



More Thoughts on Risk

Rick Borden, Equius Partners

Risk. What is it, exactly? As Jeff discussed last month, in the world of portfolio management, it's most often considered to be tied to, or expressed as, volatility—a statistical measure of the dispersion of returns for a stock, a portfolio, or a market index.

Personally, I have always thought about risk in terms of permanent loss of capital—probably as a result of my years on the junk bond trading desk at Drexel Burnham in the 80s. In those days, an investor holding the bonds of a company rated investment grade would be content until someone announced a hostile takeover of the company that had issued his bonds, and his “safe” investment would suddenly and permanently be part of a revised capital structure, rated BB instead of AA and trading at 65 instead of 98. Things happened fast—I always likened it to the Fire Swamp in the movie *The Princess Bride*. At best, you got two warning thumps before you were engulfed in a plume of fire. It was known as event risk.

Then there was a company I invested in, Safe Harbor, that built a machine and a process to measure the mercury content in seafood. In this day and age of organic food and health-consciousness, it seemed like a slam dunk. We thought every seafood company in the world would line up to test the fish it was processing, until everyone started thinking about what they were going to do with all the contaminated fish. The stock went to zero. Permanently. That was startup/concentration risk.

Thus I learned Lesson 1: the financial impact of a loss in the stock (or bond) of any single company can and should be minimized through diversification—the one “free lunch” of investing. At Equius, our portfolios are enormously diversified.

But even very diversified portfolios can get creamed, as we all saw in 2007-2008, when the U.S. stock market dropped 52%. That felt like risk, right? But the market recovered. So did the portfolios of our clients. The “loss” was temporary.

For a portfolio, I don't think volatility—as measured by standard deviation—is the same thing as the downside risks I've just described.

Nonetheless, volatility can be gut-wrenching, and it may cause you to bail out when prices are down. As Howard Marks noted in his iconic memo *Risk Revisited Again*, “even in the absence of a need for liquidity, volatility can prey on an investor's emotions, reducing the probability they'll do the right thing. When you're under pressure, the distinction between ‘volatility’ and ‘loss’ can seem only semantic.” In that sense, volatility can definitely contribute to a permanent loss of capital.

Dealing with this issue is one of the most important parts of our job at Equius. Behavior can be coached. If an investor is educated to expect greater volatility and his portfolio is structured with sufficient liquidity to obviate his need to sell his stocks when the market is in the soup, should volatility be that big of a problem?

In reality, volatility can be your friend. Volatility is an expression of uncertainty, and investors have been rewarded for accepting uncertainty over time. A dollar invested in 1928 in a risk-free Treasury bill was worth \$21 at the end of 2016. The same dollar invested in the S&P 500 was worth \$3,930. One of the biggest mistakes in investing and planning for retirement is not accepting enough volatility risk.

Table 1 Index (1928-2016)	Annual Return	Standard Deviation	Growth of \$1
U.S. 1-Month T-Bill Index	3.4%	3.2%	\$21
S&P 500 Index	9.8%	19.9%	\$3,930

And if we can accept that volatility can be a good thing, let's take the next step and think about our favorite subject, the dimensions of return. As we have described in *Asset Class* articles since 1993, investors can realize higher expected portfolio returns if they are willing to invest the time to

understand groundbreaking financial research into the dimensions of stock market returns published by top academics over the past 25 years.

We know, for example, that portfolios tilted toward small-cap and value stocks have led to higher returns in the past. But these return “premiums,” like bull and bear markets, ebb and flow.

When asked last year about the fact that value stocks lagged the overall market for the 10 years ended 2016, Professor Eugene Fama said, “Well, even 10 years is not unusual. That happens. You don’t get premiums for nothing. They are there because you are bearing risk. You can have long periods of time when things just don’t work out.”

This is another form of risk: premium volatility. The uncertainty it creates can be disquieting. But, as in the case of the overall market, patience and time are your allies. Longer holding periods can improve your odds of success.

Even though, as Jeff noted last month, combining asset classes can reduce total portfolio volatility to less than the weighted average of the volatilities of the components, on balance an asset class portfolio tilted toward small-cap and value stocks will have higher volatility (standard deviation) than the overall market.

But if the market portfolio has a standard deviation of 18.5% and a portfolio tilted toward small-cap and value stocks has a standard deviation of 22.6%, is this additional volatility really that meaningful to a long-term investor? Is the likelihood of permanent loss any greater? And are you being paid to live with the greater volatility?

Table 2 shows the annual returns and standard deviations for the S&P 500 and an asset class mix of 30% S&P 500 Index, 30% Dimensional US Large Cap Value Index, and 40% Dimensional US Small Cap Value Index from 1928 to 2016. Notice the higher annual volatility—and the higher total portfolio growth over the period.

Table 2 Index/Mix (1928-2016)	Annual Return	Standard Deviation	Growth of \$1
S&P 500 Index	9.8%	19.9%	\$3,930
Asset Class Mix	12.1%	24.8%	\$25,139

As Jeff also pointed out in last month’s *Asset Class*, over rolling 15-year overlapping periods since 1926, stocks outperformed Treasury bills 95% of the time—the same percentage by which value stocks outperformed growth stocks. If total stock market risk is worth taking, isn’t value risk worth taking as well?

Consider also that standard deviation is typically measured over one-year periods. What if we measure the volatility over more realistic investing periods, such as 10-year rolling periods?

Table 3 Index/Mix (1928-2016)	Average 10-Year Return	Average 10-Year Rolling Standard Deviation
S&P 500 Index	10.5%	5.6%
Asset Class Mix	13.4%	5.7%

What we see in Table 3 is that in the past, the 10-year return volatility for the portfolio tilted toward small-cap and value stocks has been very similar to that of the overall market, yet the expected return is substantially higher.

All of this brings us to the Equius mantra: knowledge, confidence, and discipline. Our greatest value to clients is derived from helping them develop the knowledge of modern financial science that will result in the confidence to stay with an investment plan over their total investment time horizon.

Of course, access to well-structured and well-managed asset class mutual funds built on sound financial research adds value as well. So we’re indebted to the investment professionals and academics who have developed these funds over the time Equius has served clients.

In the end, the rewards produced by efficient and free financial markets go to those who are most knowledgeable, disciplined, and patient.

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Equius Partners, Inc., 3 Hamilton Landing, Suite 130, Novato, CA 94949

Please email T.J. Troutner at tj@equiuspartners.com with questions, comments, or suggestions. www.equiuspartners.com © 2017 Equius Partners, Inc.