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High Volatility: A New Normal?

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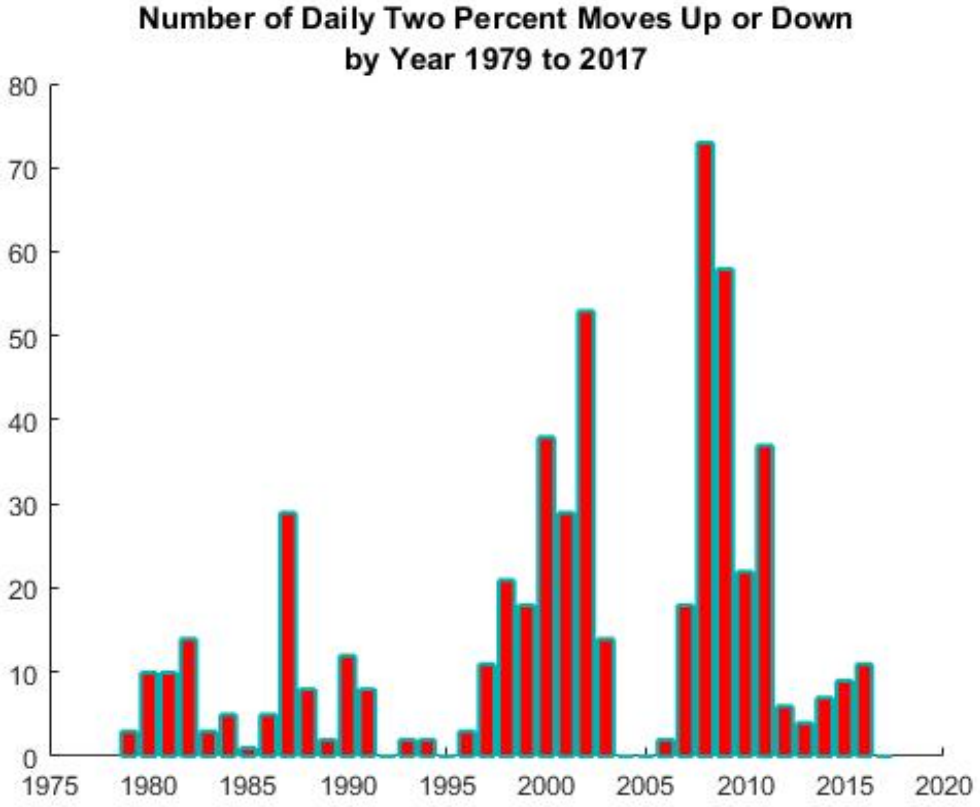
As the first quarter closes, we have experienced a number of days where the movement of the stock market has been described as extreme by much of the financial press. Given this press, it is an appropriate time to ask if higher volatility is a new normal, and if so what are the implications for investing?

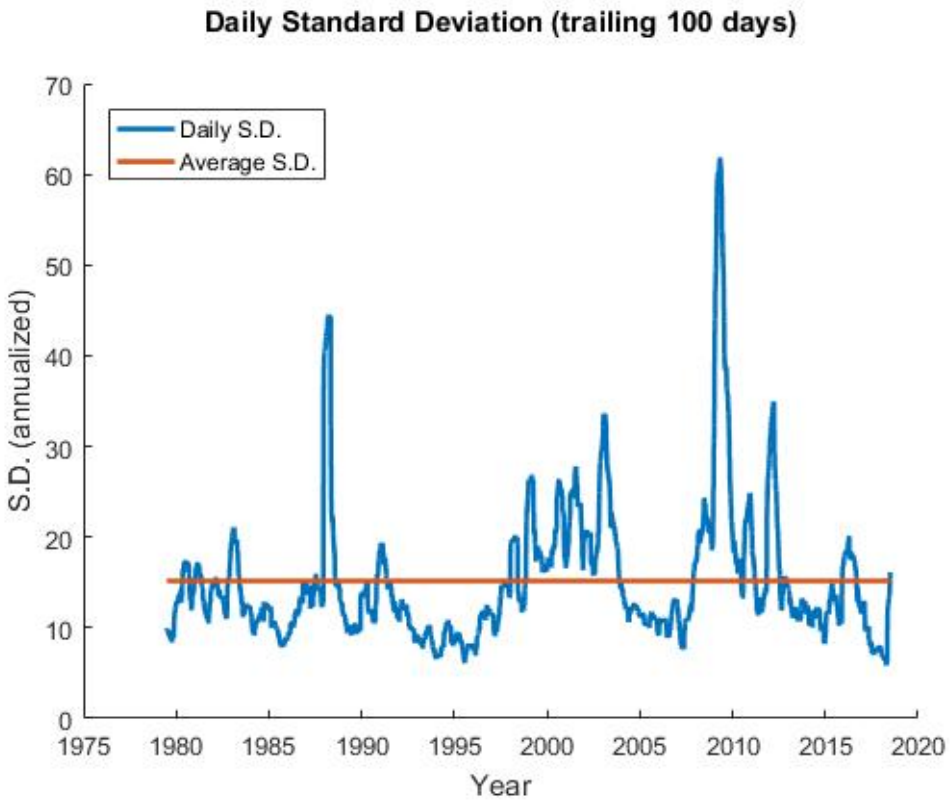
To tackle the first question, an important consideration is how to measure volatility. The news headlines often emphasize the magnitude of the movement in the Dow Jones Industrial Average. For example, a recent CNBC headline states "Dow drops more than 400 points as trade worries continue." However, assessing the economic significance of a given decline in Dow Jones points can be tedious. The difficultly arises since the significance of the magnitude of the drop depends on the index level. For example, a drop in the Dow of 508 points on October 19, 1987 represented a large decline of 22.6%. In contrast, a drop of 742 points on March 22, 2018 represented only 2.9%. While this drop of 3 percent is still significant, it certainly pales in comparison to a 22% drop. To make comparisons more meaningful, it is best to work with the percentage change. This is the approach adopted for this note.

To provide context for the apparent current rise in volatility, it is useful to examine the past. We consider daily returns for the period extending from January 2, 1979 through April 4, 2018 – totaling 9918 trading days. As a measure of the value of the U.S. stock market, the Russell 3000 Index is employed. This index, containing 3000 stocks weighted by market capitalization, provides a broad-based measure of the market performance.

One measure of the volatility of the market is the number of extreme returns in a specified period. Figure I below plots, year-by-year for the period 1979 through 2017 inclusive, the number of days where the daily return of the Russell 3000 Index is less than minus 2 % or greater than plus 2 %. The number of days exceeding the plus/minus 2% bound ranges from zero in a number of years to 73 in 2008. It is noteworthy that there is some grouping of higher volatility years. This indicates that there is a tendency for volatility to cycle through periods of low volatility and high volatility.



A second measure of volatility is the daily standard deviation of return. Figure II plots the annualized standard deviation calculated using a trailing 100 trading day window. The horizontal line indicates the average standard deviation of 15.2% for the entire period. The results in Figures I and II are consistent with the natural link between the frequency of extreme returns and high volatility. Three periods of high volatility stand out. These periods are associated with the October 1987 crash, the bursting of the dot-com bubble in 2002, and the financial crisis of 2008. While there is concern about recent volatility, the current period is not yet noteworthy on an historical basis. Through April 4, there have been seven days in 2018 with returns exceeding plus or minus 2% and currently the trailing 100-day standard deviation is 16.1%.



The CBOE volatility index (VIX) provides an alternative measure of the market volatility in real time. While this index has risen on the extreme return days, it has averaged a value of about 20% for 2018 and stands at 21% as we move through April. While this value is above the historical average it is not unusual. Empirical support for a new normal as far as market volatility goes is, therefore, absent. Perhaps, most notable, is the low standard deviation in 2017.

Even if a period of high volatility occurred, what would it tell us about future stock market performance? As an empirical matter, volatility does not provide a good forecast of future returns. If we look at the year following periods of high volatility, there is no evidence of predictability or downward market pressure. In 1988, after the market turmoil of 1987, the S&P 500 index was up 16.6%. In 2003, after the tech bubble of 2002, the S&P 500 index was up 28.7%. In 2009, after the financial crisis, the S&P 500 index was up 26.4%. These results suggest that the concern that major market declines will follow volatility increases is overstated. Future returns are unpredictable.

Ultimately, the key determinant of the market's value is the level and growth of corporate earnings or, more generally, economic growth. First quarter corporate earnings announcements will begin later in April. As long as in aggregate the earnings are solid as expected, the stock market should not suffer large losses. Of course, government policy decisions can create uncertainty and have an unsettling effect on the market.

So what should be our reaction to the current state of the economic environment? With a projection of higher risk in the near term, consideration of modest asset allocation adjustments is warranted as part of the risk control process. However, given the difficulty predicting the future, at this time, implementing sharp asset allocation changes would be premature.