Capital Risk Reduction And New Portfolio Tools

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Wealth Management

This discussion is about capital risk reduction and preservation, and new portfolio tools we are introducing in selected portfolios. In this paper, I answer six key questions:

1. **What are these new tools and why are you using them now?**
2. **For whom are the tools appropriate / recommended?**
3. **What is the benefit of using a new tool?**
4. **Is it worth the cost?**
5. **What's the worst case?**
6. **Why didn't you think of this before?**

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1. What Are These New Tools And Why Are You Using Them Now?

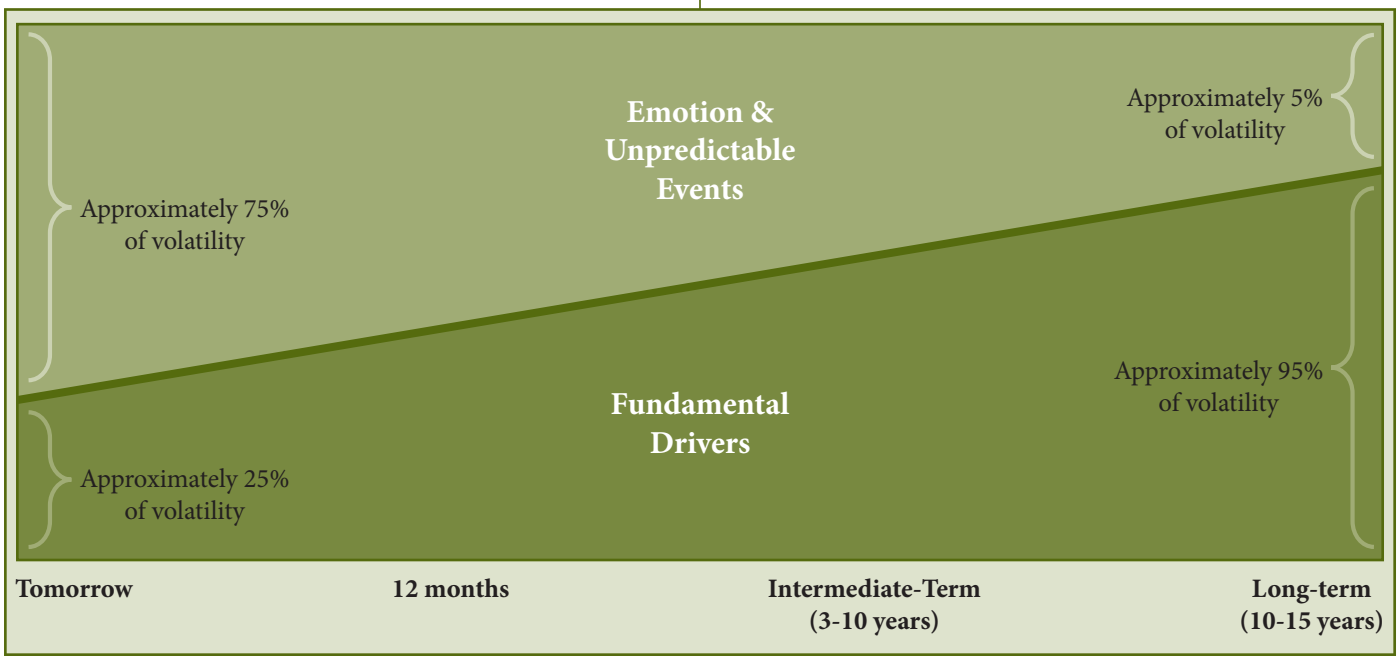
It is necessary to frame the answer in a historical context. When I started in financial planning in the early 1980's, at the practitioner level there was nothing known quantitatively about portfolio risk (volatility) through diversification. The Nobel Prize award for modern portfolio theory (MPT) was still six years away. Although it was understood in academia, professional application of modern portfolio theory did not come about until the middle 1990s for even the most advanced investment management firms.

Modern portfolio theory works well because domestic and international markets replicate the investment behavior on which MPT was developed. That is to say, over longer periods of time, different asset categories behave in the future like they have in the past. Highly engineered asset allocation models deliver exactly what they were built to deliver: lower volatility and higher than average returns.

However, for the past 18 months, diversification hasn't worked as forecast. The reasons are now clear—domestic and global markets reacted, and are still reacting, to major shifts in the world's economies due to an unprecedented credit crisis—a crisis which took years to develop and has many "moving parts." The credit crisis was enhanced by rapid downward spirals in real estate sales, consumer confidence and consumption. All of these things contributed to unprecedented downturns in every asset class in a way MPT could not foresee, prevent or defend against. In short, during a massive downturn all investment categories are highly correlated, because they are all moving the same direction—down.

In the following chart, we see what drives stock prices. In the short term, emotions and unpredictable events have a major impact, up to 75% of the daily prices and price swings, according to some experts. However, in the long term, over 10-15 years, the major determinant of stock prices are growth and earnings, which account for 95% of the long-term pricing movements.

The combination of the previously mentioned events created the "un-perfect storm" so to speak, pointing to new things going on all over the world. Every investment category suffered, and although portfolios based on



efficient asset allocation often did better than broad market indexes, they didn't show positive returns.

The current economic meltdown has led to market turbulence we haven't experienced since the 1930s. Even with significant government intervention, we see greater volatility than what we have experienced during the past 80 years. For example, a market volatility measure called the "Volatility Index" (VIX) normally ranges in the 20's. In November 2008, the VIX was over 80, and now stands at around 50. Clearly, turbulence abounds.

This is due in large part to the ability to trade huge blocks of securities quickly. Information is now available almost instantaneously on a global scale, so individuals and institutions trade 24 hours a day around the world. This has given rise to less correlation and more volatility in many markets and investment categories.

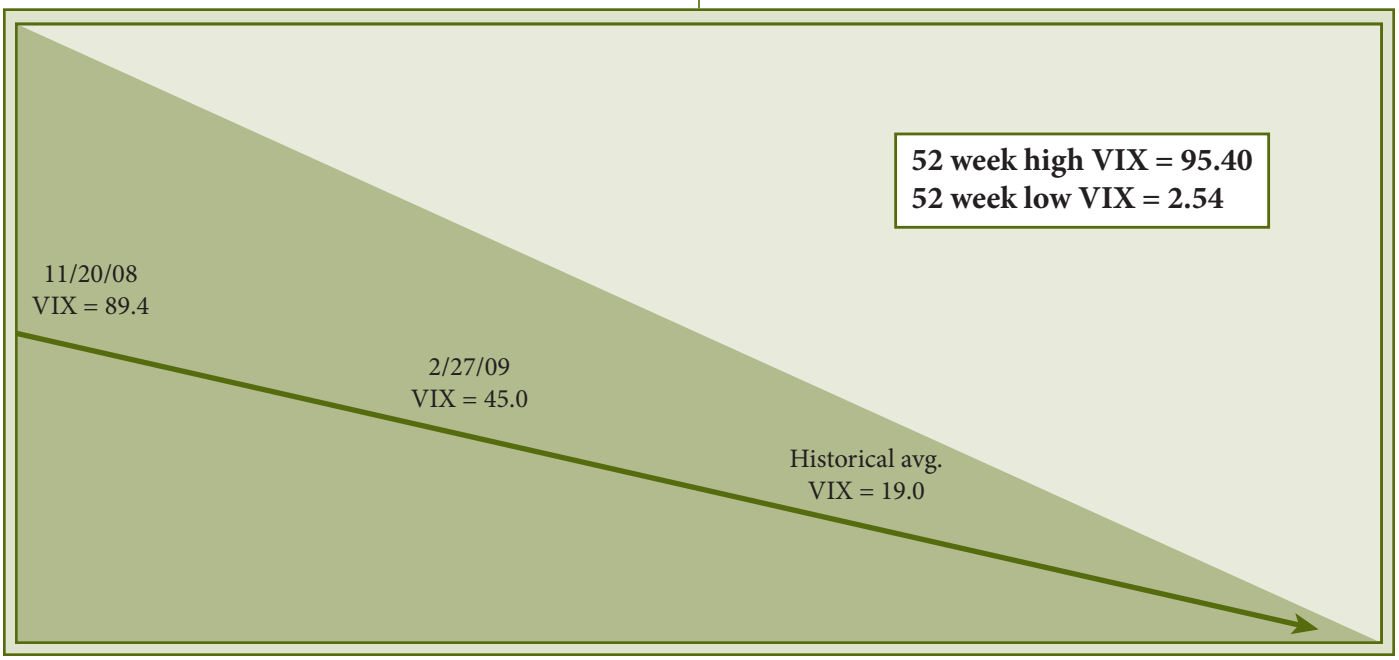
As the following chart shows, the rapid rise in the VIX, which is a proxy for the market's reaction to uncertainty, results in pressures on stock prices. Incidentally, this pressure can make prices move rapidly in either direction, but during November 2008, all pressure was downward. What we see is in the short term, up to 75% of price swings may be due to emotional reactions to unpredictable events, rather than the underlying fundamentals. However, in the long term, the drives of growth and earnings make up 95% of price movement. As the VIX becomes smaller, that is, as emotionality dies down, financial fundamentals dominate pricing.

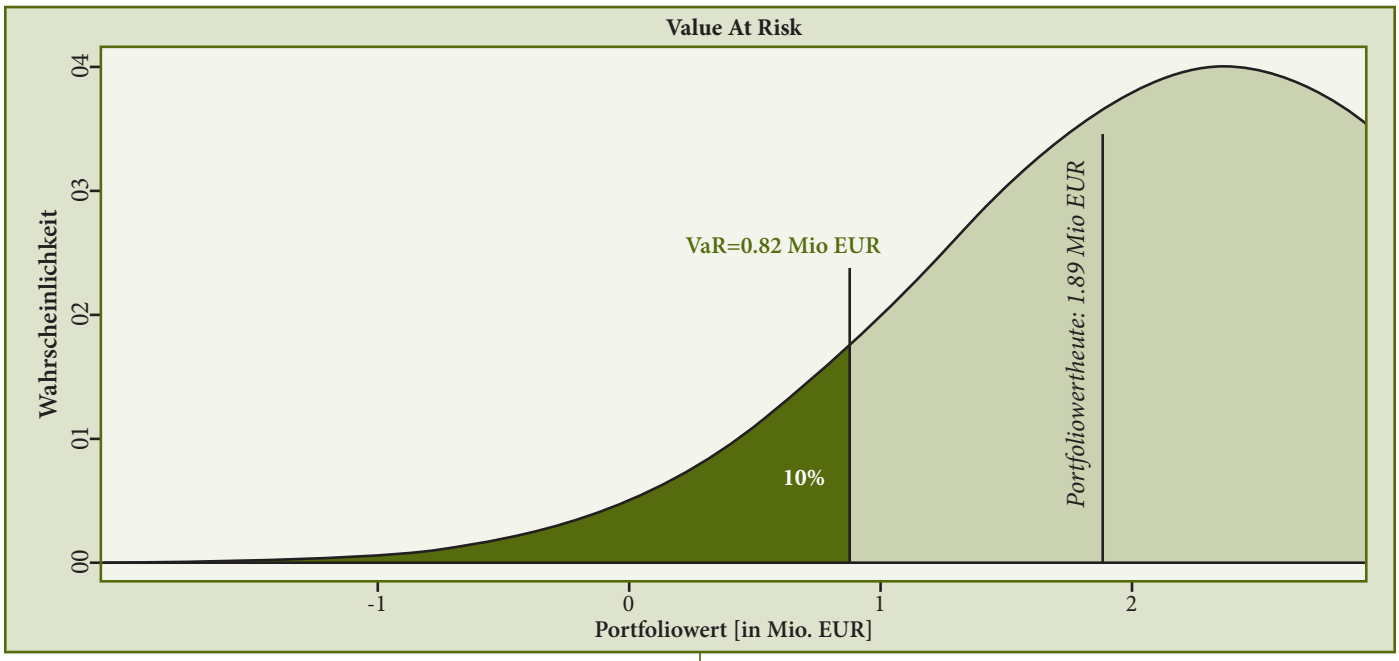
With that historical perspective, we'll look at two new tools. Both of these ideas involve the use of instruments which provide "investment insurance" using options.

Financial Options

A financial option is a contract which an investor purchases which gives the investor the right, but not the obligation, to buy or sell a financial instrument, such as a stock, at a specific price. In this way, by setting a specific price for purchase or sale, future price risk can be managed.

Options are not new. In the 1690s, during the reign of William and Mary in England, there was a brisk trade during London's first stock market boom in options with structures similar to their modern counterparts. These instruments were called puts and "refusals" or calls. History tells us as England's economy faltered in the mid-1690s, investors regularly used options to protect the value of their assets and manage the uncertainty of the





value. During this period, the advanced math necessary for pricing financial options was not available, but early traders demonstrated a canny awareness of the factors determining option prices, including risk.

It didn't stop there. In nineteenth century America, "privileges" were put and call options sold on shares offered by specialized dealers.

However, it wasn't until the Nobel Prize-winning work in the 1970s and 1980s by Fischer Black, Myron Scholes and Robert Merton, that the use of options expanded across financial and non-financial markets. As academic research continues to expand our understanding of finance, practical application of options has slowly been adopted by innovative investment firms.

Just as academic research in the 1960s and 1970s eventually led to modern portfolio theory, academic research in the 1970s and 1980s led to new products and financial tools. Exchange-traded funds (ETFs) were developed as technology drove trading costs down and trading speed up. Most recently, a new innovation which was not available during the 1990s are options on ETF indexes. It is these options, basically puts and calls on an S&P 500 Index fund or the S&P 500 Index ETF, which are central to our discussion.

Capital at Risk and the Insurance Put Option

While Markowitz and others looked at portfolio risk, we want to focus on preserving capital. Let's use a diagram from a textbook to explain the concept. If there is variability in the value of the underlying assets, what is the possibility it will fall below some acceptable value? In the diagram above, potential for losing some amount of capital is shown as "VaR" or Value at Risk, shown as the darker area to the left of the vertical line. The area can be thought of as the probability of losing some amount of capital.

So, the key question is, can we limit variability to preserve the capital? Under most circumstances, proper portfolio design *dampens* volatility, but volatility cannot be *totally* eliminated, no matter what combination of equities we select. Thus, we must use some other tool to preserve capital. Let me emphasize these new tools are *not* designed to take the place of your overall portfolio, but to place specific limits on the potential loss of capital.

To understand how this works, think of a term insurance policy, such as you would buy to insure your house against fire. Of course, you hope the house never burns, but if it does, you receive compensation for your loss. Simply put, you pay the premium and pray you never collect the benefit. The option tool works in the same fashion. You pay a premium, and hope the account never goes down so much you collect the benefit.

The following diagram shows how buying a put works. Value is created which exactly offsets the investment loss dollar-for-dollar as the fund value falls.

In this chart example we purchased some number of put options, which give the buyer the right, but not the obligation, to sell the put at a known strike price. If the market moves down, we have the ability to sell the options at any time, knowing the proceeds will offset the capital loss. We have converted the potential for an *uncertain amount* of capital loss into a *known amount* of loss we are willing to take. The risk has been managed. In financial terminology, we have hedged the risk.

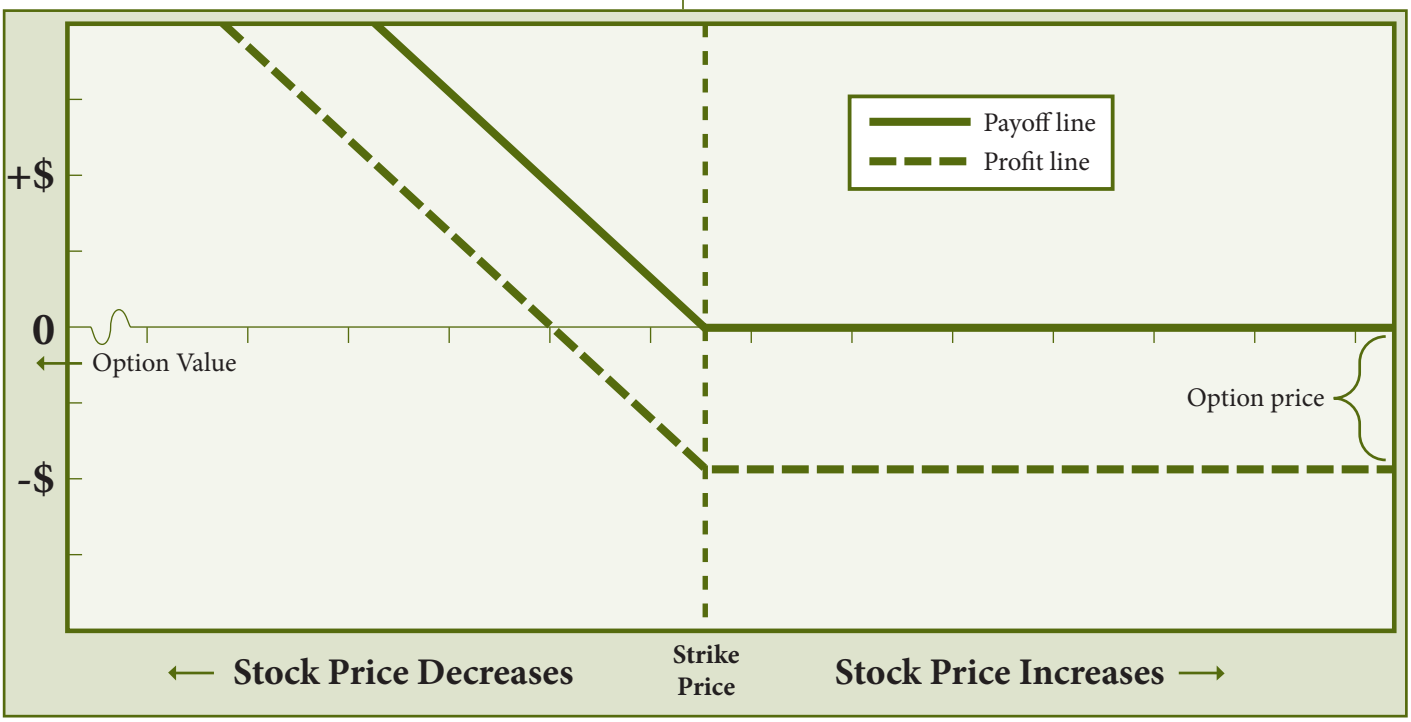
We are calling this particular tool the Portfolio Put Protection or "PPP." The amount of PPP "insurance" purchase quantifies the amount of downside risk, with no limit on the upside potential.

Cost Containment with Volatility Participation

The second risk mitigation tool entails the purchase of both puts and calls, which we'll designate the "2010 VIP" tool. What does that mean? The first part is straightforward. The options purchased have an expiration date during December 2010. The VIP stands for Volatility Insurance Participation. In this case, we are adding a component to a fixed income portfolio. This would be applicable to someone who has moved substantially into fixed income or is all in fixed income.

The use of options in combination with a fixed income portfolio provides absolutely quantifiable risk, combined with the ability to participate in significant changes in the equity markets, either up or down. In this way, we've create a very stable portfolio design which *benefits* from volatility, instead of *suffering* from it.

Let's discuss a straightforward numerical example. Let's say 100 percent of the portfolio is invested in traditional fixed income categories, with a potential commitment at some point to 10 percent in equities. Is there a way we can manage the downside risk, but position the portfolio to take advantage of a substantial



upside move? In this example 10 percent of the 90 percent of the fixed income, or nine percent of the overall portfolio, is invested in buying American-style options on the S&P 500 Index ETF fund.

When the S&P 500 Index goes up or down drastically, the ETF representing the S&P 500 Index also moves drastically. It has done this over the past few months, bouncing from a low of 666.8 to a high of 955. It is likely to continue to do so in the next few months. When it moves and hits predetermined limits, your options are exercised and sold.

Let's look at a simple example. Consider a very small portfolio of $1,000 of fixed income, where we commit to an options purchase of exactly $100. For this example, we invest in both puts and calls on the S&P ETF called "spiders." Using recent market numbers, we buy a call option which gives us the right to buy the underlying spider(SPY) at a fixed strike price of 86, representing a corresponding S&P 500 Index number of 860. We also buy a put option, which gives us the right to sell the underlying spider at a fixed strike price of 87, representing a corresponding S&P 500 Index number of 870. Both option contracts will expire in December 2009.

By the way, the actual market prices move daily, so this example and the associated numbers would change literally every minute of the day as the market changes. Once you have purchased an option, however, your cost and results are locked in until expiration.

You're probably wondering what has been the volatility of the SPY during the past three months. It's ranged from 70.0 to 95.5. During the past 52 weeks, it has swung from just over 67.1 to 144. Will this level of volatility continue? Most people think so. What happens if it does?

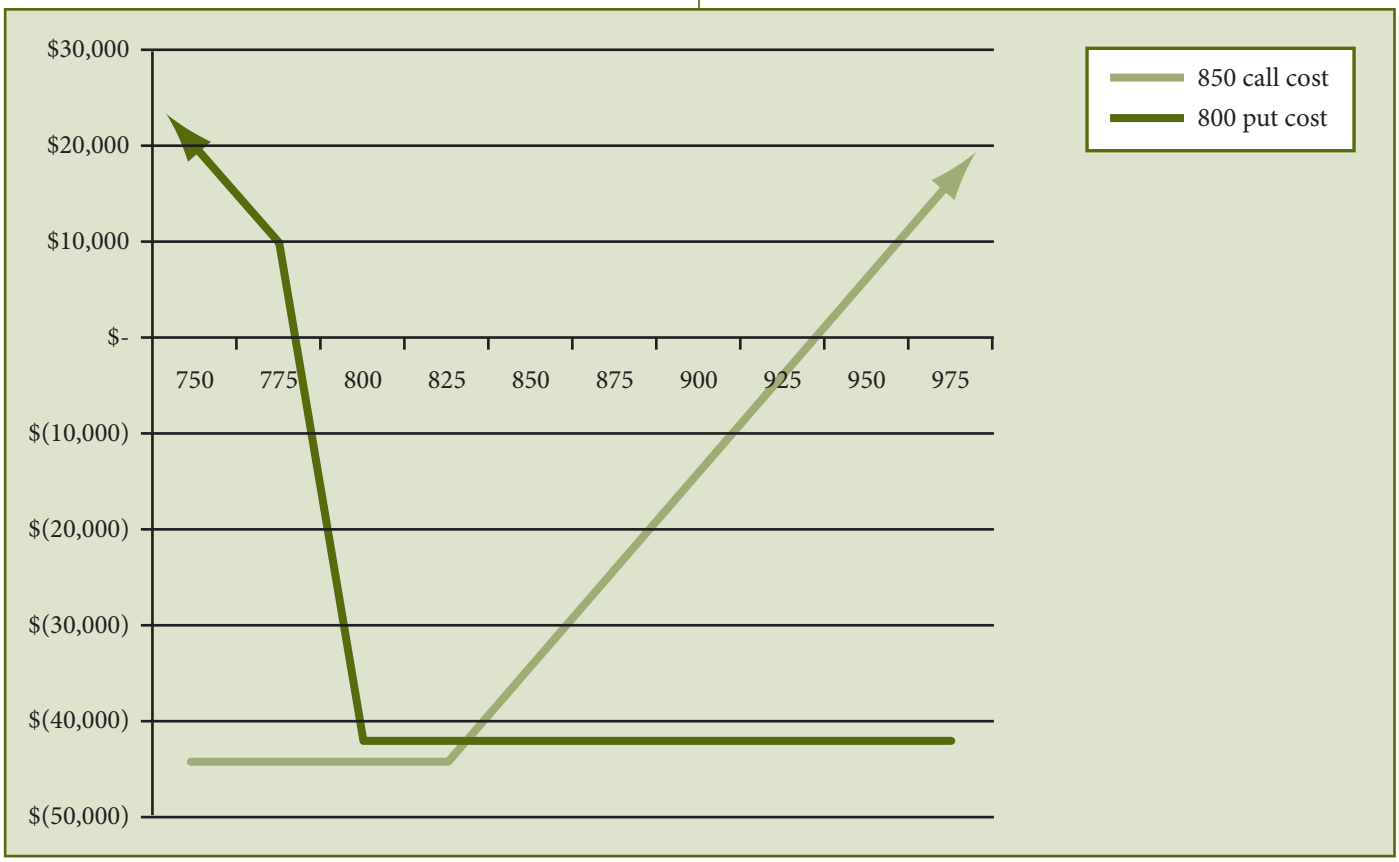
If the S&P 500 Index goes down, that means the put value goes up. Specifically, if the SPY goes below 87, the put has some value, less the cost for the put. We are in the money when the puts value, less what we paid for it, goes above zero. Since one put costs $12.00, we are in the money when the SPY number is 87-12, or 75. In a similar fashion, one 86 call costs $11.40, so we are in the money when the SPY climbs above 86+11.40 or 97.4.

I mentioned the cost is determined by the date of expiration. In this case, we've purchased December 2009 options, meaning they expire, or become worthless, on the third Thursday of December, which is December 17, 2009. We can also buy December 2010 options, which expire on Thursday December 16, 2010. This gives us quite a bit of time to experience more volatility, and participate in significant upside and downside movements.

What kind of money can that $100 investment make? With $100, the portfolio can purchase four puts and four calls. Actually, you can't invest such a small amount in options, but for our example, if the index goes to 740, the four 86 puts are worth $5.00 net of the purchase costs, and if the index moves down to 700, the four 86 puts are worth $14.80 net of costs. If the market moves to 660, the four puts are worth $33.00. If the index moves up to 1000, the four 85 calls are worth $14.40, and if it moves up to 1100, the four 85 calls are worth $54.00, also all net of costs.

What if the S&P 500 Index doesn't move much? Well, if the portfolio invests $100 in puts and calls, and the market remains relatively stable, the puts and calls may never make back the original investment. If that's the case, they will expire, and the investment is lost. Ok, how long does it take to make up that $100? Assume the $1,000 you had in fixed income, less the $100 you put in the options, is earning interest at 4 percent. It will take 2.78 years, or two years and nine months, to get back to a portfolio value of $1,000. Another way of looking at it is the portfolio is down 10% in the first year due to the option purchases, but up 3.6% from interest earnings. The potential loss is 6.4% during the first year. In a similar fashion, the total return is -2.8% in the second year at worst. At best, with significant market volatility, we have quantified and limited risk, with significant market participation.

The following chart shows the potential value of this highly stable portfolio, using the 2010 VIP tool. As the chart shows, value is created if the market moves significantly in either direction. In this charted example, the total amount invested is approximately $42,000 in puts and $44,000 in calls. The payoffs do not stop at the edge of the chart. In fact, given the current market, the puts might be significantly more valuable. This chart is merely shown as a mathematical example.



2. For Whom Are These Tools Appropriate?

These tools are appropriate for anyone who wishes to insure all or some portion of their portfolio, or wishes to participate in the inevitable upturn of the markets, but wants to limit risk to a specific level. There are costs to investing in the insurance, as discussed below. Each investor must weigh the costs versus the potential benefits. To use the life insurance analogy, you would look at the cost of various amounts and lengths of coverage of term life insurance, before deciding how much, if any, insurance to purchase.

3. What Is The Benefit Of Using A New Tool?

As with any insurance policy, the benefit is limited to the amount of insurance purchased. So, the maximum benefit you could recover is fixed. You cannot be paid more than the coverage you've purchased, but you could collect less, if a downside movement in portfolio value does not exceed the value of the coverage. For example, if you purchased $100 of coverage and the portfolio value declined $110, you would collect $100. If the portfolio value declined only $90, you would collect only $90, not the entire $100.

4. Is It Worth The Cost?

This answer has subjective and objective parts. From a subjective, personal preference standpoint, some people like insurance, and some do not. In some cases, insuring against a catastrophe makes sense, such as your house being destroyed by a fire. Even so, many forms of insurance have a deductible, and people make decisions about how much deductible they wish to accept all the time. Thus, part of the "is it worth it?" answer is personal, and you must decide how much risk, in the form of portfolio volatility/capital loss you are willing to accept.

What is the cost of this kind of this put option insurance? Not surprisingly, prices vary in a way similar to a term life policy. The cost varies with the duration of the option and the amount of downside risk you wish to protect. The longer the coverage, the higher is the cost. The more risk you wish to insure, the higher the cost. For example, purchasing a put option with the same strike price with a two year maturity is about double the cost of an option with the same strike price, but with a one year maturity. Essentially, you are buying insurance for twice as long, so it's roughly twice as expensive.

What if the S&P 500 Index doesn't move much? As I mentioned earlier, if the portfolio invests puts and the market remains relatively stable, the puts may never be worth anything. If that's the case, they will expire, and the premium is lost. The potential loss is limited exactly to the premium paid during the duration of the puts. This is analogous to paying for fire insurance on your house, and not having your house burn.

From an objective standpoint, volatility and increased risk is what investing in equities is about. There will be future price volatility in every equity market. Assuming some volatility risk is the trade-off to expensive insurance premiums. Thus, *a careful cost-benefit analysis is essential* for each investor's individual situation prior to deciding how much, if any, insurance should be purchased.

5. What's The Worst Case?

This is an important question. Luckily, there is a straightforward answer. Looking again at the graph showing the put option premium cost added to a portfolio, we see that option premium reduces the total value of the portfolio by the amount of the premium. The worst case is you lose your premium, which is a quantifiable, controlled amount you choose to spend. You cannot lose more than your premium for the time period the option exists. I have often said, "Insurance is the worst investment you'll ever make, until you need it." In one sense, you might like to collect the insurance, but frankly, not many people want to see their house burn down to collect it!

6. Why Didn't You Think Of This Before?

This question has several parts, and thus, several answers:

1. Why didn't you think of something *earlier*?
2. Why did you decide to do *this* and not something *else*?
3. Is this a departure from your investment philosophy, because asset allocation doesn't work anymore?

Why didn't you think of something *earlier*?

The rapidity and severity of the market downturn between the months of September – November 2008 caught everyone by surprise. Neither the current nor

former Chairman of the Federal Reserve Board, nor the sitting President or presidential candidates, nor the Chairmen and Chairwomen of every major corporation and global bank, nor the heads of any major central government in the G-20 saw it coming. Not surprisingly, neither did we.

In retrospect, diagnosing the cause of a major accident like an airline disaster, or illness or injury that causes death takes time and sometimes is the only way we understand what led to the incident. There was no singular event which caused the markets' current downturn. On the contrary, here are some of the direct causes and issues related to the current economic downturn:

- There was an extremely low probability of this happening (only once before, and that was the Great Depression), so normal planning for governments, business and financial firms did not take this sort of event into account.
- This was an unprecedented combination of global events between the G-20 nations due to tight financial and trading links.
- The markets experienced never before seen levels of correlation in different asset classes.
- The credit markets did not provide a "safe" place to shelter assets. The old adage "Nowhere to run, nowhere to hide" was apropos.
- The tech bubble of 2000-2 was an isolated event which hit only parts of the equity markets, not like the intertwined real estate-credit market events of 2006-7.
- The best experts in the world, with every bit of information available to them, including information not available to the public, did not see it coming.
- Financially strong and formerly well-managed companies collapsed or were weakened substantially in a domino-like series of events, including Bear Stearns; Lehman Brothers, Merrill Lynch, Fannie May, Freddie Mac, Bank of America, Citibank and a host of others.
- Oil rose to a new high over $150 a barrel, with gasoline exceeding $4.00 a gallon. This caused an unprecedented reduction in oil purchases, with prices falling precipitously to under $40 a barrel. Exploration, production, refining and distribution firms are all in a tremendous state of flux worldwide.
- Consumer behavior caused a sharp pull back in spending, causing a sudden and totally unexpected crisis for a whole host of industries including, but not limited to transportation, travel, food, energy, housing and consumer goods. This global pull back has severely affected industries and companies world-wide in an unprecedented manner.
- The sharp pull back in spending has caused a huge number of small and large firms to lay off hundreds of thousands of productive workers worldwide, contributing to the downward economic spiral.
- Central bank and central government intervention, while substantial, has no experience in this sort of economic situation. The best thinking has not come up with a definitive and correct solution to the crisis.

In summary, no one thought of this earlier, or possibly, the current global economic crisis would not have occurred.

Why did you decide to do *this* and not something *else*?

The answer lies in the discussion at the beginning of this paper, and in the teleconference I conducted recently entitled the *Outlook for Stock Markets for 2009 and Beyond* (Available on our website at www.themonitorgroup.com). In summary, during times of severe turbulence, with equity markets bouncing up and down, previously non-correlated investment categories become highly correlated. That is to say, like a school of fish or flock of birds, everything zooms up or down more or less in unison.

When asset categories "fly in formation," they do not disprove the merits of proper asset allocation; rather, this situation calls for additional tools to reduce the volatility risk. Since there is literally no category which is non-correlated (except market shorting strategies, which have a correlation of -1.0 to the market they are shorting), the tools cannot be some other "special" asset category.

We also know that short and intermediate-term treasuries may have a short-term attractiveness for safety, but have no long-term upside return potential. (My teleconference goes over current and potential Treasury and equity returns for the next 10 years). As a result, we must look for insurance tools, as they are the only instruments which allow for the inevitable upturn in the equity markets, while providing the downside protection.

In short, we've examined everything that might make sense, and options are the most direct choice. In some instances they are expensive, but they provide complete down-side risk protection.

Having said that, we continue to look for additional tools and investment strategies which fit our portfolio construction, allow for upside potential, and meet our cost/benefit criteria.

Is this a departure from your investment philosophy, because asset allocation doesn't work anymore?

As I said earlier, market turmoil does not disprove or negate proper asset allocation. We are not changing our investment philosophy. Asset allocation has worked for decades, and will continue to work in the future. However, in times where every asset category's behavior is highly correlated, new risk reduction tools are required.

7. Conclusion

After reading this white paper, you may want to talk to us about using these new risk reduction tools in your portfolio. If so, call us to set up a time to discuss your particular situation.

Please remember, the examples used in this paper are just that – examples. Because prices change daily, the cost of using an options strategy will vary based on two things just like insurance: how long do you want the coverage and how much coverage do you want? Also, like most insurance policies, you won't collect on the coverage very often.

As always, if you have questions or comments we welcome your feedback.

About the Author

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Engaged in financial planning and consulting since 1981, Glenn Kautt received his MBA from Harvard Business School and is a President's Distinguished Scholar graduate of Purdue University.

He is a member of the Financial Planning Association, the National Association of Enrolled Agents, is a Graduate Fellow of the National Tax Practice Institute and an Accredited Investment Fiduciary Analyst. He is a former Chairman of the Financial Planning Association of the National Capital Area (FPANCA).

He is a member of the Board of Trustees and chairs the Investment Committee for the Foundation for Financial Planning. He has been named repeatedly by *Worth*, *Mutual Funds* and *Medical Economics* magazines as one of the nation's top investment advisors. *Washingtonian* magazine recently again named Glenn to their list of top financial professionals in the Washington, D.C. metro area. J.K Lasser's *New Rules for Estate and Tax Planning* continues to note Glenn on their "Top Professional Advisor" list. Glenn's management of the firm led it to be named as one of the "Best Managed Financial Planning Firms" in the US in independent surveys for the past four years, an accomplishment shared with less than a dozen other firms across the nation.

Glenn is a recognized author, speaker and expert in advanced financial planning techniques. He is a regular columnist for the industry's leading publication, *Financial Planning* magazine. A former member of the Editorial Advisory Board for the *Journal of Financial Planning*, he has four professional contributions published in the Journal. He authored the book *Stochastic Modeling: The New Way to Predict Your Financial Future*, a chapter in *The Invincibility Shield for Investors* with other leading financial planners, and contributed to Secrets of the Wealth Makers by Michael Lane. Glenn has appeared on television including PBS, CNBC, CNN, Fox News and Bloomberg, and is regularly quoted in financial industry publications, USA Today, Newsweek, The Wall Street Journal and other publications. He speaks on advanced financial planning and wealth management topics to professionals across the country.

Glenn oversees the firm's day-to-day operations, chairs the firm's Investment Committee, and serves as Chief Compliance Officer. Formerly, Glenn was principal in several other planning firms, and served as a U.S. Navy Surface Warfare Officer.

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