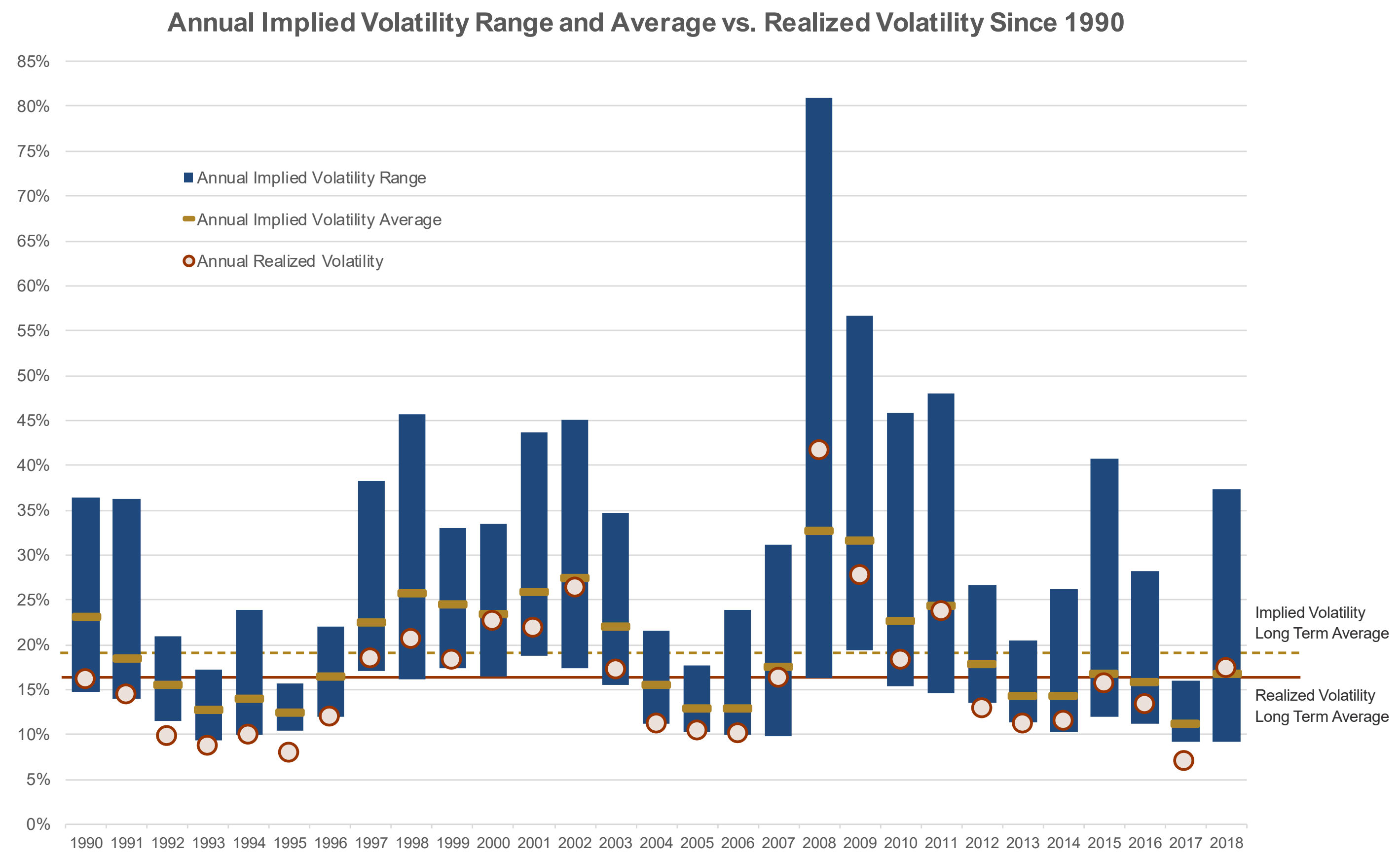
The S&P 500® Index faced the bear in 2018 with a 19.37% peak-to-trough decline, ranking fifth among the largest intra-year declines of the last 30 years. However, in looking at measures of equity market volatility, the year 2018 was not exactly extreme. The following chart shows that 2018 averages for implied and realized volatility were below long-term averages.



Source: Bloomberg, L.P.

The 2018 VIX® high of 37.32 more than doubled 2017's high but ranks just 10th among the annual highs of the last 30 years. Interestingly, the high in 2018 coincided with the 10.10% correction of the S&P 500® Index during the first quarter, rather than during the larger fourth quarter drawdown when the VIX® peaked at 36.07. The years 1997, 1998, 2010, 2011 and 2015 had higher annual VIX® highs than 2018, despite the S&P 500® Index delivering shallower drawdowns. In the five years between 1990 and 2017 that featured S&P 500® Index drawdowns between 15% and 20% (1990, 1998, 2000, 2010 and 2011), each featured at least two quarters when the VIX® averaged 24 or higher and all but the years 1990 and 2000 featured a VIX® closing high that was higher than that of 2018.

The muted response of the bond market was also notable. When equities experience steep declines, the bond market typically experiences a rally in high quality bonds while U.S. Treasury yields decline. That occurred over the 2018 equity market drawdown period of September 20th through December 24th, during which the yield on the 10-year U.S. Treasury Note (the 10-year) declined 32 basis points (bps) to 2.74%, while the Bloomberg Barclays U.S. Aggregate Bond Index (the Aggregate) returned 1.61%. However, the 2018 bond market response pales in comparison to the two other S&P 500® Index drawdowns of more than 15% that have occurred during the current bull market that began in March 2009. Specifically, in 2010, the S&P 500® Index dropped 15.63% from April 23rd through July 2nd while the 10-year yield declined 83 bps to

2.98% and the Aggregate returned 3.00%. In 2011, the S&P 500® Index declined 18.64% from April 29th through October 3rd while the 10-year yield declined 153 bps to 1.76% and the Aggregate returned 5.35%. In short, the larger equity market decline in 2018 elicited a fraction of the 10-year yield change with lower returns to investment grade bond holders as compared to the smaller drawdowns of 2010 and 2011.

The bond market's muted response during the 2018 equity market decline may be linked to monetary policy. The Federal Reserve's (Fed) commitment to raising interest rates with a goal of normalizing monetary policy has likely reduced investor demand for low yielding, interest rate sensitive assets, given the potential for low returns in a rising rate environment. Fed policy may have also impacted bond market dynamics by turning some long-term, strategic owners of investment grade bonds into shorter-term oriented traders. In other words, strategic investors may be more inclined to sell their positions when experiencing short-term price gains that they would not otherwise receive on a hold-to-maturity basis. Realizing these gains may give such investors an opportunity to re-establish their positions at lower prices, and higher yields, after the flight-to-quality has subsided. Thus, offsetting selling pressure may dilute downward pressure on high-quality bond yields from flight-to-quality-driven upticks in demand. This selling pressure may have been less pronounced during periods of more accommodative monetary policy.

Drivers of the muted implied volatility response are more challenging to discern. One likely factor is that volumes and open interest in certain volatility-linked derivatives, such as VIX® futures contracts, have declined since the first quarter of 2018. Multiple products dedicated to selling such derivatives liquidated after the VIX® spike in early February. This spike may have been exacerbated by such volatility sellers seeking, in concert, to buy back their positions to avoid additional losses. As volatility increased in the fourth quarter, a smaller population of such market participants may have provided less long volatility demand. Additionally, as noted in our September 2018 *Market Perspective*, the Cboe® SKEW Index (SKEW) set an all-time high in August and remained elevated through the third quarter. As SKEW is a measure of index put prices relative to index call prices and, therefore, an indicator of relative demand for the two types of options, it was clear that demand for index puts was elevated. High third quarter SKEW may have implied that a meaningful portion of investors who wanted equity market downside protection had it in place prior to the drawdown. When the decline materialized, fewer investors may have scrambled to add downside protection, generating less incremental demand to drive up index put options prices and implied volatility than there may have been otherwise.

Does a muted response to equity market downside from implied volatility and bond markets provide insight on future equity market direction? Not necessarily. It is Gateway's belief that, regardless of how the markets behave as 2019 begins, several key drivers of recent volatility will likely persist. These drivers include concerns about decelerating corporate earnings growth, slowing Chinese economic growth, monetary policy and trade policy.

Gateway's investment philosophy is informed by its long history and maintains that the U.S. equity market is the most reliable source of attractive long-term returns, despite its high volatility relative to other asset classes and tendency to periodically deliver significant short-term losses. Gateway's investment philosophy also holds that consistency is key to long-term success and that generating cash flow, rather than seeking to forecast the market, can be a lower-risk means to participate in equity markets. By staying true to this philosophy and continuing to manage strategies consistent with the firm's historical approach, Gateway assists investors in managing risk while pursuing long-term returns in an uncertain environment.

For more information and access to additional insights from Gateway Investment Advisers, LLC, please visit www.gia.com/insights.