

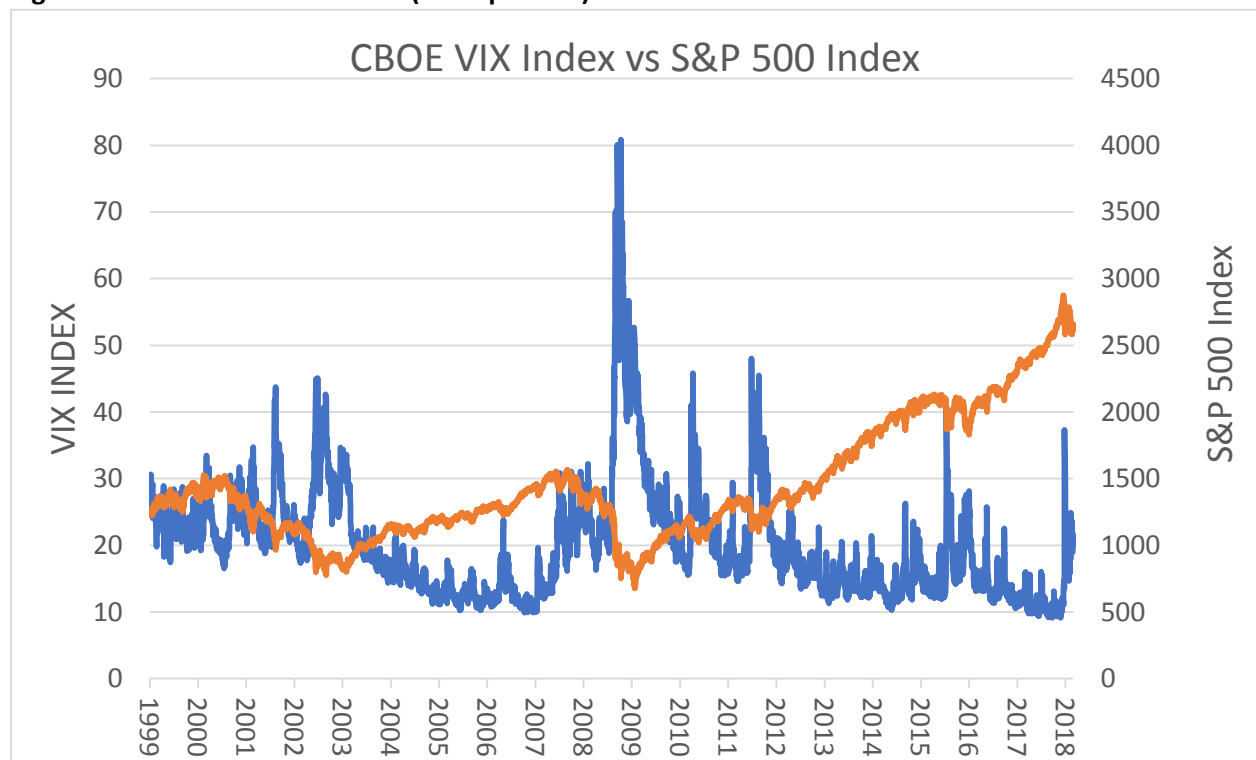
## Volatility is back – What does that mean for equities?

On February 5, the Dow Jones Industrial Average fell 1175 points. While far from the worst on a percentage basis, it was the worst one day performance in over two years and its largest point decline on an absolute basis ever. Three days later, it fell another 1033 points. Prior to this, the largest drop (778 points) was experienced in September 2008, at the outset of the financial crisis. Even though the market strength in January resulted in 2018 year-to-date performance being just slightly negative, when the market witness’s large drops like these, anxiety levels increase and risk-taking gives way to profit-taking.

The question investors are asking is whether we are at the end of the bull market that began in 2009. There are many factors that bears point to in arguing that we have seen the peak in the stock market: interest rates are rising globally, central banks are reducing liquidity programs and high equity valuations. It is true that many periods of stock market decline start with volatile sessions. Thus, it is worthwhile to look a bit closer at the relationship between market action and volatility.

The VIX is an equity-based index that calculates expected volatility in the stock market. The index is calculated using stock option prices to determine what freely-traded options are pricing in and then backing out volatility using an options pricing equation. Its purpose is to create an index that measures investor risk tolerance, although numerous financial products have been created using the VIX as its underlying value (Wall Street is a lot like Vegas - if it exists, you can bet on it). A higher VIX Index number indicates lower risk tolerance and vice versa.

**Figure 1. Chart of VIX & S&P 500 (1999-present)**



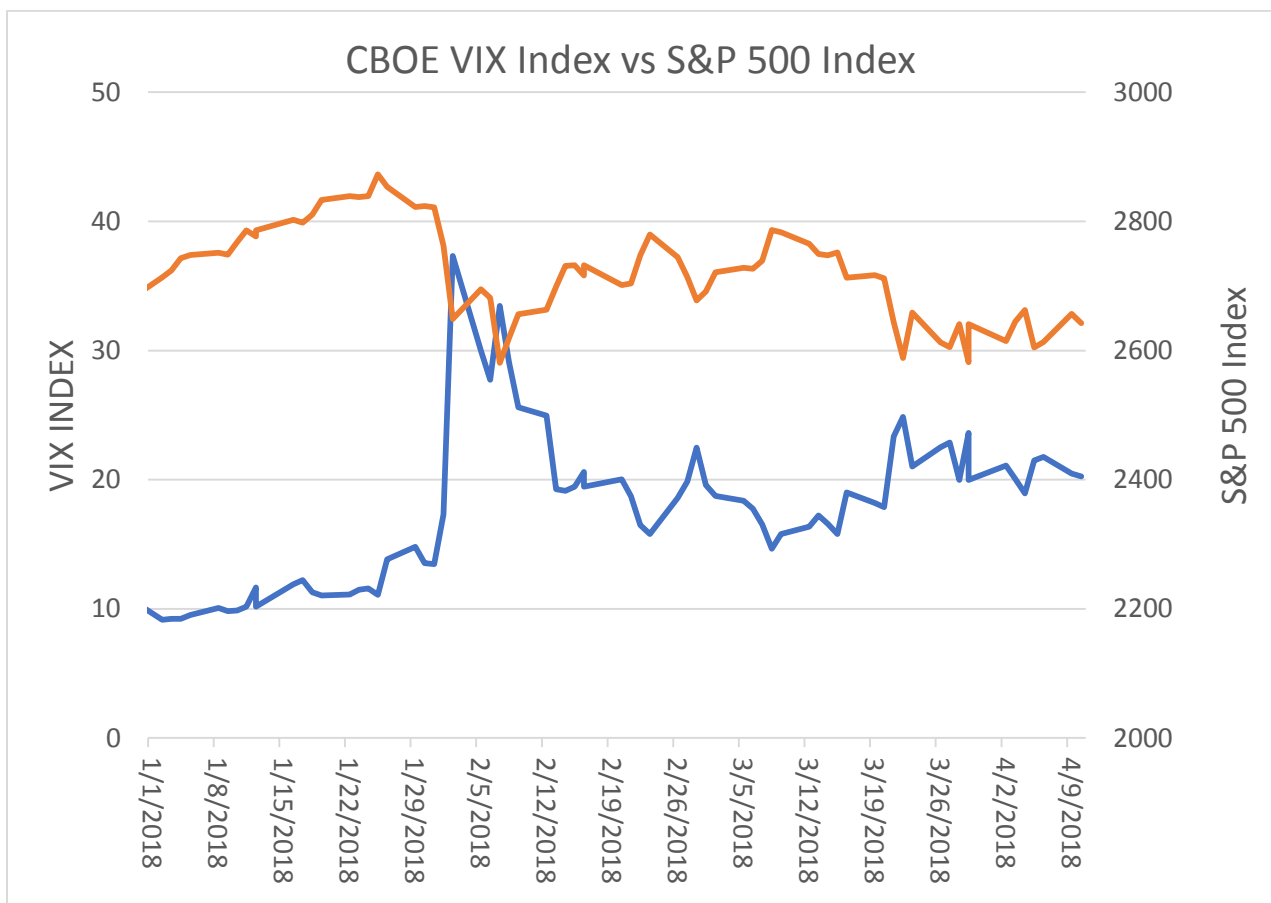
Source: Murray Wealth Group, Thomson Reuters

Figure 1 compares the VIX to the S&P 500 Index over the past two decades. Looking at the relationship between both indices, two things stand out. Firstly, a spike in the VIX is typically accompanied by a simultaneous negative reaction in equity prices. Secondly, a bull market can survive a spiking VIX as long as the VIX returns to normal ranges.

This begs the question of what is the normal range. Looking at the period since March 9, 2009, the median value of the VIX has been 16.2%. Additionally, the VIX has been below 30% for 95% of the trading days during that period. The minimum value was 9.14. We will consider a VIX value range of 10 - 30 as “normal”.

Let’s now take a closer look at the VIX in 2018 (Figure 2).

**Figure 2. Chart of VIX & S&P 500 in 2018**



We see many similar patterns to that exhibited in Figure 2, with the VIX spiking over the 30% level leading to the sharp losses experienced in early February, but then a subsequent reversal and recovery. Since mid-March, the recent decline in the S&P 500 has not been accompanied by a large VIX spike despite the market action of some of its leading equities (Facebook, Amazon, Fedex, Enbridge).

So is volatility a precursor to poor market returns? We can test this by looking at volatility spikes and then subsequent market performance over various time horizons. To isolate the initial VIX spike, we

looked at the time period of 1999 to 2018 and screened for days where the VIX Index was greater than 30 but had been below the 30 level for the previous 20 trading days. This method allows us to look at performance from the first day the VIX rises above 30.

**Figure 3: S&P 500 performance after VIX spike - 1999-2018**

	Period after first 30+ VIX reading				
	1 month	3 month	6 month	1 year	3 year
<b>Average Return</b>	1%	1%	-2%	-7%	6%
<b>Median Return</b>	3%	4%	-2%	-8%	-1%
<b>% Positive</b>	69%	69%	38%	38%	44%

This table above tells a less encouraging story. Over a 1-year time horizon, markets are higher only 35% of the time (with a median return of 8%) when the VIX initially spikes above the 30% level. Similarly, the 3-year time frame shows a similar story with markets positive 44% of the time and a median value of -1%. It is worth noting, however, that all of the instances of negative returns over subsequent periods of time occurred during recessions. The key question then in determining if the VIX is a precursor to poor market returns lies in determining if a recession is imminent, and does the VIX act as a warning indicator or noise?

There are many other indicators that we use to identify potential economic weakness such as revenue growth, profit growth and interest rates as well as economic measurements such as employment levels, housing prices and inflation. Perhaps spiking VIX levels in coincidence with deteriorating economic data is a strong signal that more market weakness lies ahead.

Our game plan for period of higher volatility is the same as the one we employ during periods of low volatility. Invest in strong companies with strong balance sheets that can weather any storms in the market and use our internal target prices to identify the stocks with the best share price appreciation potential. This process has worked through the tough first quarter of 2018 and we believe it will continue to be the best way to serve our clients long term.