Hope for the Best.
Prepare for the Worst.

Misconceptions about Bear Markets, Portfolio Construction, and Risk

COVID-19 created a global market crisis, reminding investors that market risk can strike quickly and dramatically. This 'black swan' event triggered economic disruption and accelerated trends in global central bank polices, exacerbating challenges for conventional approaches to portfolio allocation and risk management.

Intelligent, rational investors made some missteps prior to the pandemic-induced crisis that resulted in significant losses of wealth. Similar missteps were made prior to the Great Financial Crisis of 2007-09.

Many of these missteps are a result of popular misconceptions regarding major market events, diversification, and risk. Unfortunately, many of these misconceptions still lay at the foundation of portfolio construction and expectations. The passage of time, however, offers the opportunity to assess what went wrong and how to avoid repeating past mistakes.

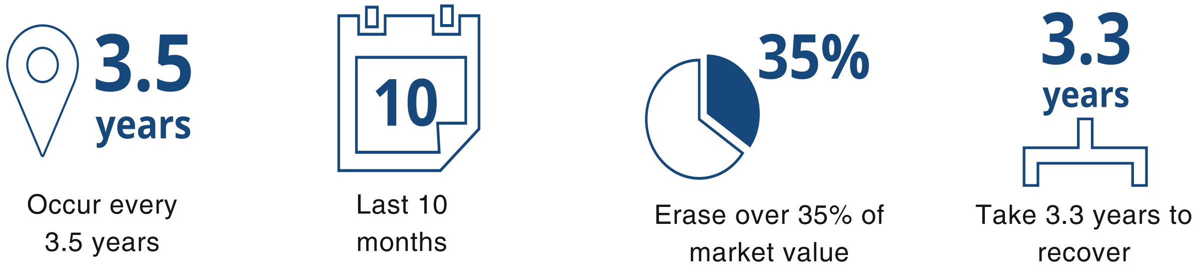
Identifying and understanding these misconceptions can help redefine portfolio construction and risk management, so investors can be better prepared for the next major market event.

Misconception 1:
Black Swans are rare events.

The terms used to describe extreme market events—black swans, hundred-year storms, historic events, et cetera—imply that these types of markets should be few and far between. Unfortunately, the last two decades have seen more than their fair share of crises:

These six significant events occurring in a 14 year period contradict the idea that market meltdowns are rare events.

In fact, since 1929, the S&P 500 data shows that, on average, bear markets:



Source: Bank of America Merrill Lynch, Global Research, Bloomberg. Returns based on S&P 500

Referring to these events as black swans make them seem infrequent and encourage investors to believe they are too big to do anything about. While one can't prevent a "meltdown" from happening, investors can, and should, still seek better ways to limit the potential damage to their portfolios.

Extreme market stress events and bear markets (drops in market value of 20% or more) are a natural part of investing and indicative of a healthy market; to assume contractions are "once-in-a-lifetime" situations or, worse, that they won't happen, can be detrimental to financial plans since it only takes exposure to one major loss to undo years of compounded gains.

Prolonged bull markets with periods of low volatility can create risk complacency and even risk amnesia. Market corrections or spikes in volatility often shake investors out of complacency, igniting fear of what they may have temporarily forgotten—markets can and will go down.

While investors are happy with the gains they receive in those extreme upside movements, no one wants to participate in the extreme downside movements.

Misconception 2:
I can see a bear market coming and get out before it hits.

In theory, getting out of the market before it takes a turn for the worst is a great way to preserve capital and avoid losses. The success of stock picking and market timing to avoid losses depends on being in the right place at the right time every single time, over and over, year after year, across a portfolio of investments, in various market environments.

The potential for gaining money is every bit as great at the potential for losing money.

How Much Did Active Managers Lose in the Financial Crisis?

During the Financial Crisis of 2007 to 2009, the majority of active funds lost over half their value in very short time frame.

This shows how many domestic equity* managers were able to actively limit losses during the Financial Crisis. Only one fund manager was able to get less than -20% while 1,165 suffered losses between -50% and -60%.

Maximum Drawdown Range of Outcomes	# of Domestic Equity Managers
0% to -20%	1
-20% to -35%	5
-35% to -50%	175
-50% to -60%	1,165
More than -65%	105

*Domestic Equity are active managers across all nine Morningstar style boxes: Large, Mid, and Small, and Value, Blend, and Growth. This only includes managers with an inception date prior to January 1st, 2007.

Source: Morningstar Direct, Swan Global Investments

While active managers were able to shield investors from the worst, one could argue they didn't protect enough. Market timing and stock picking are difficult, nearly impossible, to successfully and consistently execute over a long period of time. Market timing can create an uncertain investing experience that makes it difficult to plan for the future.

The markets are unpredictable, and it's easy to get caught up in "patterns" and analysis that claim revelations of a coming bear or correction that turns out to be wrong. And when this approach goes wrong, it can go very wrong.

Misconception 3:
Historical relationships will continue in the future.

One of the reasons diversifying across various asset classes is strategy heavily employed by the industry is because they believe that the historical relationships between asset classes will continue to happen in the future.

However, as markets go down in times of major stress, correlations go up, as seen with previous "black swans." Even investors who moved into other asset classes like international stocks, emerging market stocks, high yield bonds, real estate, and commodities saw those investments plunge in lock-step with their US equity investments during the 2008 crisis.

When diversification was needed most, the correlations spiked. The two tables below display how correlations shifted from their long-term averages during the crisis of 2008:

Long-Term Correlation Matrix: January 1988 - July 2007

	1	2	3	4	5	6
1) Russell 3000	1.00	0.62	0.61	0.52	0.41	-0.08
2) MSCI EAFE Index	0.62	1.00	0.58	0.35	0.25	0.01
3) MSCI Emerging Markets	0.61	0.58	1.00	0.43	0.30	0.04
4) Barclays U.S. Corp High Yield	0.52	0.35	0.43	1.00	0.44	-0.11
5) FTSE Nareit All REITs	0.41	0.25	0.30	0.44	1.00	-0.10
6) S&P GSCI	-0.08	0.01	0.04	-0.11	-0.10	1.00

Crisis Correlation Matrix: August 2007 - February 2009

	1	2	3	4	5	6
1) Russell 3000	1.00	0.92	0.83	0.75	0.86	0.59
2) MSCI EAFE Index	0.92	1.00	0.94	0.73	0.74	0.63
3) MSCI Emerging Markets	0.83	0.94	1.00	0.75	0.62	0.69
4) Barclays U.S. Corp High Yield	0.75	0.73	0.75	1.00	0.70	0.50
5) FTSE Nareit All REITs (Real Estate)	0.86	0.74	0.62	0.70	1.00	0.41
6) S&P GSCI (GS Commodity Index)	0.59	0.63	0.69	0.50	0.41	1.00

Source: Zephyr StyleADVISOR

- Less than 0.50
- Between 0.50 and 0.70
- Between 0.70 and 0.80
- Between 0.80 and 0.90
- Over 0.90

The dampening of a portfolio's overall volatility (swings in price) is only possible if the constituents of a portfolio have low or, ideally, negative correlations.

The global economy has changed significantly, so assuming past relationships will continue may create another painful shock for investors in the next major event. Investors should look to the future for proper diversification and risk management, not the past.

Misconception 4:
I'm managing risk by diversifying across asset classes.

Prior to the 2008 crisis, the financial industry espoused diversification among different asset classes as the preferred risk-mitigation technique.

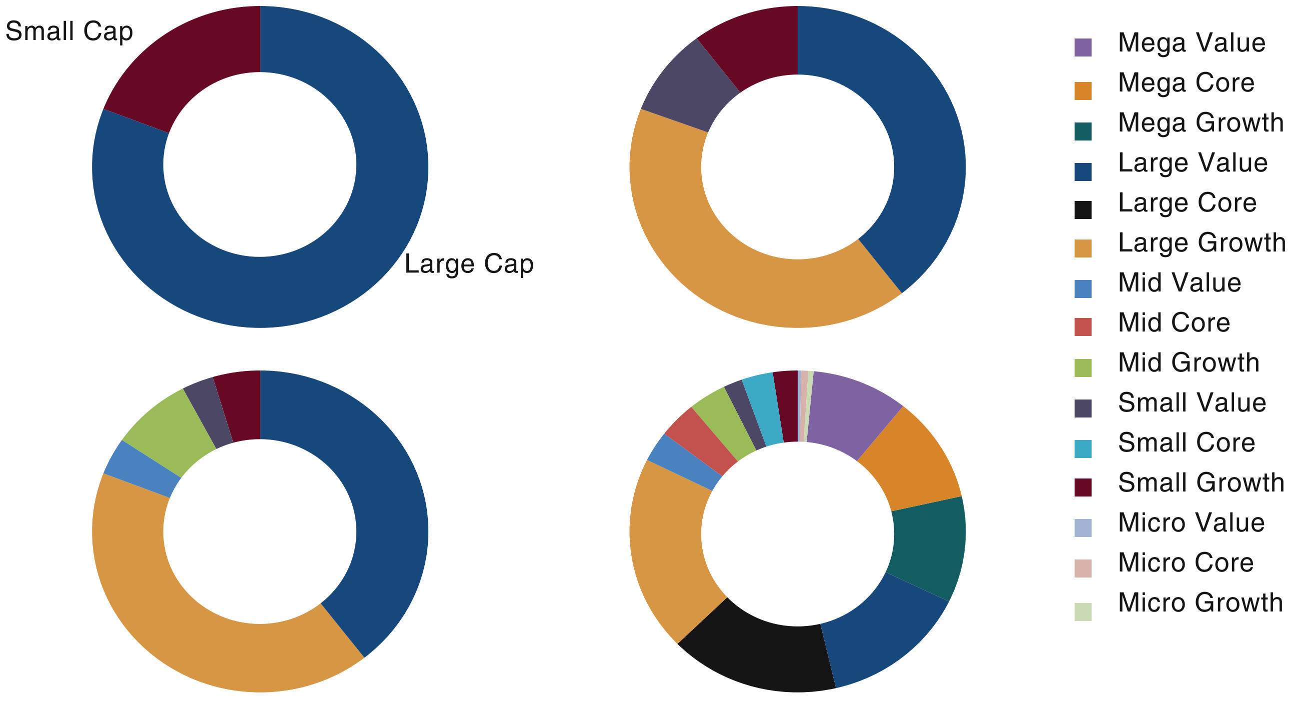
By investing in different assets, the expectation is that the assets are uncorrelated (respond differently in different market scenarios) enough to offset losses in one another during times of market stress.

While theoretically appealing, in reality many diversification strategies performed poorly during the Financial Crisis of 2007-09. In the immediate aftermath of the credit crisis, a lot of vitriol was directed towards diversification, claiming it had "failed" and that the mathematical underpinnings of diversification were unsound.

More likely, diversification's "failure" was due to poor implementation rather than being a flawed theory.

To provide risk management and portfolio protection, diversification requires investment in assets whose returns are truly different. Unfortunately, many investors pursued "false diversification": slicing up the market in to smaller and smaller pieces.

Slicing and Dicing the Market



Source: Swan Global Investments

Initially, investors divided equity market investment between large cap and small cap. Next, value and growth distinctions were made. Eventually, the concepts of mid cap and core were added, and so on. However, none of these styles were truly new assets: they were simply smaller slices of the same pie.

Why does this matter?

This matters because for diversification strategies to manage risk effectively, the investments need to be uncorrelated, or have different return patterns. And most of these “slices” are quite closely correlated, as shown in the table below.

Style Correlations: January 2005 - July 2021

	1	2	3	4	5	6	7	8	9	10	11	12
Russell Top 200	1.00	0.96	0.94	0.92	0.90	0.87	0.86	0.86	0.80	0.81	0.82	0.76
Russell Top 200 Growth	0.96	1.00	0.82	0.86	0.91	0.76	0.79	0.84	0.68	0.74	0.79	0.65
Russell Top 200 Value	0.94	0.82	1.00	0.91	0.80	0.92	0.85	0.80	0.86	0.81	0.77	0.81
Russell Midcap	0.92	0.86	0.91	1.00	0.94	0.97	0.95	0.94	0.91	0.90	0.89	0.87
Russell Midcap Growth	0.90	0.91	0.80	0.94	1.00	0.84	0.89	0.95	0.78	0.84	0.89	0.76
Russell Midcap Value	0.87	0.76	0.92	0.97	0.84	1.00	0.93	0.86	0.94	0.88	0.82	0.89
Russell 2000	0.86	0.79	0.85	0.95	0.89	0.93	1.00	0.97	0.97	0.98	0.95	0.95
Russell 2000 Growth	0.86	0.84	0.80	0.94	0.95	0.86	0.97	1.00	0.89	0.95	0.97	0.88
Russell 2000 Value	0.80	0.68	0.86	0.91	0.78	0.94	0.97	0.89	1.00	0.95	0.87	0.97
Russell Microcap	0.81	0.74	0.81	0.90	0.84	0.88	0.98	0.95	0.95	1.00	0.97	0.97
Russell Microcap Growth	0.82	0.79	0.77	0.89	0.89	0.82	0.95	0.97	0.87	0.97	1.00	0.89
Russell Microcap Value	0.76	0.65	0.81	0.87	0.76	0.89	0.95	0.88	0.97	0.97	0.89	1.00

Less than 0.75
Between 0.75 and 0.90
0.91 and Greater

Reading a Correlation Matrix

The closer the correlations are to positive 1.00, the more closely their movements are to each other. Correlations less than 0.75 are highlighted in yellow, between +0.75 and +0.90 in orange and above +0.90 in red.

Source: Zephyr StyleADVISOR

Ideally, we want correlations close to zero or negative, with negative meaning that the two assets move in opposite directions. We don’t see that in this table, though, as no two styles have correlations less than +0.80, severely limiting the diversification potential of these investments.

If everything was going up at the same time, they would very likely all go down at the same time.

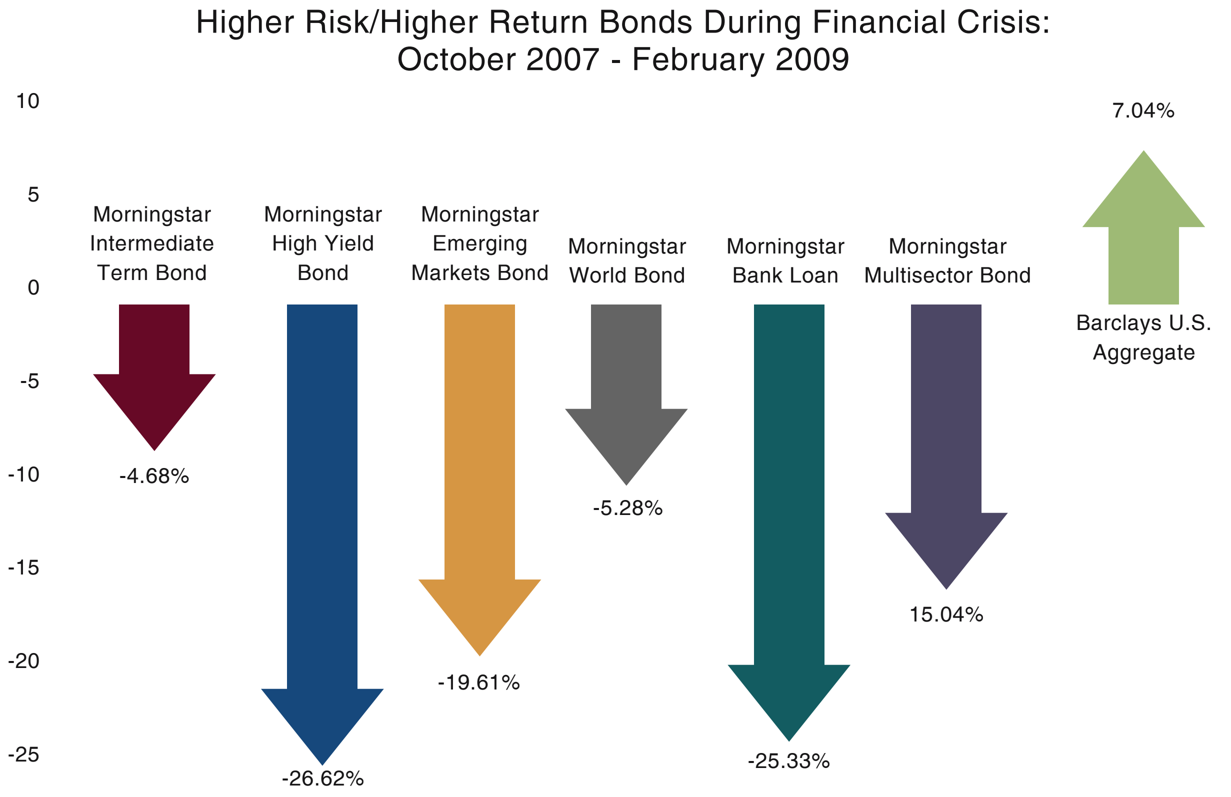
Investors with assets across each of these “styles” felt great when markets were going up and probably assumed diversification was working as advertised. But the simple and neglected truth was that if everything was going up at the same time, they would very likely all go down at the same time.

And of course, that’s exactly what happened.

Diversification only works if the return patterns are truly different. This strategy has many other benefits, but when it comes to mitigating market risk, diversification alone is not enough.

Misconception 5:
Bonds will protect against a bear market.

The other common diversification method is adding a large allocation to bonds in a portfolio. These fixed income instruments are also thought to be uncorrelated to the equity markets and be a safer place to preserve capital. But during the last market correction, that assumed non-correlated relationship between bonds and stocks didn't work out so well. We can see below how average mutual funds in various fixed income asset classes performed during the Financial Crisis.



Source: Zephyr StyleADVISOR

Many endured significant losses the last time equity markets were falling significantly. Low quality bonds act much more like equities than bonds during a sell off.

Another important point to remember is how the relationship between bond values and yields works in reverse: rising interest rates decrease the values of bonds. The typical bond fund is very susceptible to capital losses should interest rates rise from their current 2.85% (as of June 2018) to the historical average over the last 40 years of 6.25%. So those relying on bonds for downside protection might be in for a painful shock.

Those relying on bonds for downside protection might be in for a painful shock.

Misconception 6:
Risk means volatility.

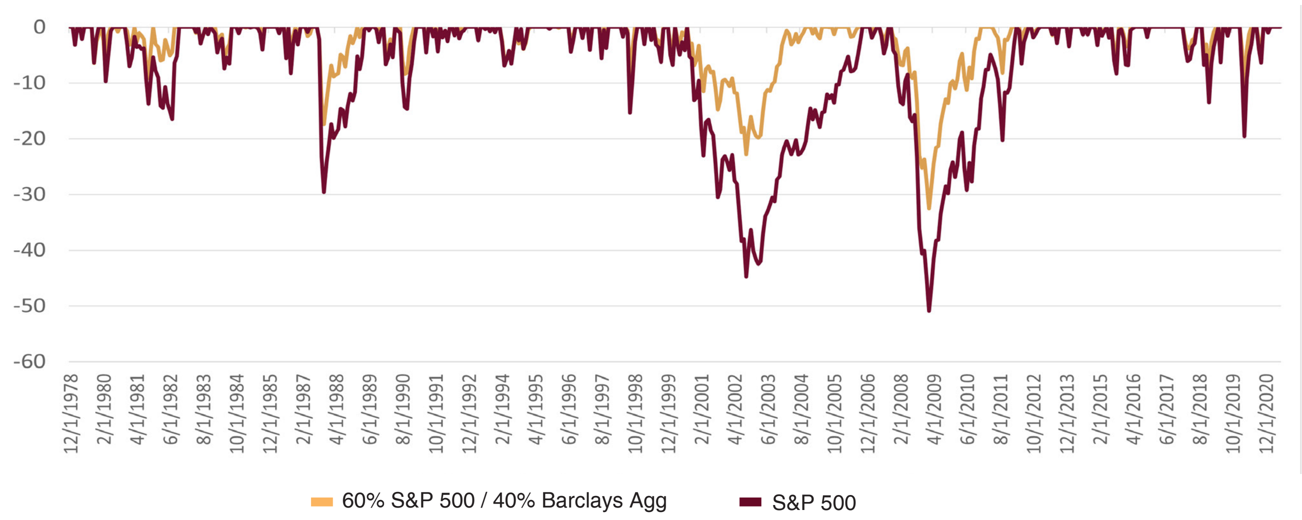
Standard deviation is the industry standard for measuring risk, which is based on measuring the volatility of individual returns around a mean return.

But investors don't think about risk in terms of volatility. They think about it in terms of losing money.

When the market has a crazy month, most investors aren't angrily calling their advisors, "What was my volatility last month?" It's most likely phrased, "How much money did I lose?"

If capital preservation is an investor's primary concern, the pain index provides a better measure of risk than standard deviation. The pain index measures losses—the depth, duration, and frequency of losses (visualized below).

Pain Index Drawdown Chart: January 1979 - July 2021



Source: Zephyr StyleADVISOR

The pain index is the area required to fill the entire drawdown space. The larger the area, the more money lost.

Shifting our understanding of risk from volatility to dollar amounts lost (pain) is the first step to building a a portfolio that is more aligned with investor expectations and goals. Standard deviation is a classroom concept; capital preservation is a real-world issue.

Standard deviation is a classroom concept; capital preservation is a real-world issue.

By redefining investment risk in these terms, investors and advisors can find a better way to invest—one that will help investors keep more of their money and reach their goals without fear of an unpredictable "black swan" undoing years, even decades, of compounding.

Constructing Better Portfolios
A Hedged Diversified Portfolio

Market risk is the biggest threat facing investors and their future, and investors need an investment strategy that helps them navigate through major market events that can leave a lasting impact on their lives.

Previous strategies have proven limited in handling these big market stresses because they have lacked proper diversification and implemented strategies measuring risk in abstract terms.

Understanding where the industry went wrong the last time can help in creating better portfolios for the future. Waiting until a bear market is eating away at gains and principal is too late. And labeling major market events as 'black swans' or 100-year storms results in weaker portfolios that will have a hard time protecting investors' money when they need it most.

While the markets can be unpredictable and random, it's important to construct portfolios that address the limitations of current investing strategies and to seek better protection against inevitable bear markets.

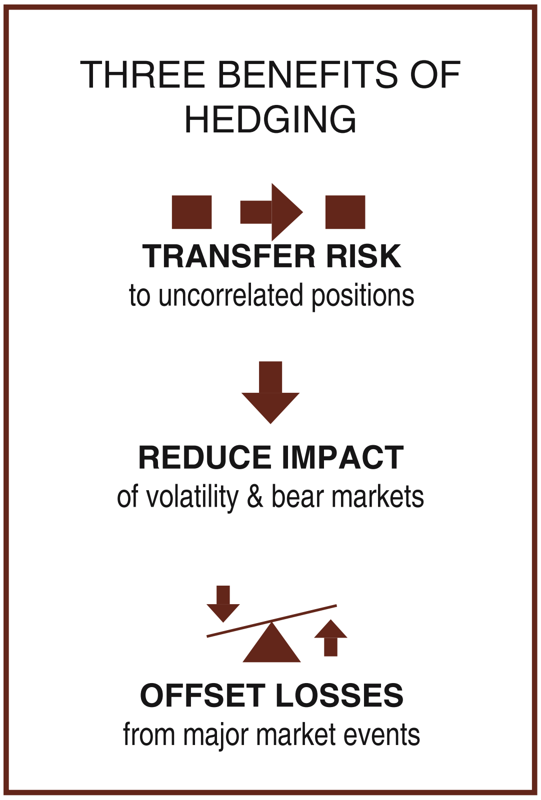
Even though market risk cannot be diversified away, as we saw in the Financial Crisis of 2008, it can be hedged against.

WHY HEDGE

Hedging an investment means reducing or directly offsetting risk in one asset with another, specifically one with a negative correlation.

Hedging allows one to transfer risk to uncorrelated positions, reduce impact of volatility and bear markets, and offset losses from major market events.

One way of achieving true diversification, and a popular hedging technique, in a portfolio is through the use of options.



Constructing Better Portfolios
Hedging with Options

Options have return patterns that are described as "asymmetric". Unlike traditional asset classes, options allow investors to define and target a specific range of outcomes.

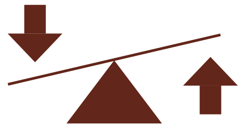
The practical effect of a well-designed option strategy is to eliminate the impact of extreme market events and manage investor emotions that can result in major losses. It's during moments of market stress that investors can experience opportunity costs from getting out too early or suffer realized losses as they get out too late.

Hedging with put options may offer more control over the unpredictable nature of investing, provide a smoother investment experience, and reduce the adverse decisions based on loss aversion.

DEFINING RISK WITH PUT OPTIONS

A hedging strategy that employs put options can define the amount of risk one is willing to take with an investment.

Put options are an ideal diversifier because a put option is inversely correlated to the asset it seeks to protect. For example, when you use a put option on a stock, if the stock price goes down, the value of the put option goes up, and vice versa.



Put options can reduce the damaging impact of major market events and may protect investors against the possibility of catastrophic loss.

Hedging can help alleviate the stress of major market events and provide more consistent and smoother ride that could keep investors invested through it so they can meet their goals.

An equity investment strategy that measures risk in a way that investors understand and not only diversifies the portfolio across several different equity asset classes but also hedges against market risk using put options may be a great complement to a stocks/bonds portfolio.

It is truly a hope for the best and prepare for the worst approach: hope for the best by being always invested and prepare for the worst by being always hedged.

Instead of hoping that historical relationships continue on to the present and future, it's time to redefine the diversified portfolio, so investors can feel confident and prepared for any market environment.

Important Notes & Disclosures

Swan Global Investments, LLC is a SEC registered Investment Advisor that specializes in managing money using the proprietary Defined Risk Strategy (“DRS”). SEC registration does not denote any special training or qualification conferred by the SEC. Swan offers and manages the DRS for investors including individuals, institutions and other investment advisor firms.

All data used herein; including the statistical information, verification and performance reports are available upon request. The S&P 500 Index is a market cap weighted index of 500 widely held stocks often used as a proxy for the overall U.S. equity market. 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). Indexes are unmanaged and have no fees or expenses. An investment cannot be made directly in an index.

All Swan products utilize the Defined Risk Strategy (“DRS”), but may vary by asset class, regulatory offering type, etc. Accordingly, all Swan DRS product offerings will have different performance results due to offering differences and comparing results among the Swan products and composites may be of limited use.

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 may be of limited use. The adviser’s dependence on its DRS process and judgments about the attractiveness, value and potential appreciation of particular ETFs and options in which the adviser invests or writes may prove to be incorrect and may not produce the desired results. There is no guarantee any investment or the DRS will meet its objectives. All investments involve the risk of potential investment losses as well as the potential for investment gains. Hypothetical performance analysis is not actual performance history. Actual results may materially vary and differ significantly from the suggested hypothetical analysis performance data. This analysis is not a guarantee or indication of future performance. Prior performance is not a guarantee of future results and there can be no assurance, and investors should not assume, that future performance will be comparable to past performance. Further information is available upon request by contacting the company directly at 970.382.8901 or visit swanglobalinvestments.com. 201-SGI-081321

About Swan Global Investments

Investing Redefined®

Since 1997, our hedging and options strategies have been redefining investing to directly address the biggest threat long-term investors face: market risk.

Market risk is too big a threat to investors to be dealt with passively. So we hedge it.

Our simple, yet innovative investment philosophy is the foundation of our Defined Risk Strategy, a rules-based, multi-asset hedged equity strategy, with a track record of generating consistent returns while defining, or limiting, downside risk to improve investment outcomes and protect irreplaceable capital through full market cycles (bull and bear).

Swan Global Investments is an asset manager headquartered in Durango, Colorado, with offices in Puerto Rico.

SWAN GLOBAL INVESTMENTS

1099 Main Ave. Suite 206
Durango, CO 81301