

“Volatility drag” and why defense may be the best offense

Most investors are aware that there is a relationship between risk and return; investments with higher expected returns generally have higher expected risks. But just how high is that risk, and what effect might it have on the future value of your portfolio?

When most people think of calculating an investment’s average return, they add up all of the annual returns and divide by the number of years to calculate the average return for that time period. This is how we all learned to calculate averages in grade school, and it is referred to as the “arithmetic,” or “simple average” return. This number is important because it is also how most investors (individual and institutional) determine the expected rate of return for an investment or asset class.

Surprisingly, unless a portfolio earns the exact same return every year, the actual return for an investor’s portfolio *will always be less than the arithmetic average* because arithmetic returns do not account for the impact that volatility has on compounding. Instead of arithmetic returns, the return that is far more important for the purposes of an investment portfolio is referred to as the “geometric” or “compound average” return, which accounts for the ups and downs of a portfolio.

Statisticians sometimes refer to the difference between the simple average and the compound average as “volatility drag,” or the impact that unsteady returns has on the growth of an asset. The greater the range of ups and downs, the more significant the impact of volatility drag.

Here’s a real life example: An investor has \$100,000 to invest in 1997, and gets a tip that the returns of a certain stock (Lucent Technologies) will average 29% for the next seven years. The investor realizes that there is risk involved, but figures he can ride it out for in order to enjoy 29% average returns. Over the next seven years Lucent’s returns do indeed average 29%, yet the investor loses 67% of his wealth and learns that volatility really does matter!

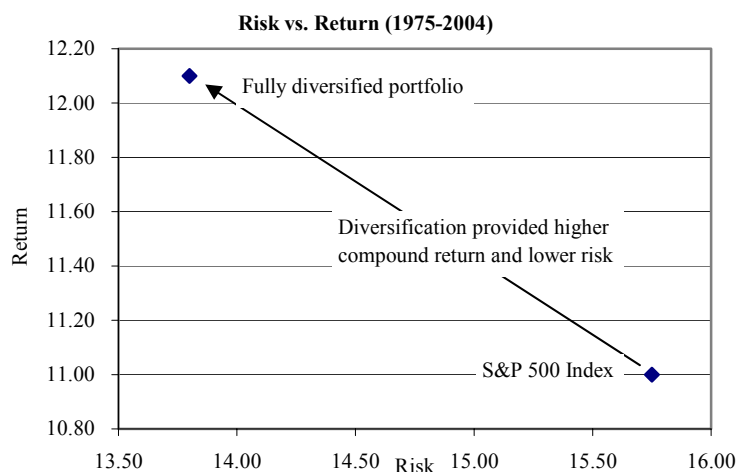
Year	Return	Year-end value
1997	74%	174,000
1998	176%	480,240
1999	37%	657,929
2000	-81%	125,006
2001	-53%	58,753
2002	-75%	14,688
2003	125%	33,049
“Average” return	29%	

While this is an extreme example, volatility drag is present in every investment that does not earn the exact same return every year. That does mean that we should avoid all volatility in order to eliminate volatility drag? Absolutely not. Doing so would result in extremely low rates of return (savings account rates) and would lead to an erosion of purchasing power as inflation steadily outpaced the “risk-free” return.

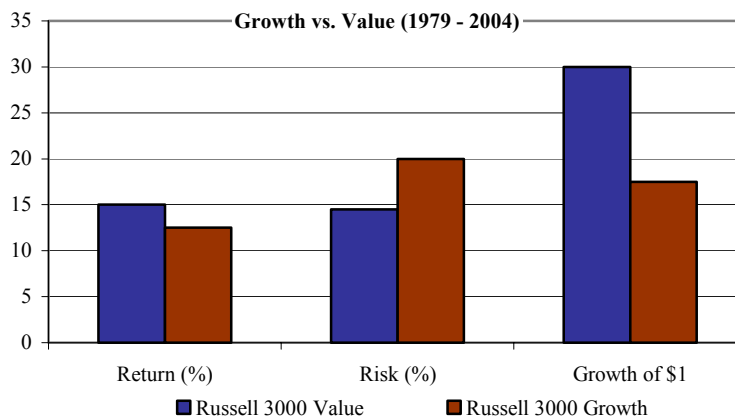
If we do not eliminate volatility drag by avoiding all risk, how should we balance the need for reasonable investment growth while reducing the impact of volatility drag in order to maximize overall wealth accumulation and long-term purchasing power? I believe that there are three ways:

1. Diversify your portfolio across multiple assets classes. Fully diversifying your portfolio across multiple asset classes (large versus small, domestic versus foreign, value versus growth, and stocks versus bonds) reduce overall volatility and enhance compounded returns. The effect of proper diversification has often been referred to as “an investor’s free lunch” because it provides higher compound returns with lower risk over long periods of time. The following chart illustrates this principle. While many investors consider the S&P 500 Index to be well diversified (and it certainly

beats holding individual stocks), adding multiple asset classes to the portfolio has resulted in higher rates of return with lower risk.



2. Tilt your portfolio towards value. Value oriented portfolios have historically had higher returns and lower volatility than growth oriented portfolios. This surprises many investors because it is the growth oriented stocks and mutual funds that tend to garner the most attentions since they are often in much more exciting industries with higher current (or past) growth rates. While the reason is up for debate --- behavioral finance typically attributes this to the tendency of investors to overreact to past data, while efficient market theorists generally argue that there is an additional systematic risk involved in value stocks for which investors are being compensated --- this anomaly has remained consistent over extended periods of time and across numerous markets.



3. Minimize "unforced errors." An interesting study was recently completed by a mutual fund consulting firm. This firm found that the average returns of mutual funds were substantially higher than the average return experienced by the investors in those mutual funds, and that while the mutual funds gained close to 10% on average, the investors in the funds averaged little more than inflation (about 4%). This enormous discrepancy was attributed to the fact that investors consistently chased last year's performance; they jumped into the prior year's hot fund just as it was ready to cool off.

Separate studies have shown that the funds investors sell tend to outperform the funds that they purchase by an average of 2-3%. Investors are missing out because they prefer to invest in the sectors that produced the best returns in the recent past. Unfortunately, there is substantial research showing that above average performance in one time period is more often than not followed by below average performance in subsequent time periods.

A well structured portfolio strategy, and the patience and discipline to follow it, will *almost* always beat the rapid trading and performance chasing approach taken by many investors. Diversification, patience, and discipline are not nearly as exciting as "swing for the fences investing," and they will never land you on CNBC, but they will enhance the likelihood that you achieve your financial goals.