Low beta anomaly - mispricing or risk?

Michael Furey | Delta Research & Advisory | 04 November 2014

At PortfolioConstruction Forum Conference 2014, I had the good fortune of being on stage to discuss Ryan Taliaferro's presentation on the low beta anomaly. Now, I know I've opened up with a lot of jargon, so in plain English, the low beta anomaly more or less says "shares that exhibit low levels of price volatility, on average, outperform shares with high volatility". It's an anomaly because if we accept volatility as a proxy for risk (which investment professionals have done for decades), then you would expect highly volatile stocks to outperform, not the other way around, because according to investment theory, to get high returns requires taking higher risk.

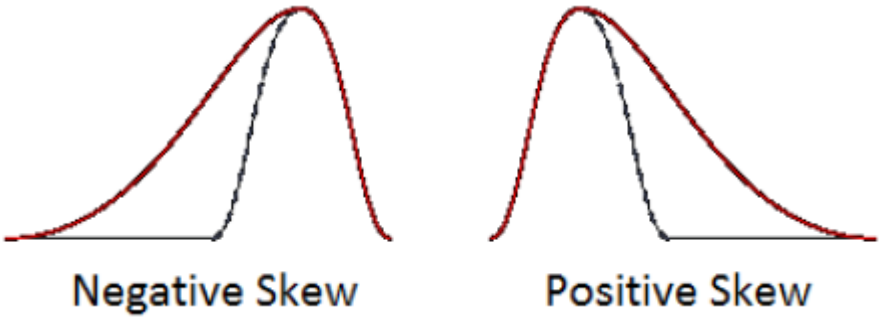
One of Taliaferro's conclusions was that this anomaly is a mispricing and is likely to persist because fund managers are inclined to hug benchmarks and avoid tracking error (that is, significant deviations from benchmark returns) that comes from low volatility stocks and, therefore, highly volatile stocks are overpriced due to over-attention. The variability in most portfolios is primarily driven by the variability in the most volatile investments, so it is plausible that avoiding highly volatile stocks could be perceived as increasing a fund manager's chances of underperformance – which obviously increases their chance of unemployment!

A second conclusion was that the anomaly cannot be explained as a risk – which I have to admit is not easy to wrap your head around. And this is where I have a slight disagreement. I say "slight" because while I do believe low volatility stocks carry a risk that does not exist in high volatility stocks, I don't believe this risk explains all of the outperformance of low volatility stocks, but rather is more of a contributing factor.

So, here goes my explanation...

It is acknowledged that high volatility stocks have somewhat of a lottery preference amongst investors. In other words, they are attractive because they have the most potential for that big win. And let's face it, you have a better chance of tripling your money (or better) with a highly volatile stock than a low volatile stock. In fact, return analysis shows that highly volatile stocks have a positive skew (Figure 1) which is a defining characteristic of lottery preference. On the flipside, the broader sharemarket and low volatile stocks have a negative skew – and investors do not desire a negative skew of returns. So, increased likelihood of negative skewness is a "risk" and therefore should be compensated... hence, compensation for negative skewness *may be* a contributing factor towards explaining the outperformance of low volatility stock compared to high volatility stocks.

Figure 1:



While buying a lottery ticket is an example of purchasing positive skewness (albeit also an irrational chance of a big return) let's not completely dismiss this phenomenon as an insane purchase, we all make many such positive skew purchases that have an expected negative return. It can be summed up in one word: insurance. Whether it be car insurance, life insurance, or any other, the expected return in the long run is negative but we still pay for it. In financial markets, the purchase of a put option (which may be an insurance contract on a poor performing market) is very expensive and is typically priced in favour of the seller and not the buyer. Why? Because of the cost of positive skewness that the put option (or insurance) can bring to an investment portfolio (or circumstances). Positive skewness is a cost and that cost is applied to high volatile stocks and therefore contributes to their lower returns.

So while I don't dispute the key empirical results – that low volatility stocks outperform highly volatile stocks (and this is common across many markets) – there is a deeper issue. It is that while volatility is a good measure of risk (and probably the best measure we have, particularly for liquid assets), it does not explain all of an asset's risk. The stock market is not normally distributed and its volatility only tells part of the story. In fact, this is a significant factor in why the world got into trouble from the financial engineers that mispriced CDOs, ultimately leading to the collapse of Lehman Brothers and others. The stock market is negatively skewed – that is not desirable. Plus, the stock market has many large positive and negative returns (which relates to the volatility of volatility and is called kurtosis) and that is also not desirable. The key message is that these higher moments – skewness and kurtosis – should be ignored at your peril when considering investment risk.

Michael Furey is Managing Director of Delta Research & Advisory, which specialises in providing independent, conflict-free investment research and asset consulting services to dealer groups (AFSLs), financial planners, and self-directed investors. He has worked in the financial planning industry since 1999, both in research and financial planning roles.