Real World Risk Management

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December 2017

Your investment portfolio contains attributes that impact both your future returns and risks. Using current and historical data, we can develop expectations for portfolio returns. Return expectations can be adjusted by altering the portfolio make-up. Would you like to manage your risks also? Of course! But what does that mean?

In the academic world, risk is defined as the statistical volatility of historical returns. Volatility is measure in absolute terms by standard deviation. Standard deviation is a mathematical measure of the ups and downs of price movement during the historical period. Lower standard deviation is considered lower risk. We also measure the volatility of price movement of one investment in comparison to another- often using stock or bond market indexes as our comparative benchmark. This relative volatility is called beta. Both statistical measures are useful in understanding the embedded risk in a specific investment.

The combined risk measures of all the portfolio holdings is considered when measuring the risk characteristics of the whole portfolio. The correlation of various returns to one another is important here. Investments with relatively uncorrelated returns to each other are considered “diversifying” and can reduce overall portfolio risk.

For most investors, real world risk is focused on two specific circumstances: losing money (downside risk) and performance that falls short of the passive benchmarks. Nobody is concerned when their portfolio returns are positive and better than the indexes. However, when the markets endure an inevitable period of decline and investors face losses, risk becomes real. Periods when the portfolio returns trail the market index returns become worrisome as well, especially when the performance pattern is unexpected and sustained. We add the statistics of “upside and downside capture” to analyze the pattern of portfolio performance. These measures tell us about the portfolio’s performance, relative to a benchmark, during good markets (upside capture) and bad (downside capture). A properly constructed portfolio will capture a larger percentage of upward price movement than it will downward, the wider the spread between the two percentages the greater the downside protection and the higher the risk-adjusted return.

The math is a good start: it is precise and systematically applied. However, real world risk management requires a lot more than just statistics. To improve investors’ outcomes, the dynamics of investor behavior must be addressed. As we’ve seen in studies by Dalbar [1] and Goyal & Wahal[2], focused on mutual fund investors and institutional investors, respectively; investors of all types and sizes face significant damaging risk from emotionally driven psychologically biased decision making regarding portfolio changes.

Behavioral risk is just as real as statistical risk, and perhaps even more damaging. Unfortunately, managing this risk is far less precise.

The Conceptual King of Risk Management: Market Timing

It is a straightforward and indisputable concept: buy low, sell high. If you put more money into high return, high risk assets when the market is "low" and move to safety when the market is "high", you will have world beating returns. Consider the warning of an imminent 40% decline postulated by the highly regarded, veteran economist in the Wall Street Journal article referenced below. Written after several years of market gains, it seems likely that the streak may end sooner rather than later. Isn't it a good, rational idea to retreat to safety, book the gains and avoid the pain of the next market swoon? It certainly would seem so!

"Washington 'clowns' set up 42% stock market drop" by Paul B Farrell

In his Wall Street Journal Market Watch column Paul writes "…investors are being warned of a 42% market drop by Gary Shilling, long time Forbes columnist, one of the world's top economist and the author of "The Age of Deleveraging". …Shilling does not see any reason for optimism now. But, he does have a great track record as a forecaster…"…most forecasters are paid to be bullish. I try to be realistic" says Shilling". Paul goes on to detail more of Shilling's forecast, "Shilling sees 'big trouble dead ahead.' Yes, "big" and yes, "dead ahead". He sees nine major reasons that explain why the future of both the U.S. and global economies and markets are "so grim"."

The problem is…market timing doesn't work. Few, if any, have successfully implemented market timing over the long term. Back to our example, this Wall Street Journal article was published on January 11, 2013. Since then, the S & P 500 returned roughly 15% annually for a total cumulative gain of over 100%. If you moved to the side-lines, you dramatically damaged your portfolio's long-term returns. And now that the US and global economies have picked up steam and corporate earnings are robust, should you get back in? A perplexing situation, for sure!

I can provide countless examples and quote numerous experts on the folly of market timing. Despite the overwhelming evidence against this strategy, I'm confident that market timing will remain the Conceptual (not real) King of Risk Management approaches. Why? Market timing is an ingrained behavioral response. Investors who moved to the side-lines after reading this January 2013 article were exhibiting a behavior called "loss aversion". Research shows that humans are twice as fearful of a loss as they are greedy for a gain.[3] The focus on market timing is continually reinforced by media headlines regarding expert predictions for the future direction. Almost every day, investment professionals are asked "where do you think the market is going?" The implication is that based on this prediction of the future, there would be reason to act.

Also at work is the behavioral influence of "recency". We remember all too well the pain of the 50% stock market decline in 2008-09. Because of the freshness of the event, we believe it entirely likely that it could happen again. The reality is that declines of this magnitude historically happened once in a generation; the prior one was 1973-74 and before that in the 1930s. While the desire to keep trying to time the market's moves are ingrained, the reality is that other behavioral responses - especially at market turning points - are exactly the opposite of "buy low, sell high". It is no surprise that market timing remains a prominent topic among investors and that it will continue to fail.

At times, the discussion of behavioral tendencies seems focused on individual investors. However, institutional investors, often run by committees of independent directors, have many of the same and a few additional behavior based risks. Investment committee members act as fiduciaries for pools of money such as endowments, foundations and retirement plans. It is not their money, but they are responsible. As such, fiduciaries are often even more sensitive to loss aversion. No Trustee gets criticized during rough times for being too cautious; indeed, they are usually praised at that moment for being "prudent" in reducing risk because even though the value of risky assets have already declined, the newspaper tells us that things are bad and risk is high. Indeed, the loudest and most persuasive voices on the committee will be those campaigning to reduce risk after the market has declined. As noted in the accompanying box, even the University of Chicago, home of an elite business school, Nobel prize winning researchers and with an investment committee composed of nationally known, highly successful investment professionals, experienced a damaging behaviorally driven reaction to the 2008-09 market decline. If it took two years for them to reinvest the $600 mil in the original strategy, the move to safety could have cost the

Craig Karmin's article, "College Try: Chicago's Stock Sale" in the Wall Street Journal (August 25, 2009), gave readers an insider's view on the development's surrounding the University of Chicago Endowment's massive sale of stocks after the market's decline in the panic of 2008. Chicago's Investment Committee was composed of a who's who list of hedge fund managers, venture capitalists and other investment professionals. During the height of the crisis, a bearish member of the University's investment committee lobbied persuasively for the Endowment to move to safer investments. Despite some mild protests from other committee members, "In an October 28, 2008 email viewed by the Wall Street Journal, Ms. Gould (Trustee & Chair of the Investment Committee) and Mr. Stein (Chief Investment Officer of the University) told committee members they were considering the outright sale of $600 million in stocks, 'virtually all the immediately saleable equities'." Sales commenced in early November. Karmin wrote, "The endowment managers staged a $600 million share selloff to buy safer instruments, an unusually abrupt no-confidence vote in it's portfolio model." In his August 30, 2009 article in Seeking Alpha, Lawrence Weinman wrote, "The University of Chicago Finance and Economics departments are considered the cornerstones of the efficient market school and modern portfolio theory which preach strongly against market timing…people overestimate their risk tolerance when asked in abstract, hence making questionnaires on risk tolerance useless. People have strong loss avoidance and faced with large losses, many who stated on a questionnaire that they would ride out such losses wind up selling (sell low, buy high). It seems that even the professionals at the University of Chicago experienced this."

Endowment over $200 in foregone profits. That is real money! The University of Chicago is just fine, but think of the buildings to be built, faculty salaries to be paid and student scholarships to be proffered from these funds. Similar damages to institutional portfolios were widespread in that period and continue to this day. Behavior risk is everywhere.

Integrated Risk Management

Reading this paper, it is clear <u>why</u> Risk Management and Behavioral Analysis is a priority at High Probability Advisors. Portfolios can't succeed without it! Now let's address <u>what</u> we do and <u>how</u> it benefits our clients.

The first step in risk management is comprehensive discussion on goals for the portfolio. This process will yield a set of guidelines for risk and return attributes, which will be addressed with an initial asset allocation. We can create a portfolio with risk exposure that best fits each client's objectives. Traditional portfolio construction concepts are focused on the percentage of the portfolio invested in stocks, bonds, real estate and other categories. We go beyond this by also employing some newer, factor based investment strategies which offer dramatic improvement in portfolio risk and return characteristics. How past returns are correlated to the stock or bond market movements give us "beta". For an individual stock or bond, beta changes with time. However, for a group of stocks with specific factor characteristics (value, momentum, size, profitability…, etc.), the historical correlations hold up well enough to allow us to predict future longer-term performance patterns with reasonable accuracy. A portfolio's standard deviation, beta and upside-downside capture measures give us a good window to future performance patterns when applied across a consistently composed population of stocks.

Ongoing portfolio management is also directed at risk management. As markets move over time, re-balancing the various categories into their optimal range is required. We also adjust exposures as client needs change. Finally, portfolio composition will change as we identify new assets with attractive characteristics. We aim to continually improve our effort as opportunity arises.

Most observers consider asset allocation the most important decision for investors: we agree it is critical. However, we can't ignore the very real behavioral risk that under duress, investors and committees will change the asset allocation and deviate from plan in subsequent periods. Therefore, we integrate behavior concepts in our risk management effort in several ways. In our regular client reporting, we will provide transparency into performance AND portfolio risks. Statistical measures on the portfolio will be included. We will also rotate through various "shock scenario" analyses, showing our clients how their portfolios may react should the future bring changes in interest rates, oil prices, the value of the US dollar and other economic factors. This is possible with portfolio analytic tools that use historic correlations between such factors and asset prices. Our goal is to educate clients on possible change scenarios so that when change does occur, it is less surprising. In my experience the uncertainty of surprise often leads to damaging anxiety and sub-optimal behaviors. Thus, we endeavor to reduce the anxiety of future events

Iron Mike Tyson, the ferocious heavyweight boxing champ, was once asked by a reporter to respond to the strategy that an upcoming challenger had detailed as his recipe to defeat the champ. Tyson responded, "Everybody has a plan until they get punched in the mouth".

by preparing for and understanding the impacts in advance. Forewarned is forearmed!

Another important part of our behavioral application is supporting our clients during extreme events. When the Twin Towers fell on 9/11/2001, it sure felt like a Mike Tyson haymaker had landed. The stock market closed for three days as the world was reeling and trying to assess what the attack meant for the future. The expected damage to the economy and the stock market was severe. When stock finally resumed trading, the index opened down 17% from the prior close. Selling into the panic would lock in the loss. As it turned out, staying the course was key, as the stock market bounced back to new highs within 2 months.

As demonstrated by the University of Chicago example, the financial crisis of 2008-09 brought the most severe challenges to investor resolve in 35 years. With the markets in full panic for more than six months, I supplied many papers, media appearances, client seminars and private meetings - all aimed at providing understanding, perspective and a reasoned approach to investment strategy. It is not easy to stick with an investment plan in the midst of such uncertainty. In hindsight, we know that staying in the market was the best strategy, as stocks and other risky assets began a historic bull market in March of 2009 that continues to set records today. It was indeed a time to "buy low", but investors fled. Huge sums came out of equity mutual funds during the crisis and the following years. Nouriel Roubini became the sought-after expert consultant on Wall Street following his accurate identification before the bust of the systematic risk to the banking and investment industry from the over-levered residential real estate bubble. Bankers, investment firms and government agencies paid him huge amounts for his insights into what would happen next. We just assumed that if he predicted the problem, he would know what the future held. As we see in the adjacent note, Roubini's crystal ball failed after one good call. This is an often repeated and cautionary tale for those mesmerized by the "guru du jour".

New York University professor Nouriel Roubini became known as "Dr. Doom" for his dire predictions of global financial collapse. In a speech at the CBOE Risk Management Conference on March 9, 2009, Roubini said, "My main scenario is that it's (S&P 500) highly likely it goes to 600 (12% drop from the 3/9/09 price). 500 is less likely, but there is some possibility you get there." Stocks still face "severe" risks and may extend declines amid plunging corporate earnings, an accelerating contraction of the global economy and a dimming outlook for banks, he said. Roubini reversed his negative outlook and became bullish on global economies and stocks in 2014, as noted by CNBC on 1/2/2014. From March 2009 to January 2014, the S&P 500 gained 169%.

Many of our clients can manage through the stress of severe events well enough on their own. However, when uncertainty reigns, High Probability Advisors will carry on the tradition of providing rational analysis, historical perspective and clear thinking. We have no crystal ball, but we are confident that our risk management focus and steady communications will support good decision making for all our clients as we face the challenging environments of the future.

Keeping It Real

Risk and return are the linked determinates of investment results. For an investor to achieve the long-term goals for a portfolio, we must focus on both elements. Our portfolios are built to a specific risk target based on exposures, aligning expected return with client objectives. At High Probability Advisors, risk management is a priority that we address with concrete programs, not just vague promises and lip service. We have deep understanding of the elements of risk. We have the tools to measure and predict systematic exposures to various risks in mathematical terms. We have techniques to help our clients understand and manage behavioral risk. We view this holistic effort as crucial in our efforts to ensure our clients a high probability of successfully reaching their investment goals.

1 Dalbar, "Quantitative Analysis of Investor Behavior", 2017 Report

2 Goyal & Wahal, "The Selection and Termination of Investment Management Firms by Plan Sponsors" Goyal and Wahal, The Journal of Finance, Vol LXIII, No. 4, August 2008

3 Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. Econometrica, 47, 263-291