APPROVED
By Kendrea Lopez at 7:59 am, May 19, 2020

Reviewed by Ceciclia Mercado in the Advisory Dept.

YOUR INVESTMENT SCORE CARD

PORTFOLIO OPTIMIZATION ANALYSIS

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SCORING YOUR PORTFOLIO

If you're reading this report, its because you are wondering, "How am I doing? Am I doing below average, average, or above average? Could I be doing better for the level of risk I have been taking? Are my fees and expenses commensurate with the overall performance received?".

Scoring your Portfolio over time is just not about scoring your investment choices, but also your past investment activity which deals with timing and emotions. Let's face it, you know better than us that you may have made some past adjustments with your portfolios that you probably shouldn't have. We all know that investing over long periods of time just isn't as easy as it may sound.

Investors go through emotional periods of both fear and greed with each emotion possibly creating impulse moves that cause you to buy and sell your holdings when you probably shouldn't have. For the average investor, timing the market over many attempts is often futile. Maybe 20% of the time your moves are perfect, and you make money. The other 80% you probably wish for a "redo".

However, studies have been done through a company called Dalbar in partnership with all the major investment companies who all manage 401k's and individual brokerage accounts. Their findings show not a good track record of success for these market-timing individuals. Unfortunately, the results show us that almost everyone would have done better over a long-term period if they just bought and held onto their investments and did nothing. One problem with this technique – does anyone want to watch their account value drop as much as 50% again, as happened to many the during 2008 Great Recession, to only patently wait to get back to even over the next 3-4 years? My guess would be NO.

Portfolio Optimization is a fantastic alternative to regular old Buy and Hold, and Actively trading your account. When done correctly, it gives you a better chance of designing a portfolio that performs better in both up and down markets. However, that being said, it takes a lot of work, not to mention education, experience, and patience.

In short, Portfolio Optimization is the process of selecting the best portfolio, out of the set of all portfolios being considered, according to some objective. The objective typically maximizes factors such as expected return, reduced risk, standard deviation, minimal volatility, and consistency.

SCORE YOUR PORTFOLIO IS AN EVALUATION

This evaluation is not a test on your ability to be an investment professional. It's for you to get a better understanding of where you perhaps have been and the direction you are going with your portfolio in the future. However, there is a considerable amount of information that can be brought to your investing forefront that could make you a much better investor. But first, let us take a look at a sample Portfolio Investment Score.

Your Investment Score is comprised of several different areas of your portfolio's metrics that measure various risk factors based on the time frame which is being measured. This time frame usually will be the beginning of the first full year that all your securities in your portfolio have a track-record in common. This is done because we have to get a feeling of not only if each security "plays well" with each other in both up and down periods of the market, but also allows us to collect meaningful data on your security selections.

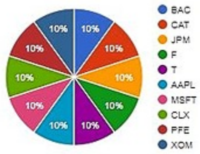
To get a good understanding of some of the metrics used during this evaluation to get your overall score, you will need a brief overview of each measurement of what they each mean and how it affects your investment choices, not only individually, but as an overall portfolio. One important factor that needs to be understood: The current data you may have provided to us to will have to be considered “Static” data. Your portfolio will be scored on these current holdings alone to grade you on the merits of your choices. We have no way to evaluate what you may have done in the past to sell one security for another or just plain go to cash during a scary moment. In addition, we have no idea (sometimes neither do you) of what you may do in the future as far as investment changes.

In the end, your Portfolio will be compared to an index to give you a benchmark to help you understand it you're doing any better than average at the level of risk you have been taking. This will then be compared to a computer-generated fully Optimized Portfolio to possibly help increase your overall chances in both up and down markets as explained in the individual scoring sections.

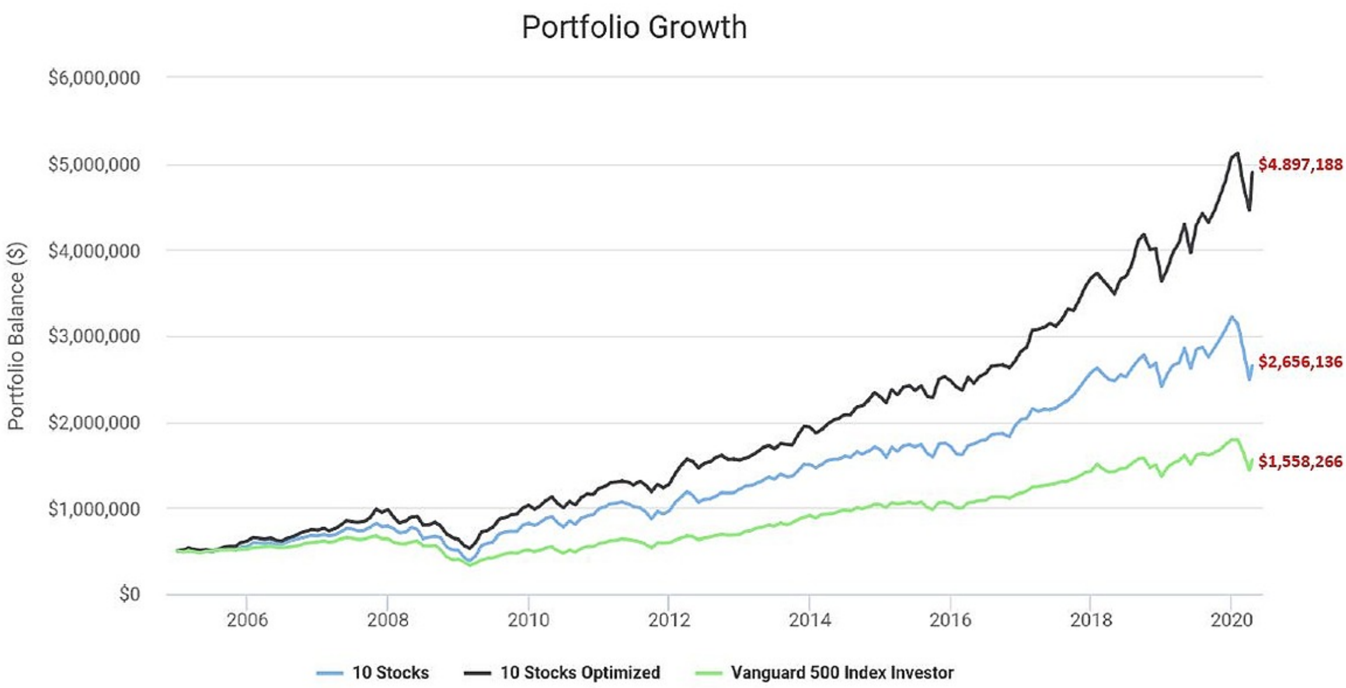
Let's start with taking a look at a hypothetical stock portfolio to see how Optimization may help out your performance:

10 Stocks

Ticker	Name	Allocation
BAC	Bank of America Corporation	10.00%
CAT	Caterpillar, Inc.	10.00%
JPM	J P Morgan Chase & Co	10.00%
F	Ford Motor Company	10.00%
T	AT&T Inc.	10.00%
AAPL	Apple Inc.	10.00%
MSFT	Microsoft Corporation	10.00%
CLX	Clorox Company	10.00%
PFE	Pfizer, Inc.	10.00%
XOM	Exxon Mobil Corporation	10.00%



YOUR PORTFOLIO vs. BENCHMARK Next, let's compare this hypothetical portfolio to a closely identified benchmark that has a similar allocation of Stocks and Bonds. In this hypothetical situation, we will use the Vanguard 500 Index Fund Investors Shares (VFINX)* as the benchmark. Also, please keep in mind while going through this exercise, at the end of this document you will be provided the opportunity to have your portfolio compared to an optimized portfolio of your securities, as well as an optimized portfolio of other securities available in the universe of securities. As you can see in the next chart of our hypothetical example portfolio of 10-stocks selected, what the possible outcome of Optimizing a portfolio of the same securities can do to help your performance before fees being paid to your advisor.



DISCLOSURE: PORTFOLIO OPTIMIZATION IS BASED ON BACKTESTING OF A SECURITY OR PORTFOLIO OF SECURITIES OVER A CERTAIN TIME PERIOD. A PORTFOLIOS OPTIMIZATION CAN VARY BASED UPON THE PERIODS ANALYZED, CRITERIA, AND CONSTRAINTS. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS. SEE ADDITIONAL INFORMATION ON FINAL PAGE.*For a Vanguard 500 (VFINX) Prospectus: https://investor.vanguard.com/mutual-funds/profile/VFINX.

Investment Metrics I won't sugar-coat this section as it is very difficult to even look at unless you have a great amount of investor experience and advanced knowledge. But, believe it or not, these are the inside parts of the "investment engine" and used to help Optimizing your Portfolio.

Portfolio Analysis Results (01/01/2005 - 04/16/2020) Link PDF Excel

Summary Exposures Metrics Annual Returns Monthly Returns Drawdowns Assets Rolling Returns

Metric	10 Stocks	10 Stocks Optimized
Arithmetic Mean (monthly)	1.05%	1.35%
Arithmetic Mean (annualized)	13.33%	17.51%
Geometric Mean (monthly)	0.91%	1.25%
Geometric Mean (annualized)	11.51%	16.05%
Volatility (monthly)	5.25%	4.63%
Volatility (annualized)	18.19%	16.05%
Downside Deviation (monthly)	3.27%	2.68%
Max. Drawdown	-53.22%	-46.32%
US Market Correlation	0.88	0.84
Beta(*)	1.13	0.96
Alpha (annualized)	3.00%	8.09%
R^2	79.58%	74.16%
Sharpe Ratio	0.62	0.93
Sortino Ratio	0.98	1.58
Treynor Ratio (%)	9.99	15.55
Calmar Ratio	0.33	1.26
Active Return	3.81%	8.35%
Tracking Error	8.43%	8.18%
Information Ratio	0.45	1.02
Skewness	0.17	-0.04
Excess Kurtosis	4.51	1.32
Historical Value-at-Risk (5%)	-8.19%	-6.81%
Analytical Value-at-Risk (5%)	-7.60%	-6.25%
Conditional Value-at-Risk (5%)	-11.66%	-9.21%
Upside Capture Ratio (%)	123.18	124.03
Downside Capture Ratio (%)	107.37	83.57

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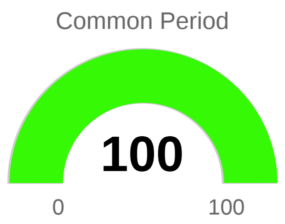
The next section will examine how the hypothetical portfolio compares against the portfolio being optimized and its designated benchmark and must be accompanied by a copy of the computer-generated results showing a complete analysis of all metrics discussed.

Data has been compiled by Silicon Cloud Technologies, LLC, and is retrieved from a number of sources they believe to be accurate and correct. Harboursldewealth Management and Silicon Cloud Technologies, LLC, are not affiliated with Kovack Securities, Inc. or Kovack Advisors, Inc. All portfolio returns presented are hypothetical and backtested. Hypothetical returns do not reflect trading costs, transaction fees, or taxes. The results are based on information from a variety of sources considered reliable, but we do not represent that the information is accurate or complete. The results are based on the total return of assets and assume that all received dividends and distributions are reinvested.

YOUR PORTFOLIO SCORE



COMMON PERIOD OR MANAGER TENURE

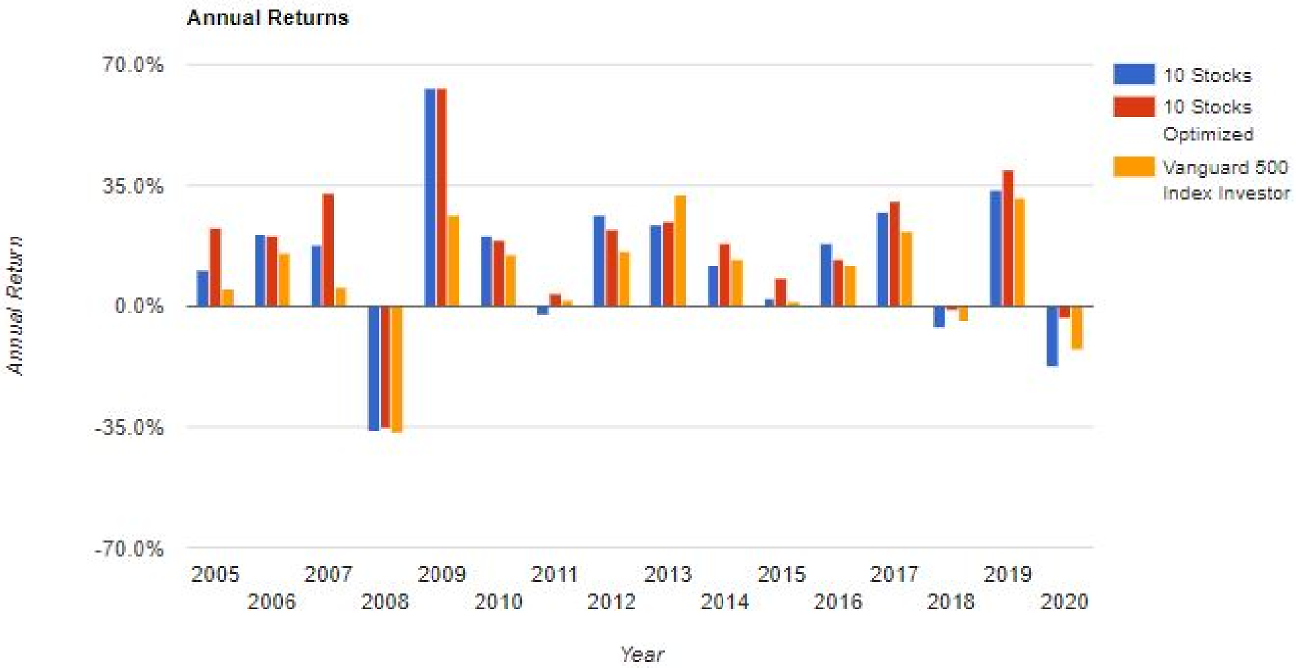
The longer period of time a group of securities are in a portfolio together, or a portfolio manager and his/her team manage the assets of a portfolio, the more credibility is given for a portfolio's long term results due to participating in multiple up and down periods of the market.

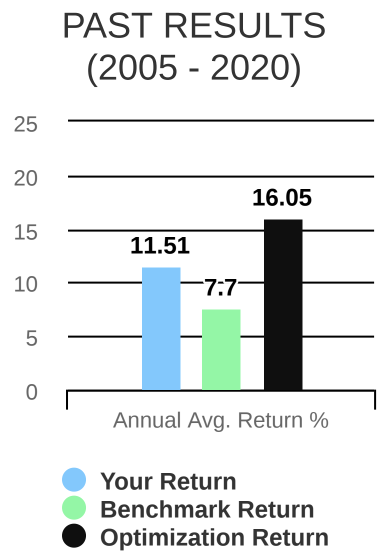
The Common Holding Period for the securities in your portfolio fell into the period of At least 15-Years When constructing a portfolio for consistency, a long term track record of each individual security is imperative in the design of a portfolio for both up and down-market scenarios.

If Your Score was 100	Congratulations! All the securities in you portfolio have a track record of at least 15-years providing you an opportunity to see how all your holdings work with each other in both up markets and down markets. Most importantly, you are able to examining how your portfolio of securities would have performed against others back in such a negative down-market period such as 2008 - 2009 better known as the "Great Recession".
If You Scored 80	Not bad! All the securities in you portfolio have at least a track record of 11-14 years providing you a decent amount of time to examine how each of your securities worked with each other in various market cycles. Most interestingly, this period of measurement may take into consideration the period of 2008 - 2009, better known as the "Great Recession", which wasn't kind to most investors with the market down as much as 50% within this time-frame.
If You Scored 60	All the securities in you portfolio have at least a track record of 6-10 years providing you a decent amount of time to examine how each of your securities work with each other in various market cycles. However, this period of measurement doesn't take into consideration the period of 2008 - 2009, better known as the "Great Recession", which wasn't kind to most investors with the market down as much as 50% within this time-frame.
If You Scored 40	All the securities in you portfolio have a track record of at least 3-5 years providing an inadequate amount of time (an "incomplete") to examine how each security may work with each other in various market cycles - a necessity of a well structured retirement portfolio.
If You Scored 20	All the securities in you portfolio have less than a 3-year common track record. Securities with less than a 3-year track record are more of a speculative investment and haven't had the opportunity to prove themselves along side the other constituents in the portfolio throughout multiple market cycles - a necessity of a well structured retirement portfolio.

PORTFOLIO PERFORMANCE

There are many ways to measure financial portfolio performance and determine if an investment strategy is successful. One of the most popular ways is looking at past performance. It's a feel good indication of how you "may" do in the future should you invest in that portfolio or purchase that security yourself. Unfortunately, looking solely at past performance is "fools-gold" to being a successful investor, or at least better than average. Past performance is only one of the metrics needed to be aware of when in the selection process of securities for your portfolio. *Of course, always remember past performance is no guarantee of future results.*





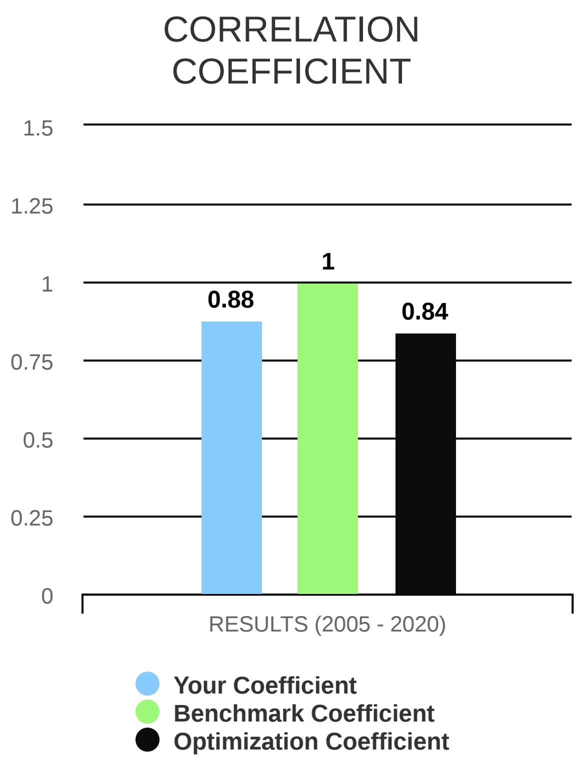
HOW IS YOUR PORTFOLIO CORRELATED

The word "Correlation Coefficient" in itself is a mouth full! However, it is the most important measurement when designing a portfolio in our opinion. Searching for consistent well performing securities doesn't sound very hard. However, the complexity builds when you now start to fit each security into a portfolio of other securities. The correlation coefficient is a statistical measurement of the relationship between how stocks, funds, and other securities move in tandem with each other, as well as of the strength of that relationship in both up and down-markets. Investors often use the correlation coefficient to diversify assets in the construction of portfolios to reduce risk. We like to not only look at the relationship of the total portfolio as a unit compared to a benchmark or an index but more importantly, how each individual security interacts with one another inside the portfolio to give an internal securities coefficient (not shown here).

Your Portfolio had a U.S. Markets Correlation Coefficient of 0.88 over the period measured. When compared to our suggested Optimized Portfolio which has a Coefficient of 0.84 . The benchmark or Index being compared too always has a baseline or 1.00.

COMMENT

The lower the overall number in this situation the better. If you happen to have a Coefficient of 1.00 or greater, your portfolio has a better chance of moving in the same direction of the market in both up and down-cycles - not a good overall optimization technique for protection.



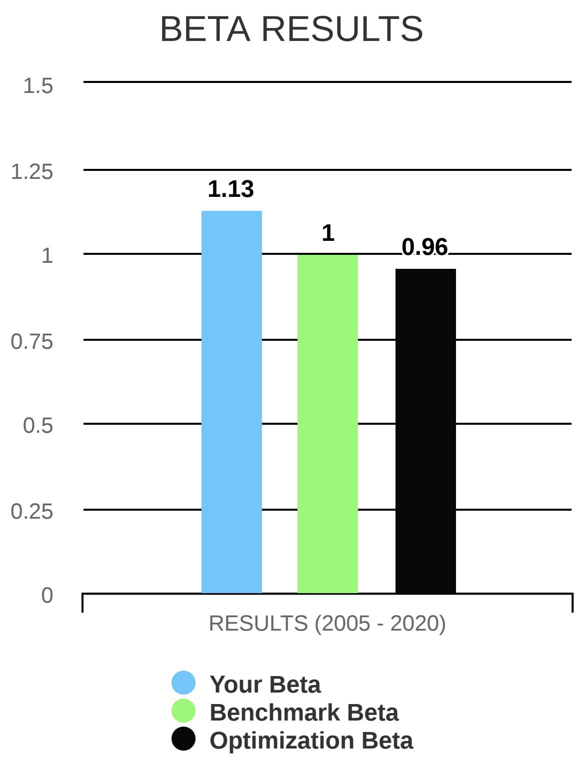
BETA

Beta is a measure of the risk of a stock when it is included in a well-diversified portfolio.

When Beta is positive, the stock price tends to move in the same direction as the market, and the magnitude of Beta tells by how much. If a stock's Beta is greater than 1, that means that when the market index goes up 1%, we expect the stock will go up by more than 1%. On the contrary, if the market goes down by 1%, we expect the stock to go down by more than 1%. Negative betas signify a negative correlation.

COMMENT

If your Beta result was measured at greater than 1.00, your portfolio is perceived to be taking on greater risk than your benchmark. You probably have noticed your portfolio doing better than your benchmark in an upmarket. However, in a down market doing much worse due to the additional risk that has been taken on. When optimizing a portfolio, try to get your overall portfolio Beta down below 1.00, and preferably below 0.80.



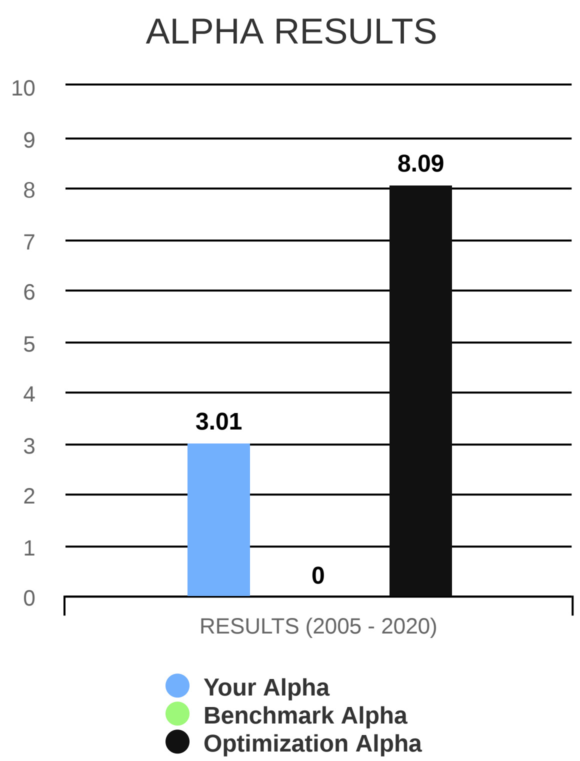
ALPHA

Alpha is used in finance as a measure of performance, indicating when a strategy, or portfolio manager has managed to beat the market return over some period. Alpha, often considered the active return on an investment and gauges the performance of an investment against a market index or benchmark that is considered to represent the market's movement as a whole. The larger the number above zero of the benchmark or index you are comparing against, the more investment value you are receiving when compared to the chosen index. It is often represented as a single number (like +3.0 or -5.0), and this typically refers to a percentage measuring how the portfolio or fund performed compared to the referenced benchmark index (i.e., 3% better or 5% worse).

RESULTS

Over the period measured, your portfolio had an Alpha measurement of 3.01% below your Benchmark, while the Optimized Portfolio had an Alpha measurement of 8.09% better than the Benchmark (always measured at 0.00 as a baseline).

Comment: Alpha is one of the more important indicators used in Optimizing a Portfolio. If your Alpha was measured at less than 1.20, you should make changes in either your manager or security selections.



SORTINO RATIO (Downside Deviation)

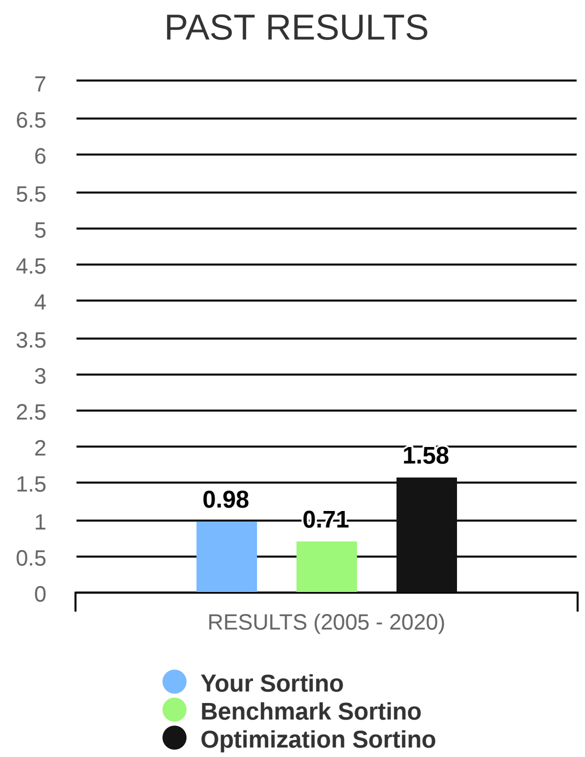
The Sortino ratio differs from its more popular cousin the Sharpe ratio in that it only considers the standard deviation of the downside risk, rather than that of the entire (upside + downside) risk. Because the Sortino ratio focuses only on the negative deviation of a portfolio's returns from the mean, it is thought to give a better view of a portfolio's risk-adjusted performance since positive volatility is a benefit. When looking at two similar investments, a rational investor would prefer the one with the **higher** Sortino ratio because it means that the investment is earning more return per unit of the bad risk that it takes on. A Sortino Ratio of 2.00 is considered good. A ratio higher than 2.50 is considered great.

RESULTS

Understanding the Sortino ratio once again, the higher a fund's ratio, the better a fund's returns considering the volatility of down-markets can have on a portfolio. **Bottom-line: This measurement essentially helps level the playing field when it comes to risk. The Sortino Ratio can help investors determine if an investment's returns are high enough. It does so by considering the investment's downside risk. If you can get your portfolio to measure a Sortino Ratio of 2.00 or greater you would be operating at a top-tier level.**

COMMENT

The Sortino Ratio is at the top of the list as a measurement needed to be maximized for full Portfolio Optimization. Always remember this ratio measures the downside risk of a portfolio. However, the *HIGHER* the number, the better.

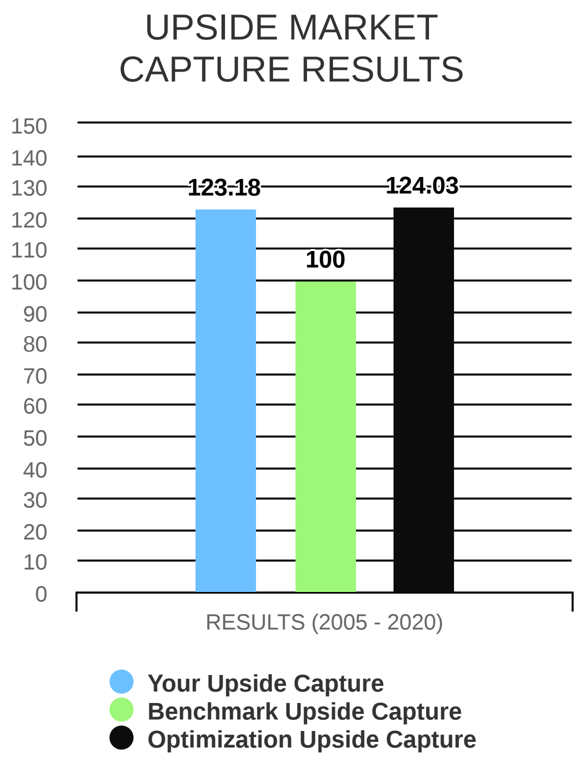


UP-MARKET CAPTURE RATIO

The up-market capture ratio is the statistical measure of an investment manager's overall performance in up-markets. It is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen. An investment manager who has an up-market ratio greater than 100 has outperformed the index during the up-markets of the period measured. For example, a manager with an up-market capture ratio of 120 indicates that the manager outperformed the market by 20% during the specified period. Many analysts use this simple calculation in their broader assessments of individual investment managers when compared to the overall market. With this ratio, the larger the number the better.

COMMENT

The Up-Market Capture Ratio is more of a result-focused measurement of your portfolio rather than a ratio used to help solve for a better result such as the Alpha, Sortino, and Correlation Coefficient metrics. Very important that this ratio return results of 120 or higher back to you in order to yield meaningful results over and above the benchmark. This being said, pay attention to the comments in the next section discussing the "Downside Market Capture Ratio".

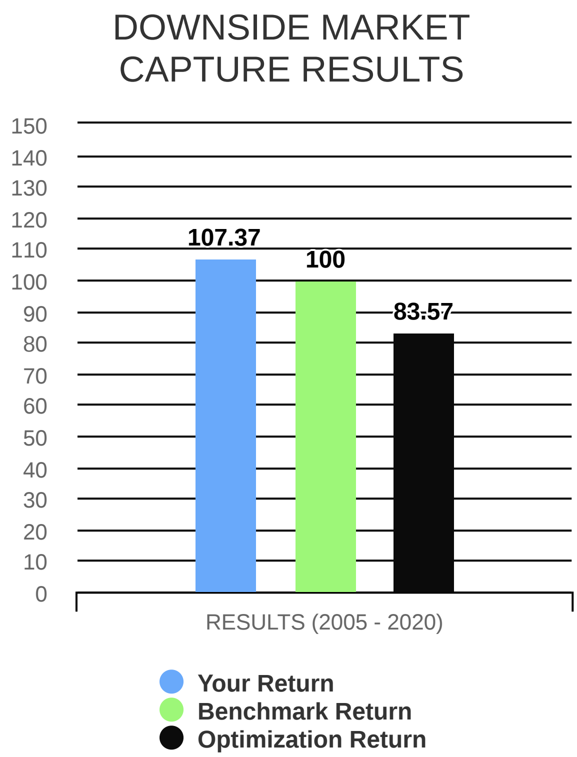


DOWN-MARKET CAPTURE RATIO

The Down-Market Ratio is a statistical measure of an investment manager's overall performance in down-markets. It is used to evaluate how well an investment manager performed relative to an index during periods when that index has dropped. For example, a manager with a down-market capture ratio of 80 indicates that the manager's portfolio declined only 80% as much as the index during the period in question. The *LOWER* this ratio the better.

COMMENTS

This measurement gives us some indication over the period of time measured how your portfolio may react when compared to your benchmark while the market is going down. That being said, it is not an exact measurement in all market cycles or short periods of days and weeks. However, over a longer period of time, the measurement has proven to be more accurate than not. If you can get your portfolio to measure a Downside-Market Capture Ratio of 80 or less, you are on the right track. If you can get it less than 70, you are on the road to becoming an investment rock-star! If your Downside-Market Capture Ratio is more than 100 than you are probably losing more than the benchmark or market index you are tracking during down market situations - not good. ***One Note: You can have a good Upside Capture Ratio of 120 or more, however, if you have not solved for potential downside market exposure and have a Downside Market Capture Ratio of over 100, you have not done a good job of Optimization, and over the long run may find yourself swimming upstream with less than desirable results.***

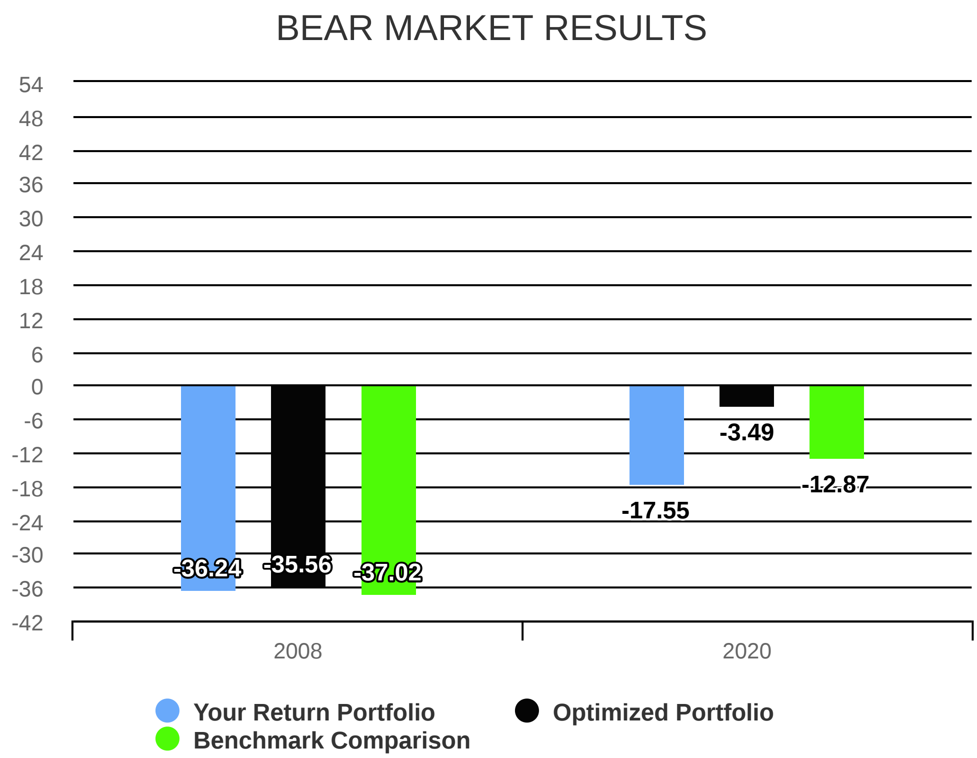


WHAT IS A BEAR MARKET

A bear market is when a market experiences prolonged price declines. It typically describes a condition in which securities prices fall 20% or more from recent highs amid widespread pessimism and negative investor sentiment. Bear markets are often associated with declines in an overall market or index like the S&P 500, but individual securities or commodities can also be considered to be in a bear market if they experience a decline of 20% or more over a sustained period of time—typically two months or more. Bear markets also may accompany general economic downturns such as a recession.

COMMENTS

A Bear Market situation is a challenging time for both investors and paid money managers. Not all Bear Markets are the same. However, what is the same is market volatility with percentage moves usually much higher and lower within hours and days than you experience during a "boring" old Bull Market that only makes you feel confident that you are doing a good job. A Bear Market will expose a lot of flaws in the design of a portfolio such as allocation and security selection. What's even more important is the investors' emotional flaws that show up during these huge draw-downs causing them to sell at the wrong time. Portfolio Optimization strategies help to manage these issues.



LEARN HOW TO GET YOUR SCORE UP

Your Score tells us that you need help in certain areas in order to achieve an optimized portfolio. If these steps aren't taken, the best you may only hope for is continuing to invest at sub-par achievable rates of return. Portfolio Optimization is a method to not only maximize the growth of your portfolio for future needs but also possibly increasing future retirement income.

You have to wonder, with over 10,000+ different stocks, mutual funds, ETF's available for one's portfolio, is it possible that you may do better than what you currently have? What we're saying is that even though after taking your current portfolio and optimizing it, is their possibly another portfolio of securities or additional securities that could be added to your portfolio, that may even provide a better-optimized result?

YES, we say there usually is, and you owe it to yourself to be made aware of it.

Call us for a free 45-minute webinar and we will share our thoughts with you without you leaving your home or office. To learn how you can make the necessary changes to Optimize Your Portfolio at a much higher level, please make an appointment by going to our website **www.harboursidewealth.com,** or call us at 413-224-2488. There is no obligation to learn.

All the best,

Gary W. Lavallee, ChFC

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