

Our research suggests that the value advantage can be exploited while reducing volatility in a deep value portfolio. We now utilize volatility as an input to our long established investment process.

Given the enormous market dislocations of the 2007/08 period, many market participants have contemplated ways to reduce volatility in their portfolios. Volatility, however, has always been useful to the value investor, and is one of the reasons the cheapest quintile of stocks has produced excess returns over the long term – the “value advantage.” So we have undertaken a study to explore the impact of volatility in a deep value portfolio and have observed that moderate volatility *is* good for the value investor, but extreme volatility can actually detract from performance. In fact, our study showed that performance can be improved, and volatility reduced, when the most volatile stocks are removed from the portfolio.

Discussion

The academic record documenting the value advantage is extensive and impressive. Value strategies outperform the market on a compound return basis in spite of higher volatility:

Performance 1/1979 - 6/2010	Annual Return	Standard Deviation
Lowest B/P Quintile, 1000 Largest Stocks	14.9%	18.2%
S&P 500	11.1%	15.5%
Russell 1000 Value	11.7%	15.0%

The “cost” in terms of lost investment performance to reduce the monthly volatility of portfolios is absurdly high. A deep value strategy adds 350 to 400 basis points of return annually in spite of the higher volatility. As the holding period lengthens, the differences in the variability of investment performance amongst the alternatives narrows dramatically:

Volatility 1/1979 - 6/2010	Rolling Holding Periods		
	1 Month	5 Year	10 Year
Lowest B/P Quintile, 1000 Largest Stocks	18.2%	7.9%	4.8%
S&P 500	15.5%	8.4%	5.6%
Russell 1000 Value	15.0%	7.1%	4.5%

Nevertheless, most investors are concerned with short term volatility. Accordingly, the academic literature is replete with analyses of the issue. Recently, academics have begun to demonstrate that using cap weighted indices such as the S&P 500 or the Russell 1000 Value are poor ways to address the issue of volatility versus return, and have begun to introduce the concept of minimum variance portfolios, which can achieve higher returns than the indices with the same volatility. They are, in

effect, capturing a portion of the value effect that we focus on exclusively.

The question is, can we lessen the impact of volatility on our portfolios without forgoing the value advantage.

Methodology

We created a monthly universe of the 1000 largest U.S. stocks by market capitalization for the period January 1979 through June 2010. This period was selected since we have comparable benchmark data for the Russell 1000 Value going back to 1979. From this universe we created two equally weighted portfolios – the Deep Value Portfolio and the Deep Value/Reduced Volatility Portfolio. The 200 stock Deep Value Portfolio consisted of an equally weighted portfolio of the cheapest quintile of stocks determined monthly using the book-to-price ratio as the indicator of value. We created a second portfolio as a sub-set of the first by eliminating 20% of the stocks with the highest historical volatility. We defined volatility as the standard deviation of the trailing 12 month returns. Thus, the Reduced Volatility Portfolio contained 160 stocks. We calculated a return profile for each portfolio assuming the portfolio was rebalanced monthly.

In addition, we tested our own experience using the actual portfolios that we had built in our Pzena Value Service from April, 1996 through June, 2010. For the Pzena Value portfolio we took an actual client portfolio on the first day of each month and eliminated the portion that was in cash. For the Pzena Value/Reduced Volatility Portfolio, we calculated the trailing 12 month volatility of each of our holdings and eliminated the stocks that made up the 20% most volatile portion of our portfolio, assuming the cash was proportionately distributed amongst the remaining holdings. Thus our normal 30-40 stock portfolio became a 24 to 32 stock reduced volatility portfolio.

Results

Our back test results show that not only can we reduce the volatility of the underlying portfolio by eliminating the most volatile stocks, but we can actually increase the returns. The performance penalty of the most volatile stocks clearly outweighs the benefit of the lower valuation in the history reviewed.

For the market related data, we were able to reduce the volatility of a deep value portfolio by 180 basis points from 18.5% to 16.7% while improving annual returns by 90 basis points from 15.1% to 16.0%, as shown on the following page:

1000 Stock Universe 1/1979 - 6/2010	Annual Return	Standard Deviation
Lowest B/P Quintile	15.1%	18.5%
Lowest B/P Quintile ex most volatile stocks	16.0%	16.7%
Russell 1000 Value	11.7%	15.0%
S&P 500	11.1%	15.5%

While the reduced volatility portfolio doesn't quite approach the volatility of the cap-weighted indices, the increased return makes it worthwhile to consider such an approach.

We also tested whether the results were highly skewed by the recent volatility increase in the markets. We recalculated the returns and volatility for the period ending in December, 2006 prior to the spike in volatility. The results, shown below, confirm that the approach worked even prior to the recent volatility increases while matching the volatility of the S&P 500:

1000 Stock Universe 1/1979 - 12/2006	Annual Return	Standard Deviation
Lowest B/P Quintile	18.3%	16.4%
Lowest B/P Quintile ex most volatile stocks	18.8%	14.7%
Russell 1000 Value	14.6%	13.9%
S&P 500	13.5%	14.8%

The analysis of our own experience confirms the results above. If in our own portfolio, we had eliminated the 20% most volatile stocks, our returns would have improved by 2.7% per annum and the volatility would have fallen by 2.0% as shown in below;

Pzena Value Data 4/1996 - 6/2010	Annual Return	Standard Deviation
Pzena Value Portfolio	7.2% ¹	20.8%
Pzena Value Reduced Volatility Portfolio	9.9%	18.8%
Russell 1000 Value	6.1%	16.1%
S&P 500	5.3%	16.3%

¹Our actual returns for the Pzena Value Service during this period were higher than 8.0% per annum since we were able to take advantage of intra-month price moves that we did not include in our simulation.

Similarly, for the period ending in 2006, we were able to come close to the volatility of the S&P 500 in spite of a significantly more concentrated portfolio while achieving significantly higher annual returns.

Pzena Value Data 4/1996 - 12/2006	Annual Return	Standard Deviation
Pzena Value Portfolio	15.2%	17.6%
Pzena Value Reduced Volatility Portfolio	16.0%	16.1%
Russell 1000 Value	11.6%	14.1%
S&P 500	9.4%	15.1%

While clearly the results of the last few years (which can be traced to the negative impact of financials on both volatility and return) have had a dramatic impact, the most volatile stocks have tended to be a drag on performance throughout our history. Moderate volatility has worked in our favor, whereas extreme volatility has not.

Conclusion/Implications

A deep value process, whether naïve or highly researched, that doesn't control for volatility can include a group of stocks where the excess volatility creates a performance penalty. Based on this finding, our research reviews now include a volatility profile for each company. This allows us to take into consideration a stock's trailing price volatility explicitly in our investment process, for both the investment and position sizing decisions. To be clear, we have not made volatility a quantitative constraint in the investment process, but rather, we use this data as another input to our research. We view this as an enhancement to our investment approach which has not changed; we continue to build concentrated portfolios through a research-driven, bottom-up process adhering to a strict valuation discipline. We believe this enhancement should improve our ability to exploit the long term value advantage for our clients. ■

DISCLOSURES

Past performance is no guarantee of future results. The historical returns of the specific portfolio securities mentioned in this commentary are not necessarily indicative of their future performance or the performance of any of our current or future investment strategies. The investment return and principal value of an investment will fluctuate over time.

The specific portfolio securities discussed in this commentary were selected for inclusion based on their ability to help you understand our investment process. They do not represent all of the securities purchased, sold or recommended for our client accounts during any particular period, and it should not be assumed that investments in such securities were, or will be, profitable.