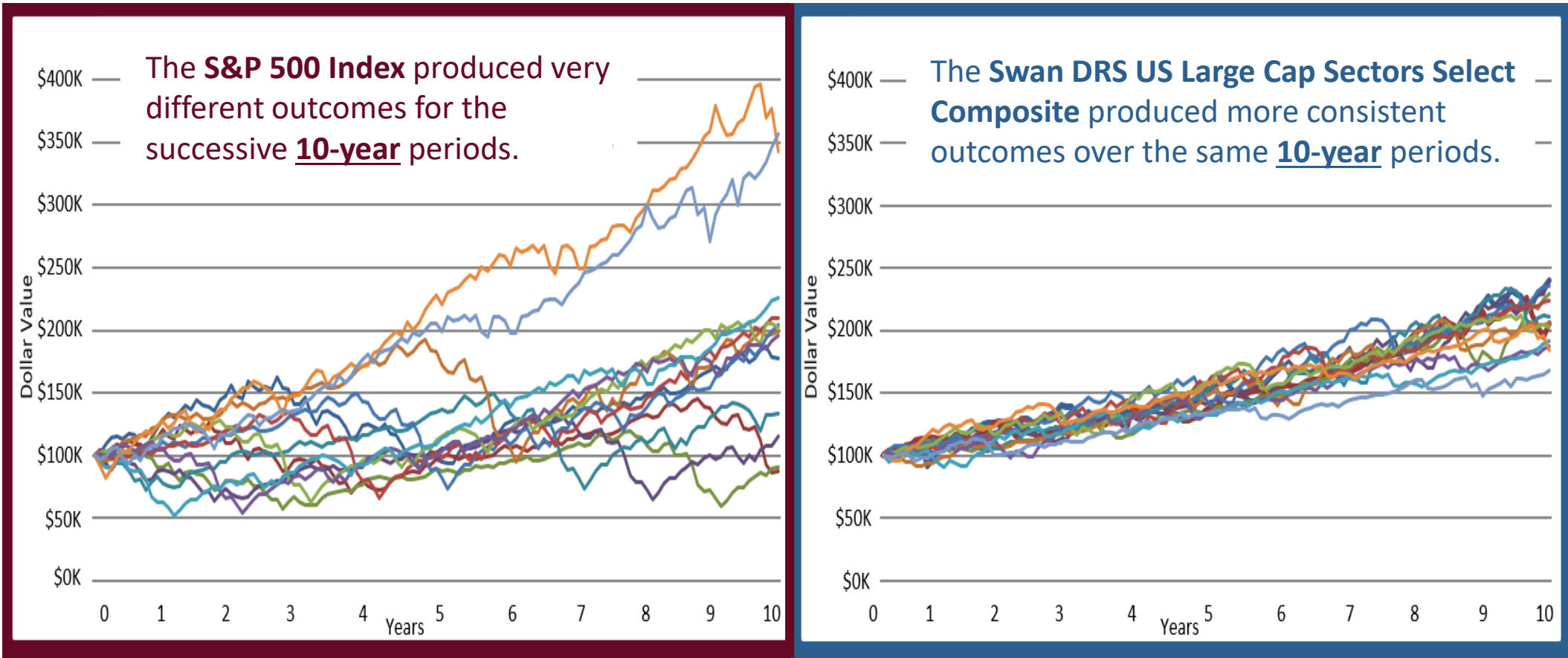
Hedged Equity: Seeking to Smooth the Ride

- Always Invested for growth
- Always Hedged to mitigate risk
- DRS seeks to post attractive, risk adjusted returns through full market cycles
- Seeking a smoother investment experience to help keep investors on track to long-term goals



The Defined Risk Strategy – Put to the Test

Define Risk, Improve Outcomes – Investing Redefined®



For home office and financial professional use only. The graphs above show an investment of \$100,000 over thirteen successive, 10-year investment periods. The first period is 1/1998 to 12/2007; the last period is 1/2010 to 12/2019. All but two of these periods contain at least one bull market and one bear market (1/2009 to 12/2018 and 1/2010 to 12/2019).



Client Objectives and Funding Sources

Incorporating Hedged Equity

Client Objective

Funding Source

Re-Risk: re-enter equity markets

Fixed income, high yield, cash

De-Risk: reduce portfolio risk or lock in gains without exiting market

Traditional equities, high-beta alternatives

Liquid Alternative

Diversify liquid alternatives portfolio

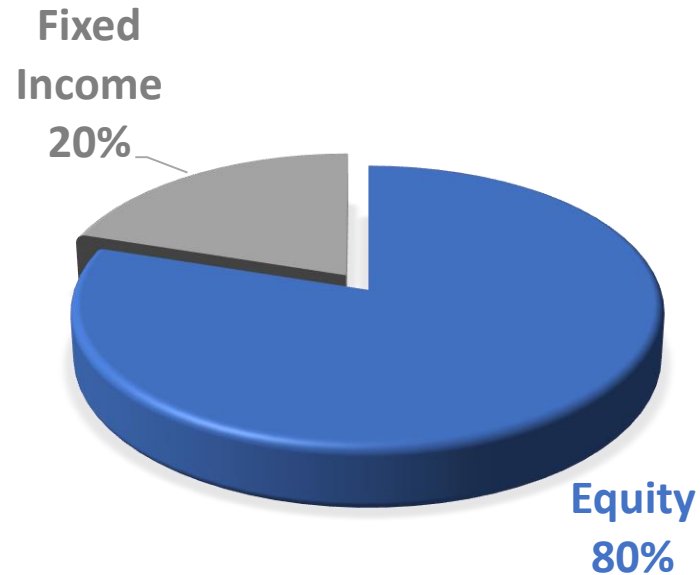
Fixed Income Substitute

Fixed income



Hedged Equity: Portfolio Implementation

GROWTH ALLOCATION



Role in a growth portfolio: Capital Preservation

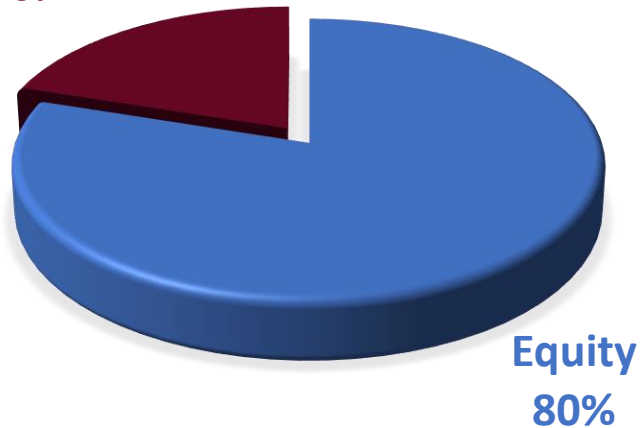
- Portfolio is positioned for growth
- Still needs a risk mitigation portion
- Bonds are seen as dead weight in a growth portfolio



Hedged Equity: Portfolio Implementation

GROWTH ALLOCATION

Hedged Equity as
Bond Alternative
20%



Role in a growth portfolio: Capital Preservation

- Bond complement or alternative
- Mitigate portfolio risk, reduce beta
- Allows more risk to be taken elsewhere in portfolio

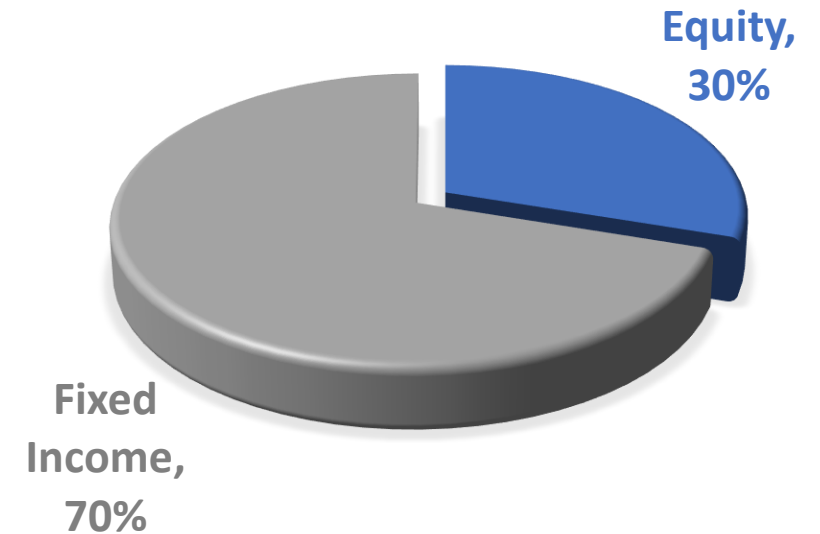


Hedged Equity: Portfolio Implementation

Role in a conservative portfolio: Hedged Equity

- Bonds as Treasuries, Munis
- Equity needed since bonds aren't beating inflation
- Terrified of downside in equities

CONSERVATIVE ALLOCATION



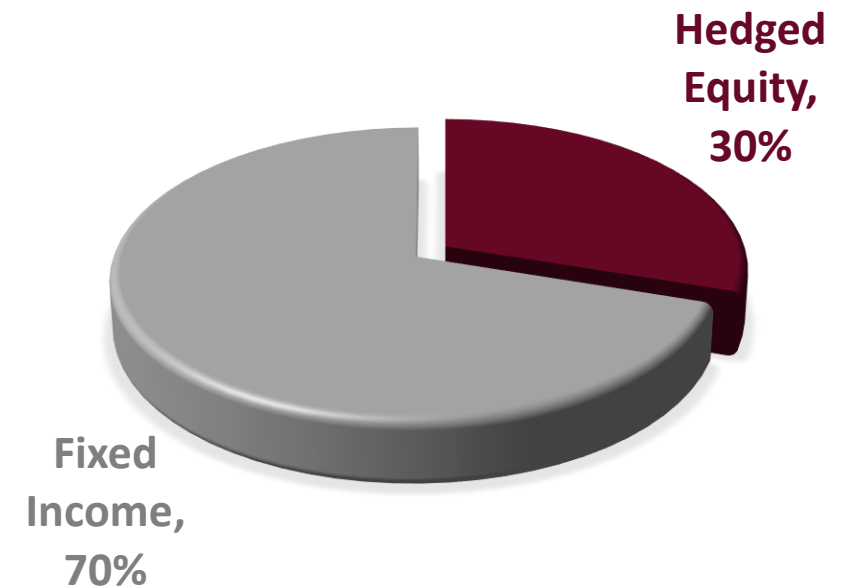


Hedged Equity: Portfolio Implementation

Role in a conservative portfolio: Hedged Equity

- Bonds as Treasuries, Munis
- Equity needed since bonds aren't beating inflation
- Hedged Equity: equity market exposure with risk mitigation

CONSERVATIVE ALLOCATION

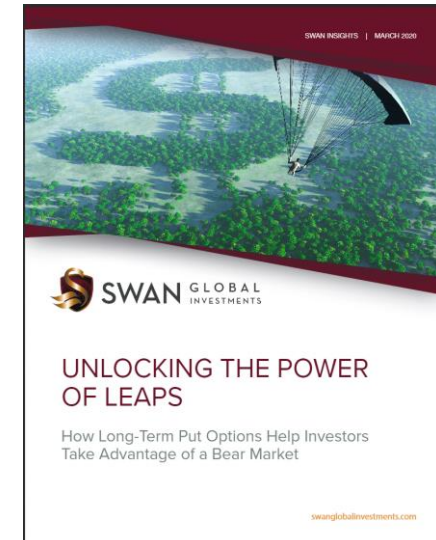
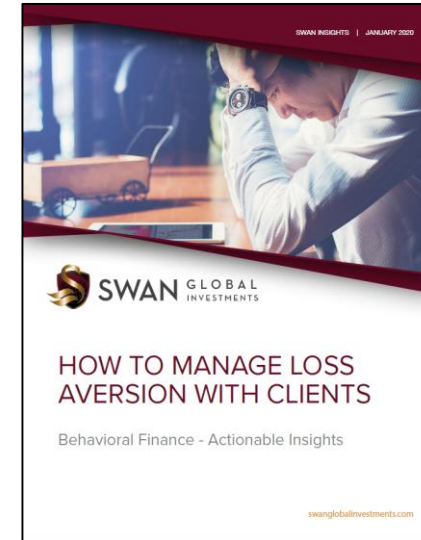




More from Swan

Insights & Resources

- [How to Manage Loss Aversion with Clients](#)
- [The Math Behind Investment Success](#)
- [Important of Avoiding Big Losses](#)
- [Keep Calm and Hedge](#)
- [Unlock the Power of LEAPS](#)



Section 3:

Staying Invested With a Dynamic Approach

Lambert Bunker
Vice President
AthenaInvest





Traditional Approaches Are Not Working

60/40

- Multiple Objectives
- High Correlations
- Low Bond Yields



■ Equity ■ Bonds

Style Boxes

- Hurts Performance
- Highly Correlated

| | Value | Core | Growth |
|-------|-------|------|--------|
| Large | | | |
| Mid | | | |
| Small | | | |

Complex

- Over-diversified
- Global Mush
- Weak Performance



- Cash
- Bonds
- Small Cap Value
- Small Cap Growth
- Large Cap Value
- Large Cap Growth
- Emerging
- Developed
- Real Estate
- Commodities
- Natural Resources
- Hedge Funds



Portfolio Planning Framework

LIQUIDITY

Stable Principal
GOAL

Loss of Value
BIGGEST RISK

INCOME

Fund Ongoing Needs
GOAL

Decrease in Payout
BIGGEST RISK

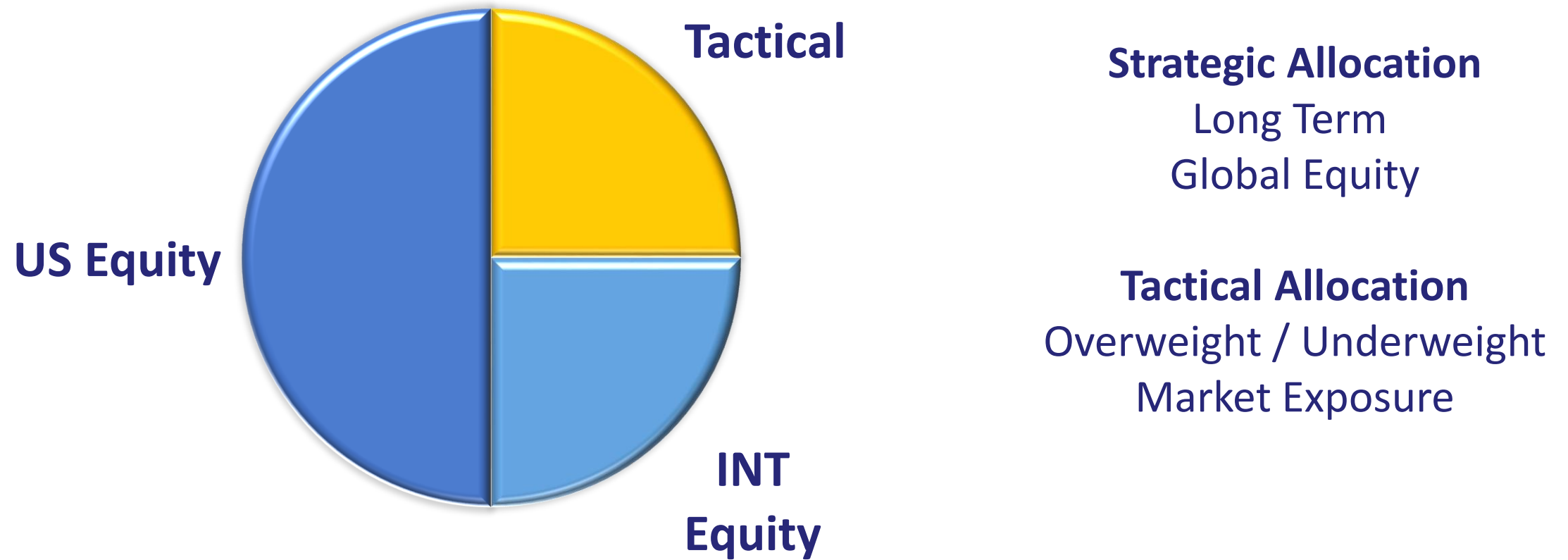
GROWTH

Accumulate Wealth
GOAL

Underperformance
BIGGEST RISK



Dynamic Overall Allocation





Academic Research Foundation





Active Equity Mutual Fund Strategy Peer Groups



Future Growth

Fund managers search for companies poised to grow rapidly relative to others.



Competitive Position

Fund managers seek companies with traits such as high-quality management, defensible market position and a track record of innovation.



Opportunity

Employing strategies popular with hedge funds, these managers focus on market imbalances that are driven by events such as earnings surprises, mergers and acquisitions, spin-offs and companies "going private."



Quantitative

Fund managers using mathematical and statistical modeling with little or no regard to company or market fundamentals.



Profitability

Fund managers favor companies with impressive gross, operating and net margins and/or return on equity.



Valuation

Fund managers use financial ratios to determine stock valuations and invest in companies that are underpriced.



Social Considerations

Corporate social responsibility, ecological awareness or religious tenets are a factor for these fund managers when selecting companies. The fund manager may look for these traits or for a lack of these traits.



Market Conditions

Fund managers take into consideration a stock's recent price and volume history relative to the market and similar stocks as well as the overall stock market conditions.



Economic Conditions

Fund managers start with a top-down approach and, using macro-economic forecasting, work their way down to favored industries and stocks.



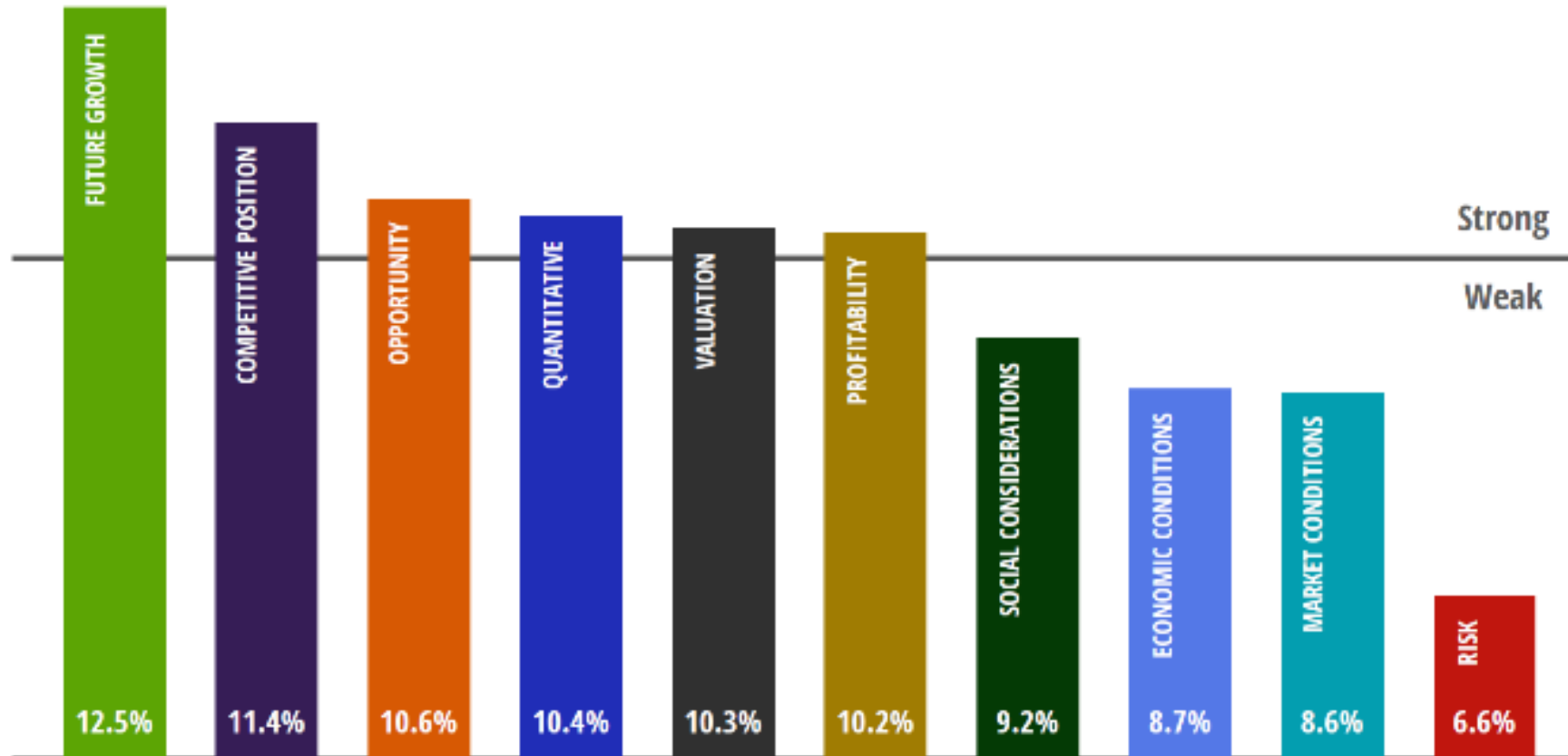
Risk

Fund managers look to control risk, with increasing returns as a secondary consideration.



Strategy Diversification

COMPOUND ANNUAL INVESTMENT STRATEGY RETURNS (1980 - 2018)



Source: AthenaInvest, Inc.

Diversify
By Strategy

Select Better
Strategies



Select Truly Active Equity Mutual Funds

Desirable Behavior

Strategy
Consistency
Conviction

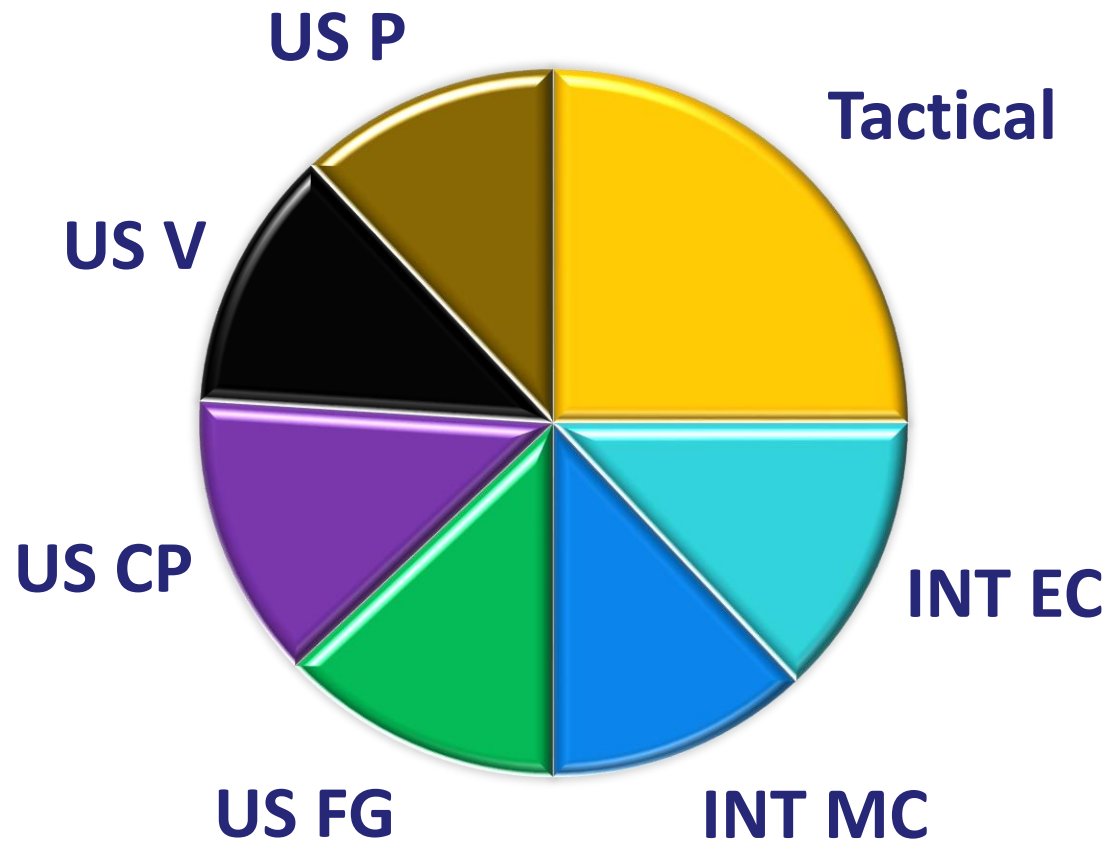
Characteristics

Smaller
Specialized





Portfolio Construction Designed to Perform and Keep Clients Invested



Strategic Allocation

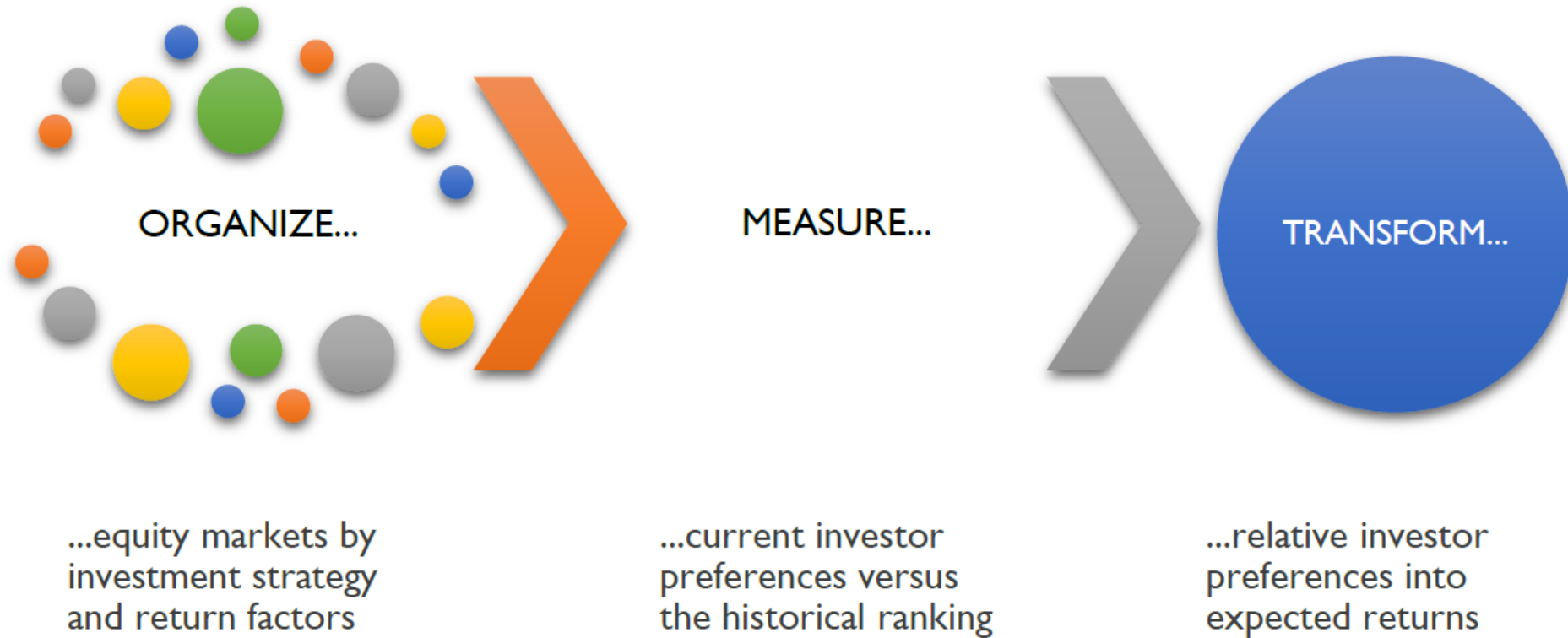
Strategy Diverse
Truly Active
Specialized Expertise

Tactical Allocation

Responds To Market Conditions
Opportunistic & Defensive



Determining Expected Market Returns From Behavior



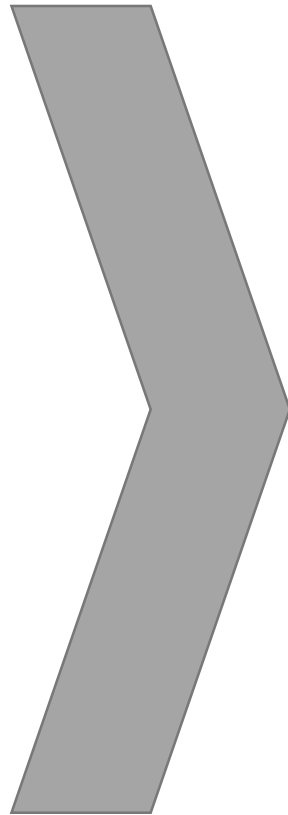


Behavioral Market Barometers

Relative Strategy Ranking Methodology

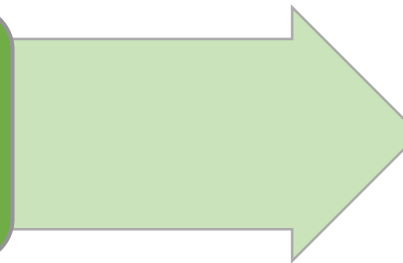
Strategy Ranking (1988-2007)

| RANK | STRATEGY |
|------|-----------------------|
| 1 | Future Growth |
| 2 | Competitive Position |
| 3 | Opportunity |
| 4 | Profitability |
| 5 | Quantitative |
| 6 | Valuation |
| 7 | Market Conditions |
| 8 | Economic Conditions |
| 9 | Social Considerations |
| 10 | Risk |

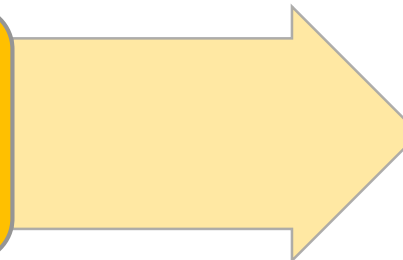


Current Strategy

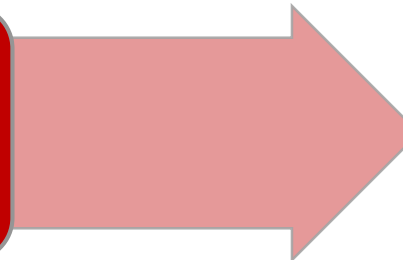
Aligned



Mixed



Inverted



Expected Returns

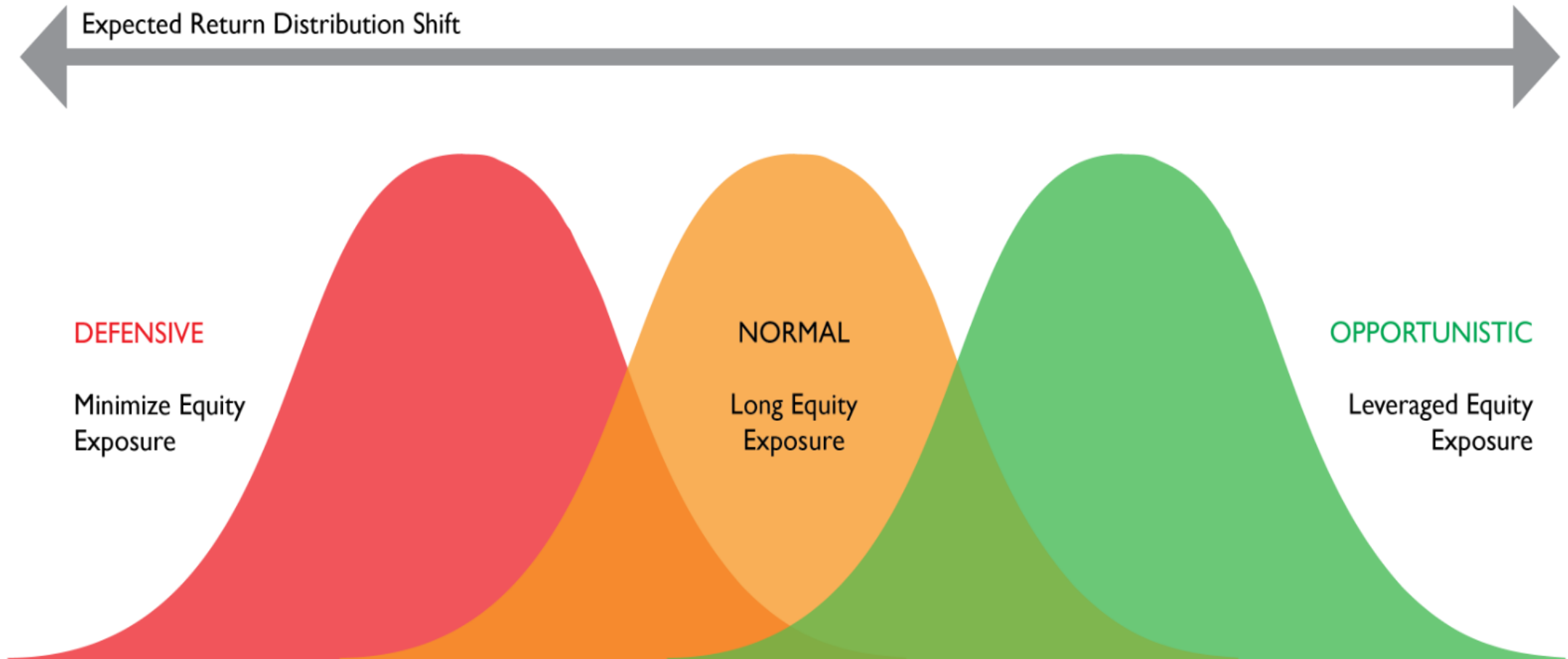
High

Medium

Low



Expected Returns and Market Exposure





Market Rotation and Beta Exposure

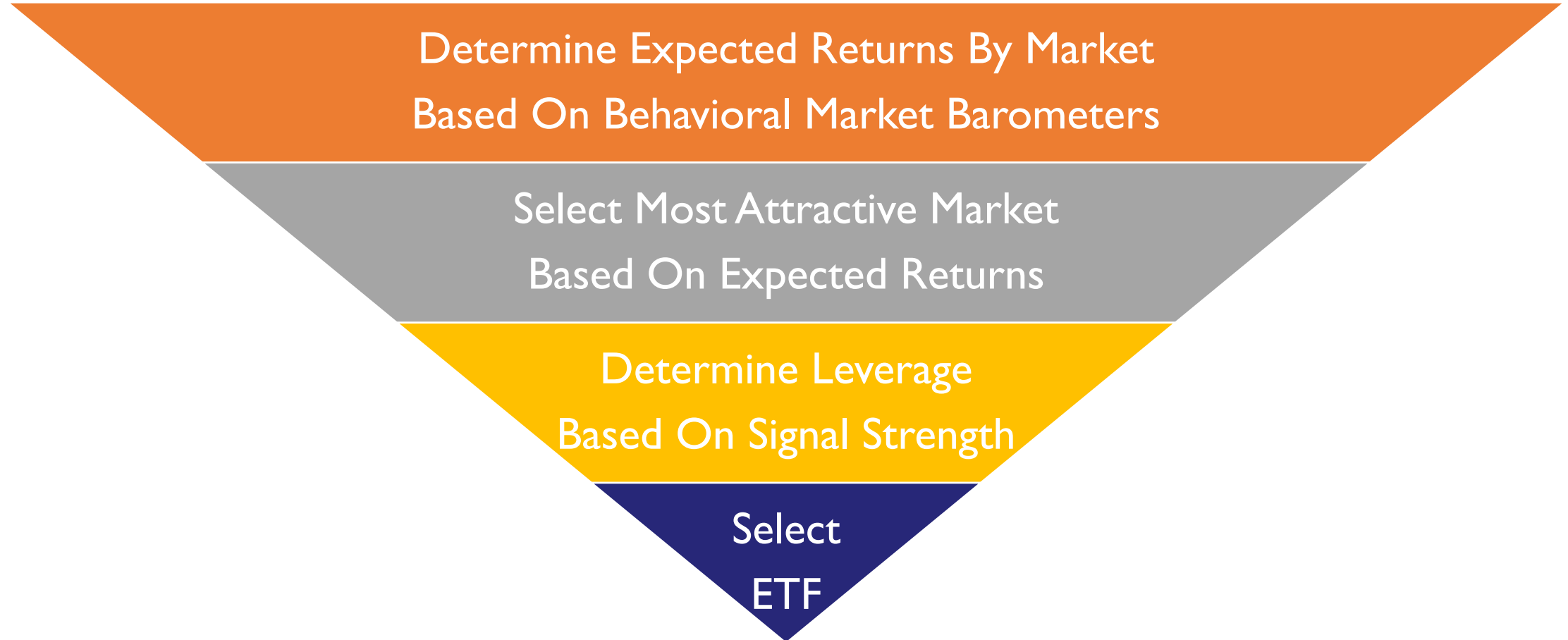
Athena Global Tactical ETFs Target Exposures ¹

| | |
|--|----------------------------|
| | Cash Equivalents |
| | 1x US Large Cap |
| | 1x US Small Cap |
| | 1x Developed International |
| | 2x US Large Cap |
| | 2x US Small Cap |
| | 2x Developed International |

1. The portfolio typically seeks exposure in one of the above choices at any given time. Exchange Traded Funds (ETFs) are used to provide the desired exposure. See last page for portfolio risks.



Monthly Investment Process





Research Model Signals

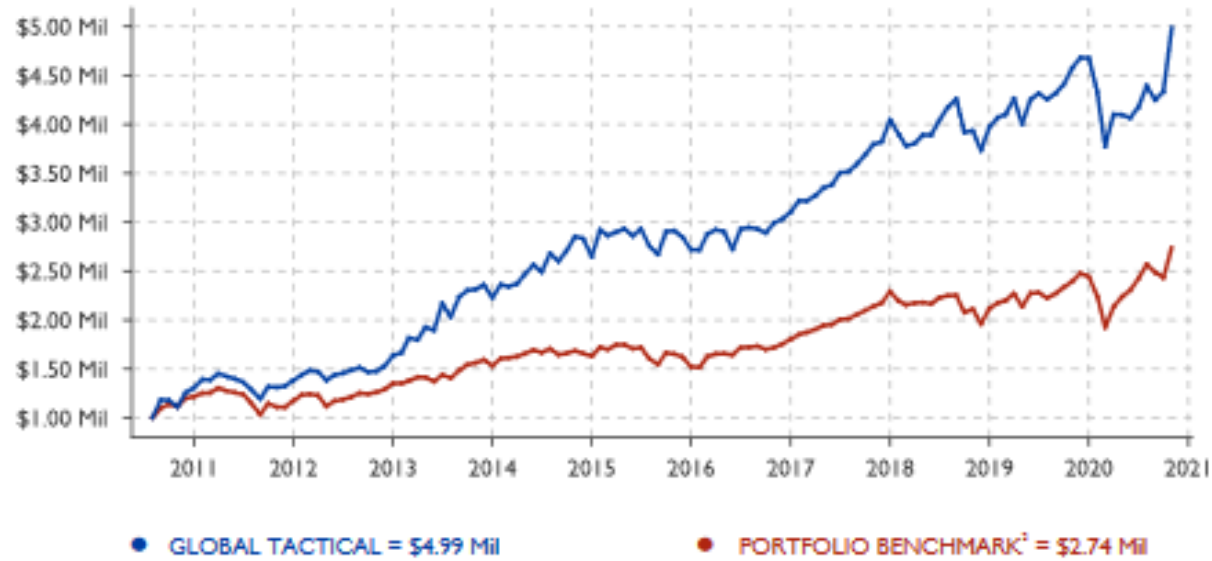
Tactical Positions (1/1/2008 – 12/31/2017)

| MARKET EXPOSURE | | FACTOR | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | POSITIONS AND % OF MONTHS HELD | |
|-----------------|-------------------------|--------|------|------|------|------|------|------|------|------|------|------|-----------------------------------|--------|
| OPPORTUNISTIC | International Developed | 200% | | | | | | | | | | | EFO | 9.2 % |
| | US Small Cap | 200% | | | | | | | | | | | UWM | 25.0 % |
| | US Large Cap | 200% | | | | | | | | | | | SSO | 15.8 % |
| NEUTRAL | International Developed | 100% | | | | | | | | | | | EFA | 5.8 % |
| | US Small Cap | 100% | | | | | | | | | | | IWM | 0.0 % |
| | US Large Cap | 100% | | | | | | | | | | | SPY | 33.3 % |
| DEFENSIVE | Cash Equivalents | 100% | | | | | | | | | | | SHV | 10.8 % |



Performance as of 11/30/20

INVESTMENT GROWTH OF \$1 MILLION ¹ (9/1/2010 INCEPTION)



ANNUALIZED TRAILING PERFORMANCE ¹

| Period | Portfolio | Benchmark ² |
|-----------------|-----------|------------------------|
| 1 Month* | 15.1 % | 12.6 % |
| Year to Date* | 6.6 % | 10.7 % |
| 1 Year | 9.0 % | 14.5 % |
| 3 Years | 9.5 % | 8.6 % |
| 5 Years | 11.4 % | 10.6 % |
| 10 Years | 16.2 % | 9.4 % |
| Since Inception | 17.0 % | 10.3 % |

* 1 Month and Year to Date returns are not annualized.

CALENDAR YEAR PERFORMANCE ¹

| Returns | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|------------------------|------|--------|--------|--------|--------|--------|-------|--------|--------|--------|
| Global Tactical | | 5.4 % | 15.5 % | 54.4 % | 19.9 % | 0.5 % | 6.6 % | 26.0 % | -2.2 % | 25.3 % |
| Benchmark ² | | -7.6 % | 16.5 % | 23.3 % | 4.0 % | -2.1 % | 8.2 % | 23.9 % | -9.8 % | 26.3 % |



Since Inception Statistics

Performance Statistics

September 1, 2010 - November 30, 2020

^ 2010 returns are Sept 1 - Dec 31 and are not annualized.

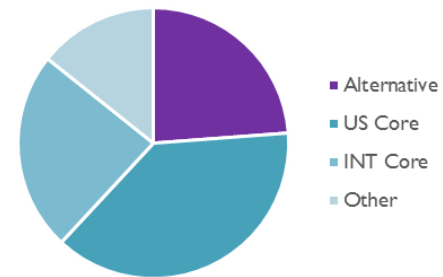
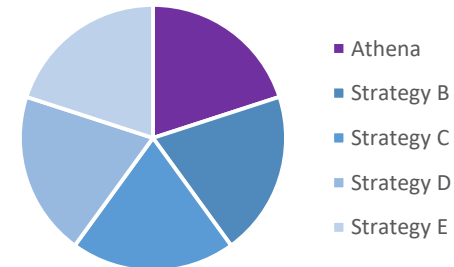
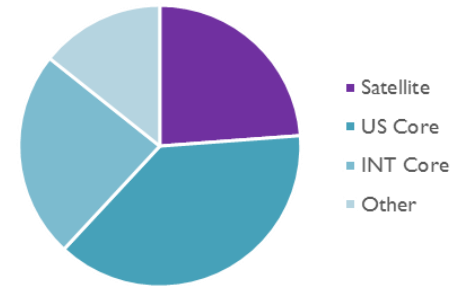
† Portfolio performance is net of management fees.

| Metric | Portfolio | Benchmark |
|---------------------------|-----------|-----------|
| <u>Alpha</u> | 5.37 | 0.00 |
| <u>Beta</u> | 1.03 | 1.00 |
| <u>Standard Deviation</u> | 17.1% | 14.4% |
| <u>R-Squared</u> | 0.75 | 1.00 |
| <u>Sharpe Ratio</u> | 0.91 | 0.69 |
| <u>Sortino Ratio</u> | 1.02 | 0.62 |
| <u>Upside Capture</u> | 121% | 100% |
| <u>Downside Capture</u> | 97% | 100% |



Global Tactical ETFs in Portfolios

- Core & Satellite
 - Over/Under Weight
 - Tactical Allocation
 - Return Enhancer
- Active Equity
 - Alpha Strategy
- Liquid Alternative
 - Global Macro
 - Leveraged Equity





Behavioral Viewpoints - A Unique Perspective

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behavioral ADVISOR behavior ANALYST behavioral PRACTICE behavioral MARKETS

Does the Economy Predict Stock Returns?
Written on 13 February 2019. Posted in Behavioral Advisor

Outlook for 2019 is No Mystery
Written on 15 January 2019. Posted in Behavioral Advisor

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Focused on Behaviors

- ☐ We take a behavioral view of the markets and financial advice.
- ☐ The Viewpoints section of our website is a valuable resource for unique behavioral perspectives.
- ☐ The AthenaInvest investment process is based entirely on behavioral factors.

Get behavioral insights straight to your inbox :
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Recap: Benefits of Applying Behavioral Finance Principles

1. Behavioral Research is Increasing in Relevancy and Application
2. Behavioral Practice Management + Needs-Based Planning
3. Behavioral Portfolio Construction Directly Mitigates Behavioral Challenges



Hedged Equity: distinct & time-tested strategy

Directly address market risk and loss aversion

Seeks to smooth the ride and investor emotions



Dynamic Portfolios: designed to perform and help clients stay invested

Core Equity: Strategy-diverse portfolio of truly active managers

Tactical Allocation: Responds to changing market conditions



Let's Discuss

Questions from the Audience

THANK YOU



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Disclosures: Swan Defined Risk Strategy

The Swan Defined Risk Strategy or DRS as used in this document refer to the Swan Defined Risk U.S. Large Cap Sectors Select Composite.

| Year | Swan DRS U.S. Large Cap Sectors Select Composite | | | | | S&P 500 ("The Benchmark") | | 60% S&P 500/40% Barclays Aggregate | |
|------|--|----------------------|--|-------------------------|------------------------------------|---------------------------|------------------------------------|------------------------------------|------------------------------------|
| | Net-of-Fee Return | Composite Dispersion | Composite Assets (No. of Accounts / AUM in Millions) | Firm Assets in Millions | 3-Yr Annualized Standard Deviation | Return | 3-Yr Annualized Standard Deviation | Return | 3-Yr Annualized Standard Deviation |
| 1997 | 19.17% | - | < 5 / .22 | 0.20 | - | 10.58% | - | 9.01% | - |
| 1998 | 11.55% | - | < 5 / .32 | 0.31 | - | 28.58% | - | 20.98% | - |
| 1999 | 12.26% | - | < 5 / .72 | 0.73 | - | 21.04% | - | 12.00% | - |
| 2000 | 3.17% | - | < 5 / .90 | 0.93 | - | -9.10% | - | -0.99% | - |
| 2001 | 7.46% | - | < 5 / 1.66 | 1.59 | 7.23% | -11.89% | 16.71% | -3.71% | 9.99% |
| 2002 | 12.22% | - | < 5 / 1.97 | 1.92 | 10.20% | -22.10% | 18.55% | -9.82% | 10.77% |
| 2003 | -0.65% | 5.68% | 6 / 3.74 | 3.74 | 10.11% | 28.68% | 18.07% | 18.48% | 10.26% |
| 2004 | 12.28% | 5.80% | 7 / 4.45 | 4.66 | 9.94% | 10.88% | 14.86% | 8.30% | 8.49% |
| 2005 | 7.47% | 2.66% | 7 / 4.76 | 4.98 | 6.19% | 4.91% | 9.04% | 4.00% | 5.61% |
| 2006 | 18.14% | 3.71% | 9 / 7.22 | 7.76 | 4.60% | 15.79% | 6.82% | 11.12% | 4.33% |
| 2007 | 8.81% | 3.79% | 10 / 8.82 | 9.40 | 6.04% | 5.49% | 7.68% | 6.22% | 4.56% |
| 2008 | -4.50% | 5.00% | 12 / 12.15 | 15.65 | 9.54% | -37.00% | 15.08% | -22.06% | 9.48% |
| 2009 | 25.00% | 11.69% | 50 / 47.74 | 55.79 | 11.10% | 26.46% | 19.63% | 18.40% | 12.40% |
| 2010 | 8.10% | 2.13% | 71 / 86.09 | 97.90 | 10.93% | 15.06% | 21.85% | 12.13% | 13.56% |
| 2011 | -5.38% | 3.16% | 97 / 46.89 | 59.44 | 9.67% | 2.11% | 18.71% | 4.69% | 11.28% |
| 2012 | 9.01% | 1.73% | 276 / 97.52 | 400.19 | 7.65% | 16.00% | 15.09% | 11.31% | 8.64% |
| 2013 | 14.34% | 1.38% | 286 / 230.84 | 1,052.99 | 6.84% | 32.39% | 11.94% | 17.56% | 7.00% |
| 2014 | 6.52% | 0.47% | 372 / 315.14 | 1,810.04 | 4.83% | 13.69% | 8.97% | 10.62% | 5.48% |
| 2015 | -2.93% | 0.46% | 402 / 305.55 | 2,446.11 | 5.88% | 1.38% | 10.47% | 1.28% | 6.37% |
| 2016 | 9.59% | 0.58% | 566 / 379.28 | 3,620.08 | 5.46% | 11.96% | 10.59% | 8.31% | 6.33% |
| 2017 | 10.83% | 0.26% | 714 / 552.64 | 4,975.33 | 5.01% | 21.83% | 9.92% | 14.21% | 5.85% |
| 2018 | -7.74% | 0.36% | 582 / 430.65 | 4,063.88 | 6.44% | -4.38% | 10.80% | -2.35% | 6.38% |
| 2019 | 13.94% | 0.40% | 524 / 340.23 | 3,065.24 | 7.21% | 31.49% | 11.93% | 22.18% | 7.07% |

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The Composite relies on LEAPS and other options to manage this risk. Individual accounts own S&P 500 exchange traded funds and LEAPS associated with the exchange traded funds as well as multiple other option spreads that represent other indices that are widely traded. The Defined Risk Strategy was designed to protect investors from substantial market declines, provide income in flat or choppy markets, and to benefit from market appreciation. Stock and options are the primary components of the strategy.

The benchmarks used for the DRS US Large Cp Sectors Select Composite are the S&P 500 Index, which consists of approximately 500 large cap stocks, and a 60/40 blended composite, weighted 60% in the aforementioned S&P 500 Index and 40% in the Barclays US Aggregate Bond Index. The 60/40 is rebalanced monthly. The 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). The S&P 500 Index is often used as a proxy for the overall U.S. equity market. Indexes and other benchmarks used herein are generally unmanaged and have no fees or expenses. An investment cannot be made directly in an index or some of these benchmarks. Swan's investments may consist of securities which vary significantly from those in the benchmark indexes listed above and performance calculation methods may not be entirely comparable. Accordingly, comparing results shown to those of such indexes and benchmarks may be of limited use.



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