

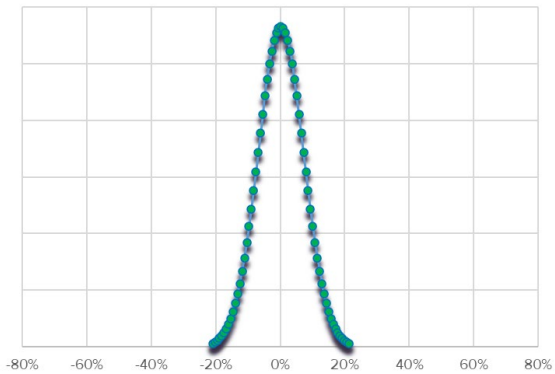
### PriceVol™ Current State

PriceVol™, a measure of realized volatility of the S&P 500®, closed April at **7.2**. 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 declined by nearly 30% from the end of March through the end of April. PriceVol swung from Risk-Off to Risk-On over the course of the month. April is the fourth month where PriceVol has crested its Risk-Off or bear market threshold of 10. The S&P 500 has been climbing on a wall of worry so far in 2023 up 9.2% through the end of April.



PriceVol™ Return Distribution  
Low Volatility



### Dispersion of Returns

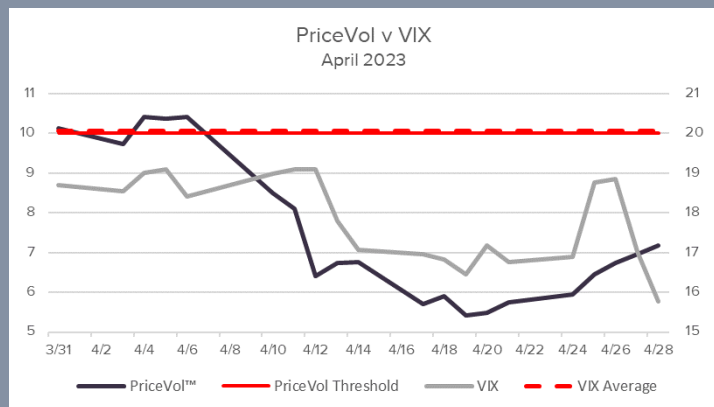
PriceVol™ is a measure of the dispersion of returns of the stocks that make-up the S&P 500®. PriceVol doesn't predict or estimate volatility but accurately measures actual or realized volatility. PriceVol is arguably always correct because it is a mathematical equation measuring price movements of securities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

The Return Dispersion graph of the S&P 500 as of 4/30/23 is an excellent depiction of low level of dispersion or realized volatility. The distribution of returns is narrow meaning the securities of the S&P 500 generally moved together in April. This range of returns generally indicative of **positive investor sentiment**.

### PriceVol™ v. VIX

Realized volatility (PriceVol™) and implied volatility (VIX) both dropped precipitously in April after jumping in March. PriceVol™ and the VIX both finished near their lows for the month. The VIX closed April at its low.

VIX closing level of 15.8 was the lowest level of implied volatility for 2023 and near the lows hit in during the bull market of 2021. PriceVol™ closed April well below its Risk-Off threshold of 10. The S&P 500 notched its monthly gains in the last three trading days for the second month in a row.

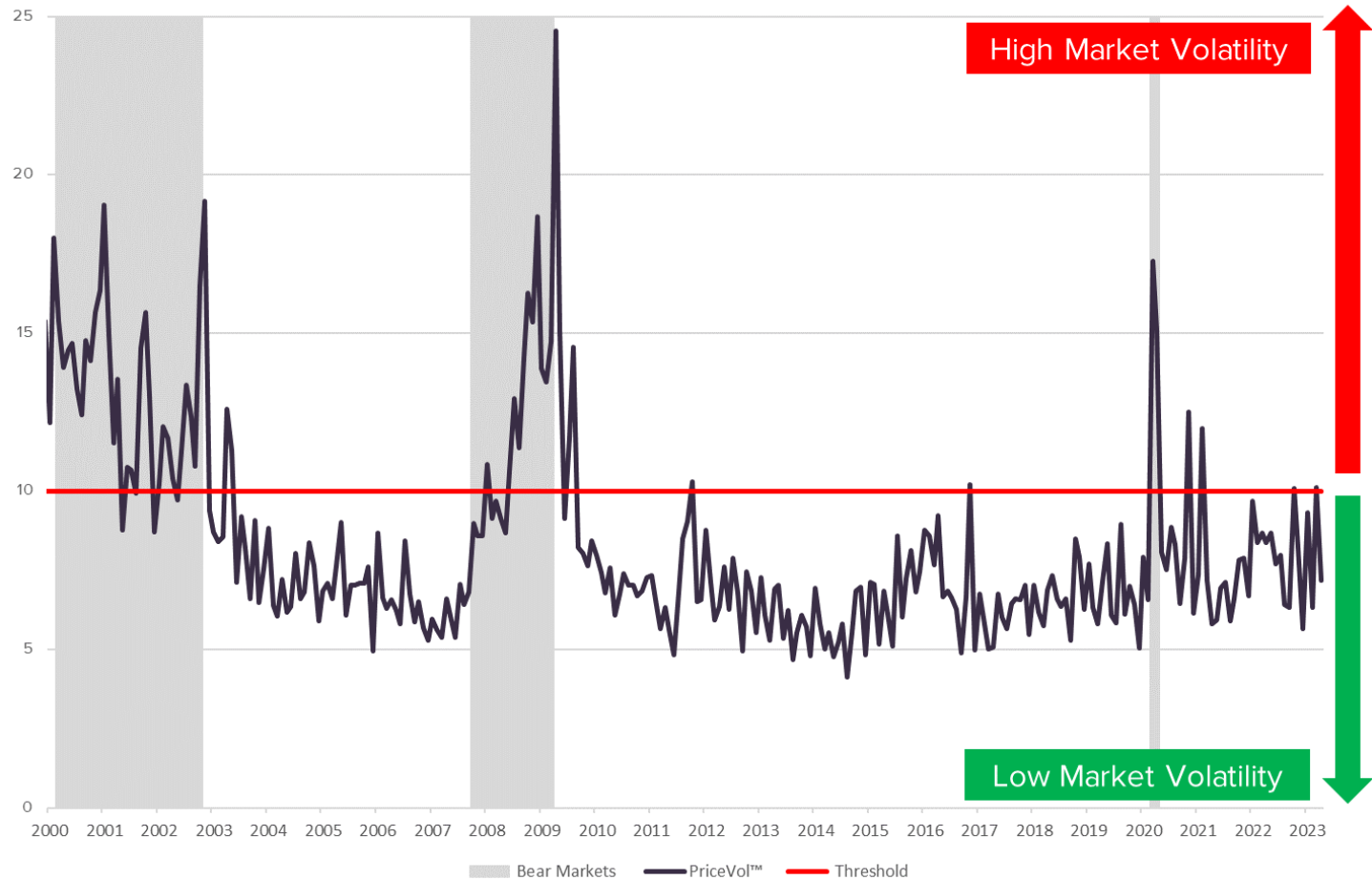


### PriceVol™ Historical Levels

PriceVol™ closed April at **7.2**. Realized volatility readings below 10 are generally associated with **bull-markets**. The low-end of the historical range of realized volatility for the S&P 500 is 5, refer to the graph below. PriceVol put in a low of 5.5 mid-April. These levels have historically indicated sanguine investors and strong investor sentiment.

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.

PriceVol™  
 S&P 500 Index



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

Source: ASYMetric

7.2

## PriceVol™ S&amp;P 500®

The State of Volatility – April 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 volatility, the riskier the security.*

*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.*