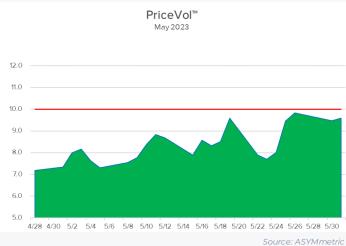
PriceVol[™]S&P 500[®]

The State of Volatility - May 2023

PriceVol[™] Current State

PriceVol[™], a measure of realized volatility of the S&P 500[®], closed May at **9.6**. PriceVol below its threshold of 10 is a **Risk-On** level of realized volatility generally experience in a **bull market**.

Realized volatility of the S&P 500 climbed by nearly 37% from the end of April through the end of May. PriceVol flirted with its Risk-Off threshold towards the end of the month. May is the first month of the last five where PriceVol did not crest its Risk-Off or bear market threshold of 10. The S&P 500 continued to climb a wall of worry up 9.7% YTD through the end of May.



Sourc

Dispersion of Returns

PriceVol™ is a measure of the dispersion of returns of the stocks that make-up the S&P 500®. PriceVol doesn't predict or estimate volatility but accurately measures actual or realized volatility. PriceVol is arguably always correct because it is a mathematical equation measuring price movements of securities of an index relative price movements of the index.

The Return Dispersion graph of the S&P 500 as of 5/31/23 shows outliers up and down close to 40%. The distribution of returns is widening meaning the securities of the S&P 500 generally moved less in tandem in May. This range of returns generally indicative of **positive investor sentiment**.

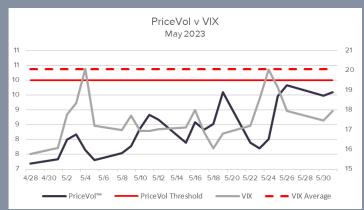


Source: ASYMmetric as of 5/31/23

PriceVol[™] v. VIX

Realized volatility (PriceVol $^{\mathbb{M}}$) and implied volatility (VIX) climbed higher in May. PriceVol $^{\mathbb{M}}$ and the VIX both finished near their highs for the month. This is the third month that realized and implied volatility have directionally moved together.

VIX crested its **Risk-Off** level of 20 twice in May. Jumping from its 2023 low reached in April. PriceVol™ closed May just shy of its Risk-Off threshold of 10. Higher levels of volatility and greater swings in volatility have been factors that investors have had to navigate this year.



Source: ASYMmetric and Bloomberg



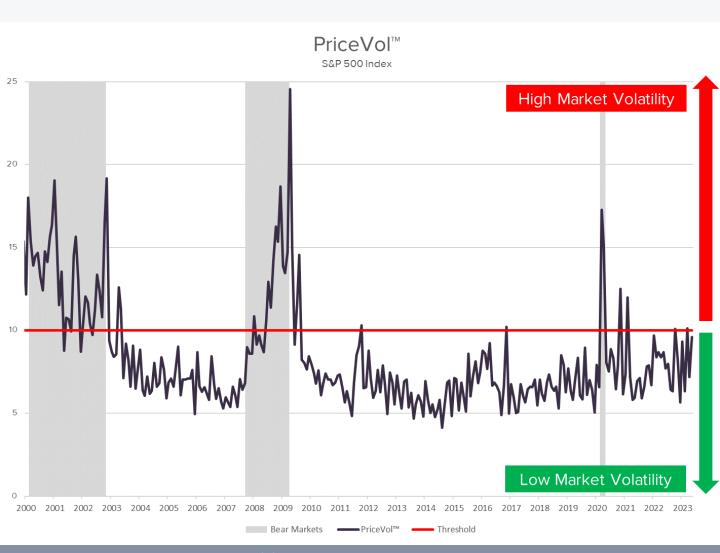
PriceVol[™]S&P 500®

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PriceVol[™] Historical Levels

PriceVol[™] closed May at **9.6**. Realized volatility readings below 10 are generally associated with **bull-markets**. Prior to 2020 and the COVID correction PriceVol rarely rose above 10 except when the S&P 500 was in a Bear Market. PriceVol has exceed its Risk-Off threshold with far greater frequency since 2020.

The wild swing in volatility inter- and intra-month are not indicative of increasing or decreasing volatility trends. Wild swings in volatility holds true for both implied and realized volatility. The post-COVID trend of generally elevated levels of market volatility remains in place. The shorter-term trend of investor shrugging off negative news has the S&P 500 climbing higher on a wall of worries.



Live Measurement of PriceVol™ on the S&P 500® began on 12/31/16; prior to that calculations were not made in real-tim

Source: ASYMmetric





PriceVol[™]S&P 500[®]

The State of Volatility – May 2023

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Index returns and information is presented for informational purposes only. You cannot invest directly in an index. Past performance is not an indicator of future results.

Volatility: A statistical measure of the dispersion of returns for a given security or market index. Volatility can either be measured by using the standard deviation or variance between returns from that same security or market index. Commonly, the higher the

Bull market: when there is a rise of 20% or more in a broad market index over a prolonged period. Bear market: when there is a fall of 20% or more in a broad market index over a prolonged period.

The S&P 500 is a stock market index tracking the stock performance of 500 of the largest companies listed on stock exchanges in the United States.

