SIFMA Insights

September Market Metrics and Trends

A Look at Monthly Volatility and Equity and Listed Options Volumes

October 2022

Monthly Metrics

- Volatility (VIX): Monthly average 27.41; +23.6% M/M, +38.2% Y/Y
- S&P 500 (Price): Monthly average 3,850.52; -7.4% M/M, -13.4% Y/Y
- Performance (month/year): best = healthcare -2.7%/energy +30.7%; worst = real estate -13.6%/comms -39.4%
- Equity ADV (billion shares): Monthly average 11.4; +7.8% M/M, +7.7% Y/Y
- Options ADV (million contracts): Monthly average 42.7; +9.8% M/M, +12.2% Y/Y

Monthly Highlight

- No sector in the S&P 500 was positive in September, as the market continues its decline, driven by:
- Economic environment – The recession debate and the historically high inflation rate – +8.2% in August, needs to decline 6.2 pps to return to historical levels and the Fed's target – continue to weigh on markets. On the other side, real wage growth (inflation adjusted) is -3.0% YTD, meaning workers are making 3% less than they used to and therefore could spend less going forward.
- Sector weightings – At 26.4% of the total S&P 500 index, how technology fares is typically how the aggregate market fares. The technology sector was down -12.0% in September and -31.9% YTD.

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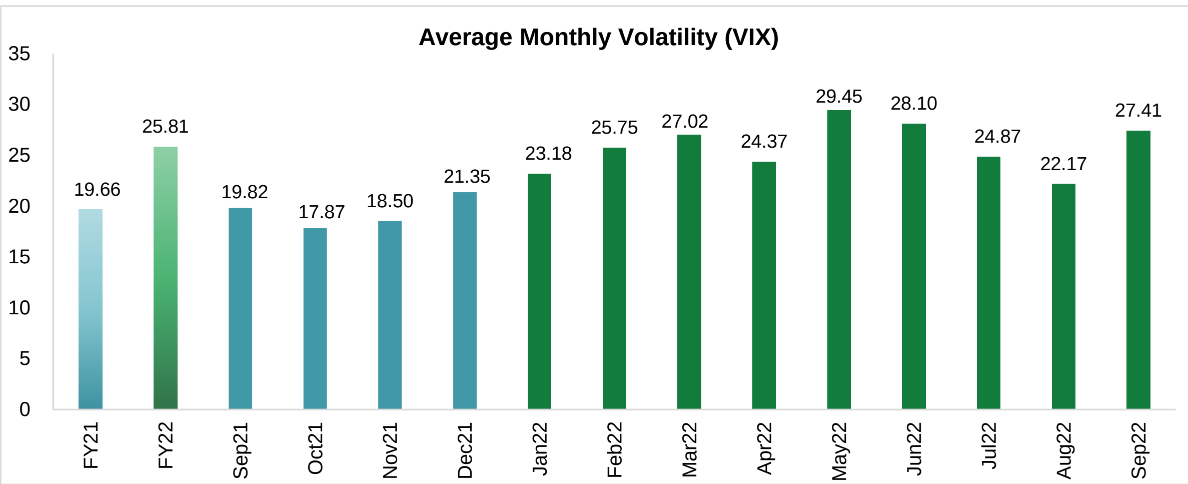
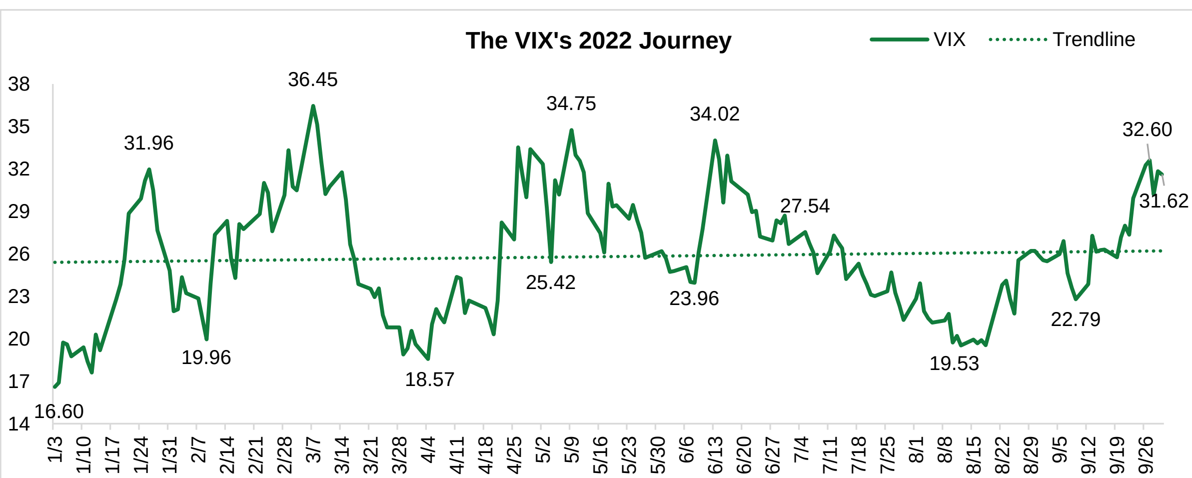
Monthly Market Metrics

In this section, we highlight the monthly market trends for volatility, price, and volumes.

Volatility (VIX)

- Monthly average 27.41
  - +23.6% M/M
  - +38.2% Y/Y
  - +65.1% from the start of the year
- Monthly peak on the 27th at 32.60, troughed on the 9th at 22.79

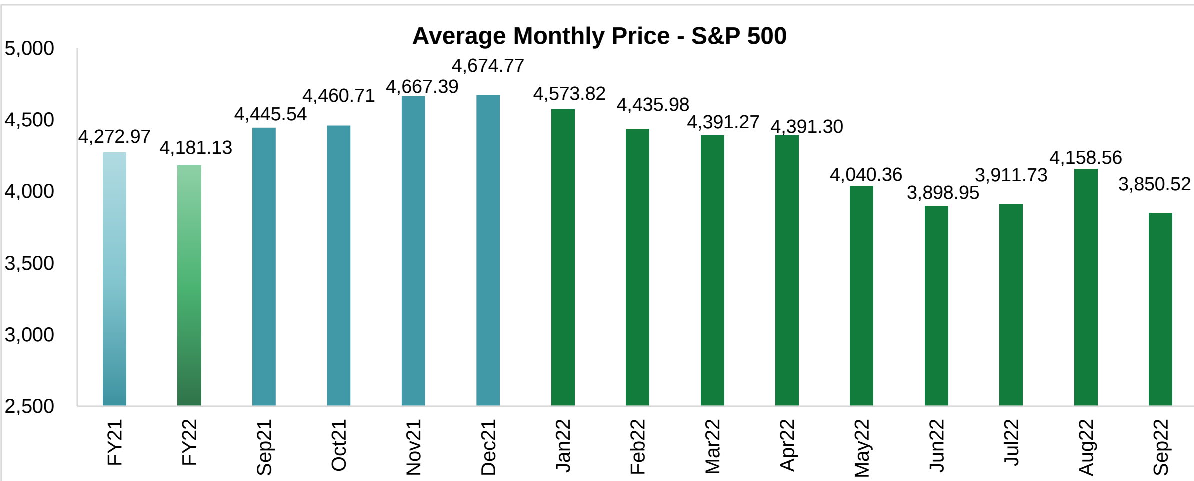


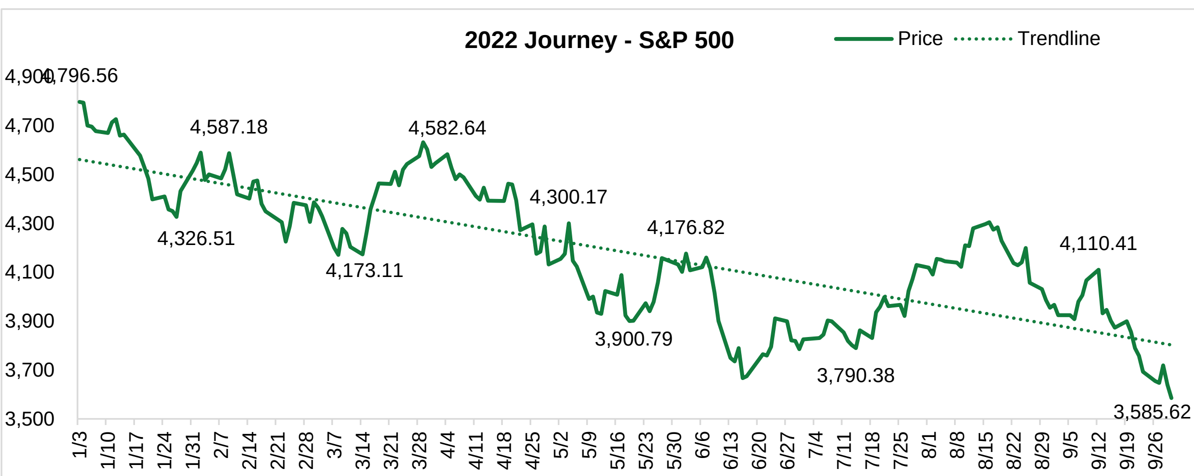


Source: Bloomberg, SIFMA estimates

S&P 500 Index: Price

- Monthly average 3,850.52
  - -7.4 M/M
  - -13.4% Y/Y
  - -19.7% from the start of the year
- Monthly peak on the 12th at 4,110.41, troughed on the 30th at 3,585.62



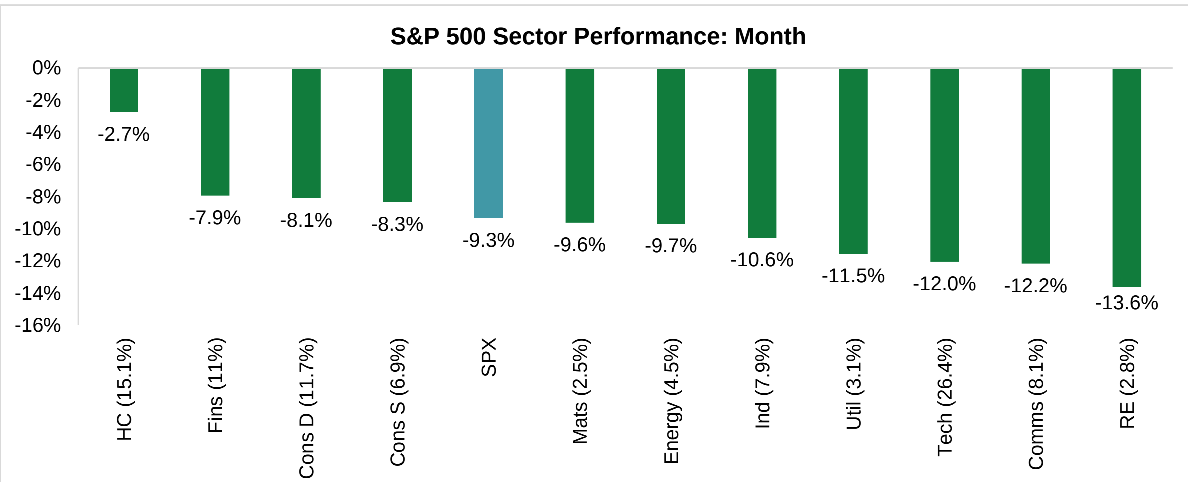


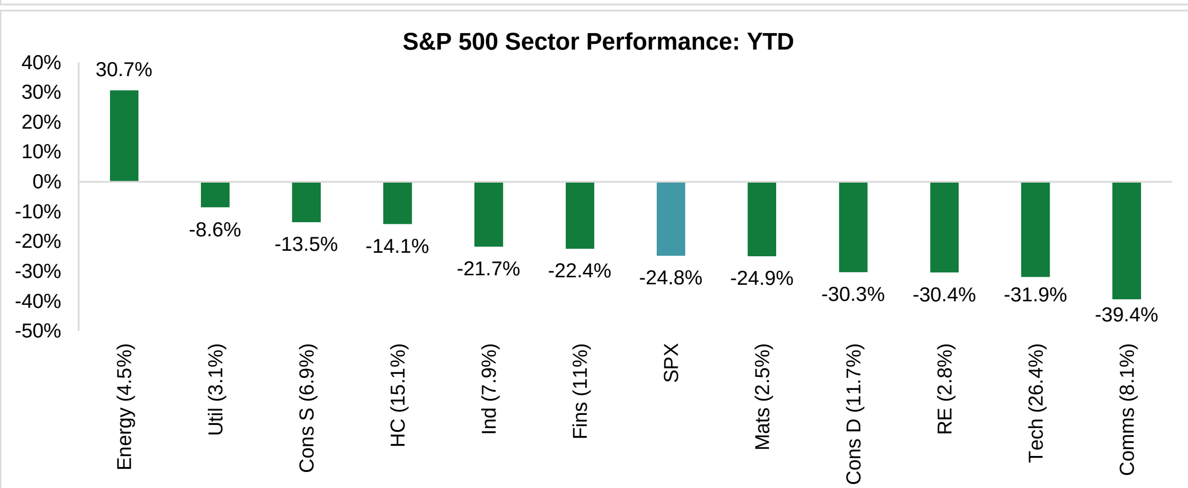
Source: Bloomberg, SIFMA estimates

S&P 500 Index: Sector Breakout

Looking at market performance by sector, we highlight the following:

- Best performing sectors
  - Month = healthcare at -2.7% and financials at -7.9%
  - YTD = energy at +30.7% and utilities at -8.6%
- Worst performing sectors
  - Month = real estate at -13.6% and communications at -12.2%
  - YTD = communications at -39.4% and technology at -31.9%



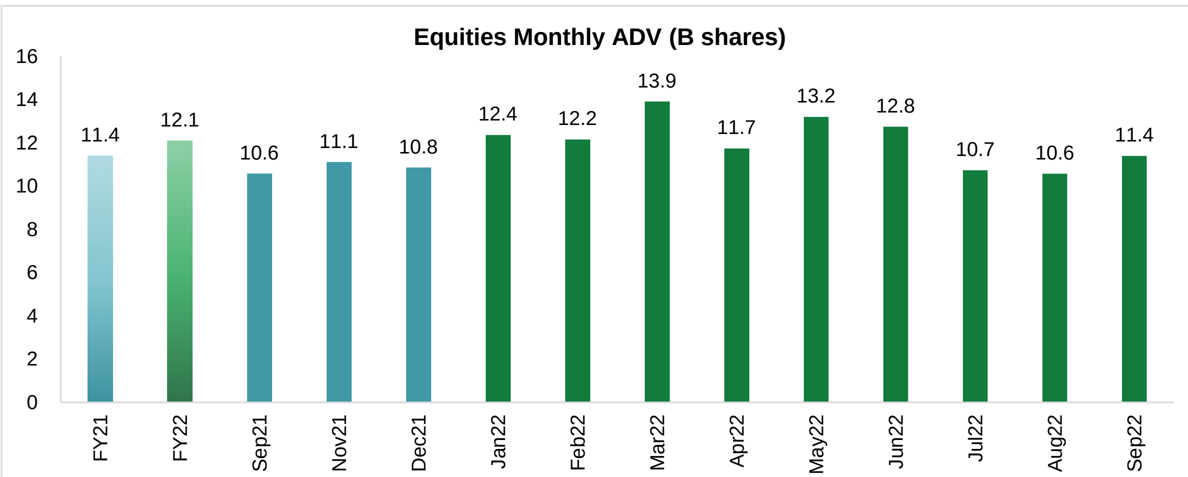


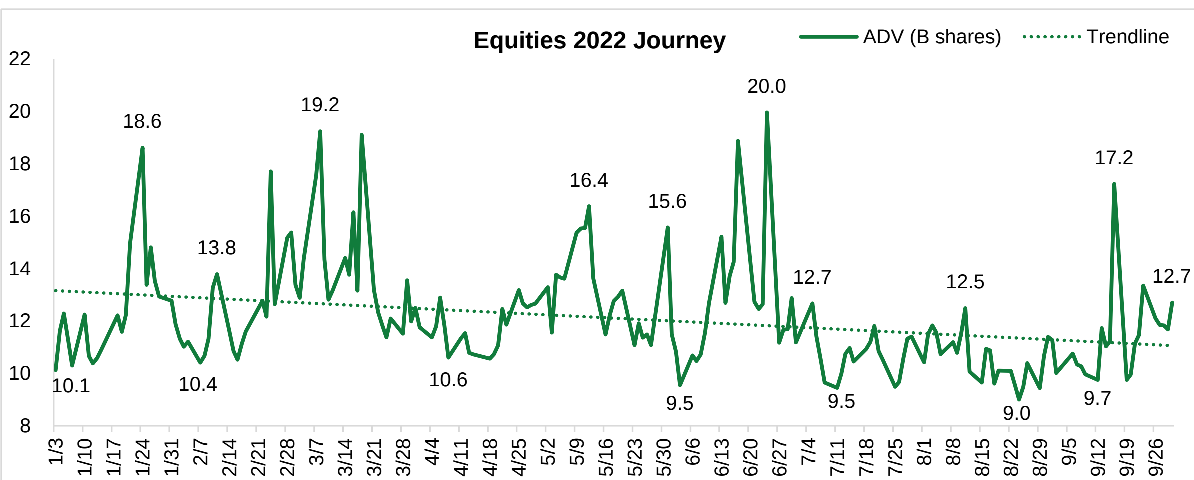
Source: Bloomberg, SIFMA estimates

Note: Parenthesis indicate sector weight in the index. Cons S = consumer staples, HC = healthcare, Mats = materials, RE = real estate, Ind = industrials, Fins = financials, Tech = technology, Cons D = consumer discretionary, Comms = telecommunications, Util = utilities

Equity Volumes (ADV)

- Monthly average 11.4 billion shares
    - +7.8% M/M
    - +7.7% Y/Y
    - +12.6% from the start of the year
- Monthly peak on the 16th at 17.2 billion shares, troughed on the 12th at 9.7 billion shares
- Monthly average off exchange trading 41.7%; -3.5 pps M/M, -0.3 pps Y/Y

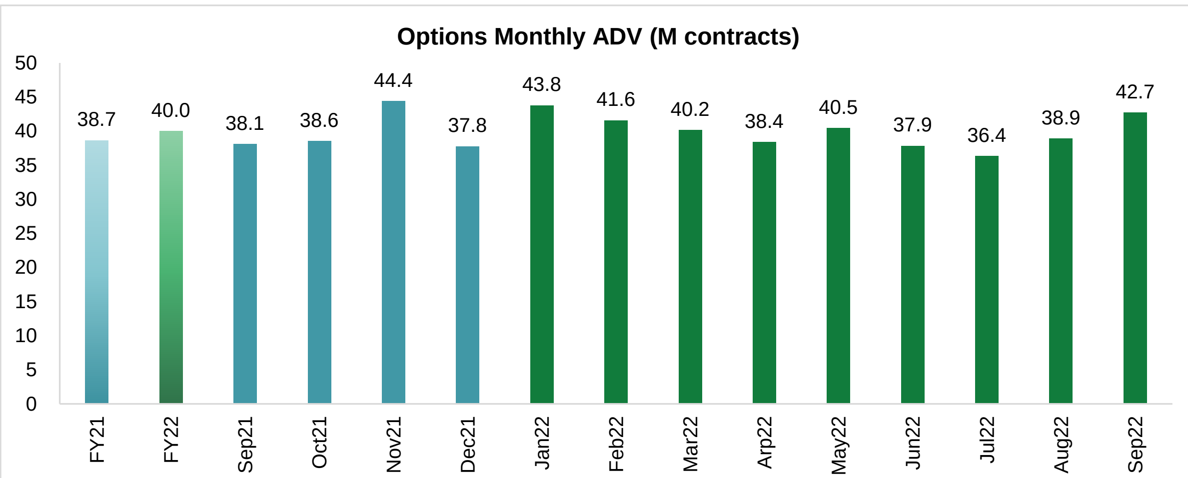


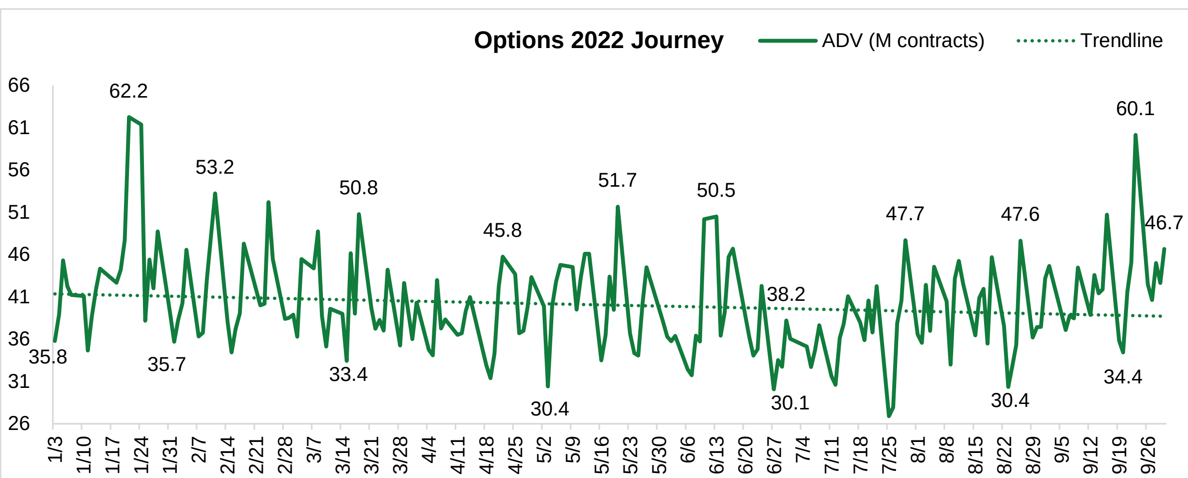


Source: Cboe Global Markets, SIFMA estimates

Multi-Listed Options Volumes (ADV)

- Monthly average 42.7 million contracts
  - +9.8% M/M
  - +12.2% Y/Y
  - +19.4% from the start of the year
- Monthly peak on the 23rd at 60.1 million contracts, troughed on the 20th at 34.4 million contracts
- Monthly equity options 39.3 million contracts (+8.5% M/M, +9.6% Y/Y), index options 3.5 million contracts (+27.1% M/M, +54.1% Y/Y)





Source: Cboe Global Markets, SIFMA estimates

Monthly Highlight

In this section we drill down into an interesting trend that market participants are following.

Markets Monitoring the Economy…

As shown earlier in this note, no sector in the S&P 500 was positive in September, and the market continues its decline for the year: SPX -9.3% in September and -24.8% YTD. A main factor driving U.S. stock market performance is the economy. The recession debate – are we already in one, will it be mild or more severe, how long will it last – continues to rage among economists and market participants.

A key piece of the economic picture is inflation, which remains highly elevated to historical levels at +8.2% Y/Y in August versus +2.0% on average historically. While this is down from the +9.0% peak seen in June, inflation has averaged +8.3% for all of 2022. This means, assuming it does not increase further (September data will be released October 13), inflation needs to decline 6.2 pps from August levels to reach the 2.0% target.

A factor pushing against inflation's return to historical levels is wage growth. Going back to 2019 for a pre-COVID normalized view, wage growth averaged +3.3% Y/Y (national average across all industries). In 2022, the average grew to +5.3%, with a +5.2% increase in August. Economists have stated that as long as the labor market remains tight and wages continue to grow, inflationary pressure will remain.

On the other side of that view, while the data shows top line growth in wages, real wage growth (adjusted for inflation) has been in negative territory. Going back to 2019 for a historical view, a +3.3% top line wage growth translated to a +1.5% real wage growth in a more normalized inflationary environment. Now in 2022, those numbers shift to a +5.3% top line wage growth translating to a -3.0% real wage growth – workers are making 3% less than they used to. Typically, when consumers feel less money coming into their bank account, they will spend less.

Averages (%)	2019	2020	2021	YTD
Wage Growth	3.3	4.9	4.2	5.3
CPI	1.8	1.3	4.7	8.3
Real Wage Growth	1.5	3.6	(0.5)	(3.0)

Source: U.S. Bureau of Labor Statistics, SIFMA estimates

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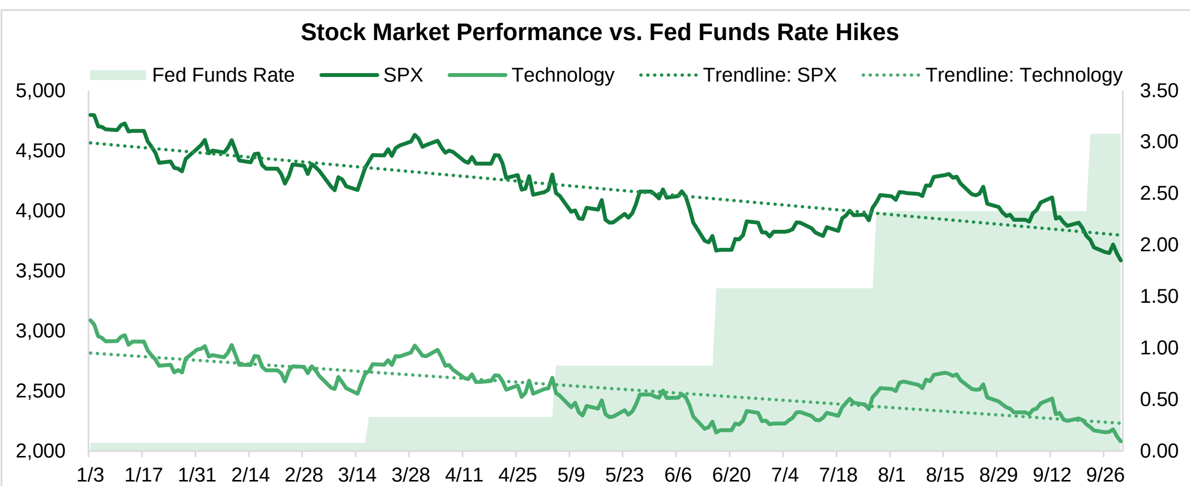
…As Well as Rate Hikes

In turn, inflation and the economic environment drive Fed policy in terms of rate hikes, both in magnitude, timing, and the terminal rate. This combination of factors continues to weigh on markets. As shown earlier in this note, no sector in the S&P 500 was positive in September, and only energy remains positive for the year: SPX -9.3% in September and -24.8% YTD.

The leading sector for the year, energy (+30.7% YTD), has slowed down as well, with this sector ending September -9.7%. Yet, despite its growth in market cap and strong performance this year, energy remains only 4.5% of the total index in terms of market cap. It is, therefore, not the main driver of overall index performance.

One of the real drivers is the technology sector. Technology is currently 26.4% of the total index, down from its 2022 peak of 28.7% in January (and off of its all-time high of 29.4% reached in November 2021). Still, at over one quarter of the S&P 500 index market cap, how technology fares is typically how the aggregate market fares. And technology stocks are historically more sensitive to rate hikes on average than other sectors, as these tend to be more growth stocks. For stocks, higher interest rates translate to higher discount rates applied to future cash flows used in valuation models and therefore lower overall stock valuations. Additionally, in low rate environments, there is often a flow of capital to companies with strong growth potential. As interest rates rise, companies tend borrow less money, meaning earnings will grow at slower rate.

Given the impact of higher rates on all stock valuations and the heavy weighting of technology, i.e. growth stocks, in the overall index, as rates increased this year, the market, overall, has come down. The technology sector was down -12.0% in September and -31.9% YTD.



Source: U.S. Bureau of Labor Statistics, SIFMA estimates

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