



Market Structure Report

04-18-2024

DISCLAIMER

This content has been prepared by Hedgeye Risk Management, LLC (“Hedgeye”) and is presented for informational purposes only. Hedgeye is not a broker dealer and does not provide investment advice to individuals. None of the information contained herein constitutes an offer to sell, or a solicitation of an offer to buy any security or investment vehicle, nor does it constitute an investment recommendation or legal, tax, accounting, or investment advice by Hedgeye or any of its employees, officers, agents, or guests. This information is presented without regard for individual investment preferences or risk parameters and is general, non-tailored, non-specific information. This content is based on information from sources believed to be reliable. Hedgeye is not responsible for errors, inaccuracies, or omissions of information. The opinions and conclusions contained in this report are those of the individual expressing those opinions or conclusions and are intended solely for the use of Hedgeye’s subscribers and the authorized recipients of the content. The opinions of HedgeyeTV guests are not the opinions of Hedgeye. Hedgeye is not responsible for the opinions of their guests or the content or information they may provide.

Hedgeye distributes content on behalf of Tier 1 Alpha, LLC, a third-party content provider with shared ownership.

All investments entail a certain degree of risk and financial instrument prices can fluctuate based on several factors, including those not considered in the preparation of the content. Consult your financial professional before investing.

TERMS OF USE

The information contained herein is protected by United States and foreign copyright laws and is intended solely for the use of its authorized recipient; there is a fee associated with access to this report. Access must be provided directly by

Hedgeye. **Redistribution or republication of the content is strictly prohibited.** By joining this call or possessing these materials, you agree to these terms and Hedgeye Terms of Service. For more detail, please refer to the Terms of Service at https://www.hedgeye.com/terms_of_service

DISCLAIMER

Tier1 Alpha, LLC is not a registered investment advisor, and it does not provide investment advice. The employees, members, and officers of Tier1 Alpha trade, invest, and make other financial decisions using the information and research tier provides in all of its research. Tier1 Alpha employees are permitted to, and do, trade some or all of the securities mentioned in Tier1 Alpha’s research.

Summary:

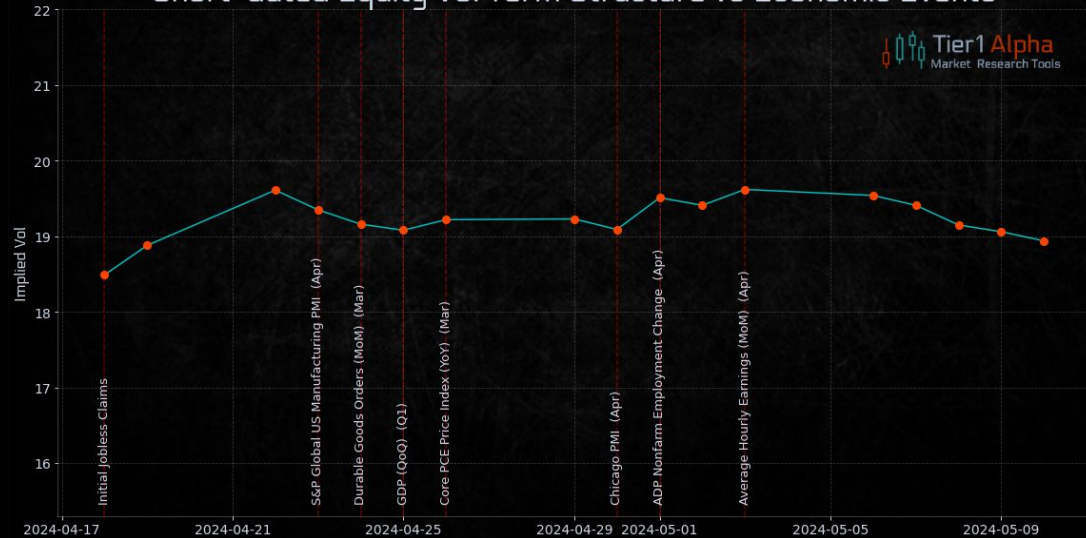
- Dealers remain aggressively short gamma at the current levels, suggesting that higher volatility is still likely.
- However, we've seen most of the increase in volatility contained intraday, while the close-to-close volatility has remained surprisingly low.
- While there are several corners of the market we can point to as to why realized Vol has been subdued, we believe it has primarily been due to the rapid monetization of Puts during any market sell-offs, which reduces the necessity for funds and investors to have to liquidate their underlying positions when asset prices decline.
- We suspect this rapid monetization contributed to yesterday's Vol down/spot-down scenario, in which both the VIX and fixed-strike volatility fell even though markets moved lower.
- As expected, our PV bands have shifted lower, putting the 5000 strike back in play for the first time since mid-February. All else being equal, we expect the 5000 strike to hold today, given we have exhausted a bulk of the downside convexity in our gamma curve.
- That said, our PV bands suggest moderately lower levels are still possible, with the 4975 strike a likely target towards the downside. Remember, though, negative gamma works both ways, so the potential for a crash higher toward the 5050 strike and beyond is well within our model.
- CTA funds have started to see some notable selling take place, with an estimated \$11 billion in equity exposure sold so far this week, which is mostly associated with the trend component in the strategy.
- Combine that with some moderate selling from Vol control funds, and that total comes up to around \$14B in net selling flows. Not a small number, but also not quite the deleveraging event many are making it out to be. However, we suspect these systematic strategies are just getting started, especially if dealers remain short gamma and realized volatility trends significantly higher.
- That makes this a particularly dangerous setup from a positioning standpoint, and while every crash is different, one we've seen play out time and time again.

| | | | |
|-----------------------------|---------|---------|---------|
| Volatility Regime: | Low | Neutral | High |
| Flow Risk: | Bullish | Neutral | Bearish |
| PV Band Risk/Reward: | Long | Neutral | Short |

Economic Event Calendar

| Date | Event | Estimate | Previous | Impact | SPX IV |
|------------|--|----------|----------|--------|--------|
| 2024-04-18 | Initial Jobless Claims | 215K | 211K | High | 18.49 |
| 2024-04-18 | Philadelphia Fed Manufacturing Index (Apr) | 1.5 | 3.2 | High | 18.49 |
| 2024-04-18 | Existing Home Sales (Mar) | 4.20M | 4.38M | High | 18.49 |
| 2024-04-23 | S&P Global US Manufacturing PMI (Apr) | nan | 51.9 | High | 19.35 |
| 2024-04-23 | S&P Global Services PMI (Apr) | nan | 51.7 | High | 19.35 |
| 2024-04-23 | New Home Sales (Mar) | nan | 662K | High | 19.35 |
| 2024-04-24 | Durable Goods Orders (MoM) (Mar) | nan | 1.3% | High | 19.16 |
| 2024-04-25 | GDP (QoQ) (Q1) | nan | 3.4% | High | 19.08 |
| 2024-04-25 | Initial Jobless Claims | nan | nan | High | 19.08 |
| 2024-04-26 | Core PCE Price Index (YoY) (Mar) | nan | 2.8% | High | 19.22 |
| 2024-04-26 | Core PCE Price Index (MoM) (Mar) | nan | 0.3% | High | 19.22 |
| 2024-04-30 | Chicago PMI (Apr) | nan | 41.4 | High | 19.09 |
| 2024-04-30 | CB Consumer Confidence (Apr) | nan | 104.7 | High | 19.09 |
| 2024-05-01 | ADP Nonfarm Employment Change (Apr) | nan | 184K | High | 19.51 |
| 2024-05-01 | S&P Global US Manufacturing PMI (Apr) | nan | nan | High | 19.51 |

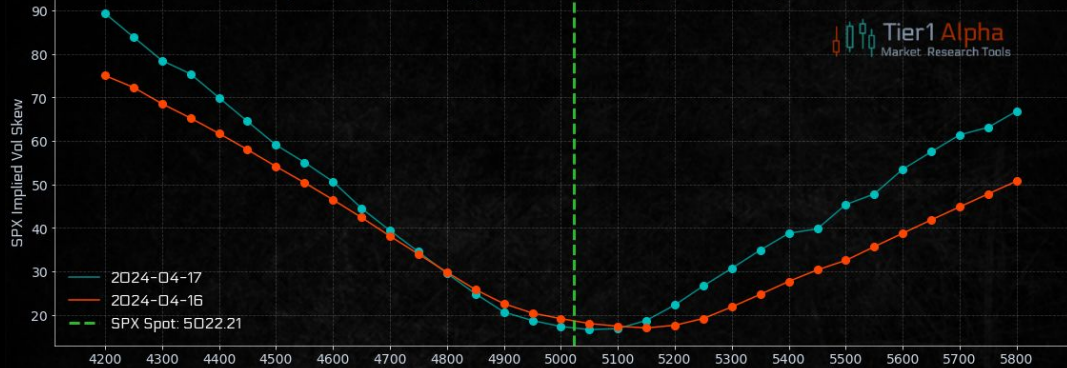
Short-dated Equity Vol Term Structure vs Economic Events



Date: 2024/04/17

Source: Intrinio/ Tier1Alpha.com

SPX Implied Volatility Skew -- OpEx: Fri Apr 19 2024



SPX Implied Volatility with Fixed Strike Vol

| Expiration | Fri Apr 19 2024 | | Fri May 17 2024 | | Fri Jun 21 2024 | |
|------------|-----------------|------------|-----------------|------------|-----------------|------------|
| Strike | Implied Vol | FSV Change | Implied Vol | FSV Change | Implied Vol | FSV Change |
| 4700.0 | 39.4 | 1.28 | 20.19 | -0.6 | 19.53 | -0.43 |
| 4750.0 | 34.52 | 0.53 | 19.38 | -0.57 | 18.88 | -0.41 |
| 4800.0 | 29.55 | -0.27 | 18.6 | -0.52 | 18.25 | -0.37 |
| 4850.0 | 24.86 | -0.96 | 17.85 | -0.49 | 17.64 | -0.34 |
| 4900.0 | 20.65 | -1.92 | 17.11 | -0.47 | 17.03 | -0.32 |
| 4950.0 | 18.69 | -1.73 | 16.4 | -0.43 | 16.44 | -0.31 |
| 5000.0 | 17.33 | -1.8 | 15.7 | -0.41 | 15.86 | -0.3 |
| 5050.0 | 16.61 | -1.4 | 15.03 | -0.39 | 15.31 | -0.31 |
| 5100.0 | 16.85 | -0.54 | 14.41 | -0.36 | 14.8 | -0.28 |
| 5150.0 | 18.73 | 1.73 | 13.86 | -0.32 | 14.31 | -0.26 |
| 5200.0 | 22.27 | 4.66 | 13.39 | -0.27 | 13.87 | -0.23 |
| 5250.0 | 26.66 | 7.5 | 13.07 | -0.22 | 13.47 | -0.21 |
| 5300.0 | 30.72 | 8.89 | 12.88 | -0.17 | 13.11 | -0.19 |
| 5350.0 | 34.9 | 10.18 | 12.94 | -0.02 | 12.79 | -0.17 |
| 5400.0 | 38.77 | 11.07 | 13.22 | 0.13 | 12.51 | -0.18 |
| 5450.0 | 39.78 | 9.43 | 13.56 | 0.3 | 12.32 | -0.15 |
| 5500.0 | 45.37 | 12.84 | 13.97 | 0.34 | 12.19 | -0.13 |
| 5550.0 | 47.81 | 12.13 | 14.64 | 0.53 | 12.14 | -0.08 |
| 5600.0 | 53.5 | 14.72 | 15.25 | 0.61 | 12.2 | -0.04 |
| 5650.0 | 57.5 | 15.66 | 15.83 | 0.64 | 12.31 | 0.0 |
| 5700.0 | 61.41 | 16.55 | 16.64 | 0.76 | 12.5 | 0.03 |

Date: 2024/04/17

Source: Drats/Tier1Alpha.com

SPX Probable Volatility & Put/Call Gamma By Strike, Weighted Expirations

Tier1 Alpha
Market Research Tools

Strikes In Play

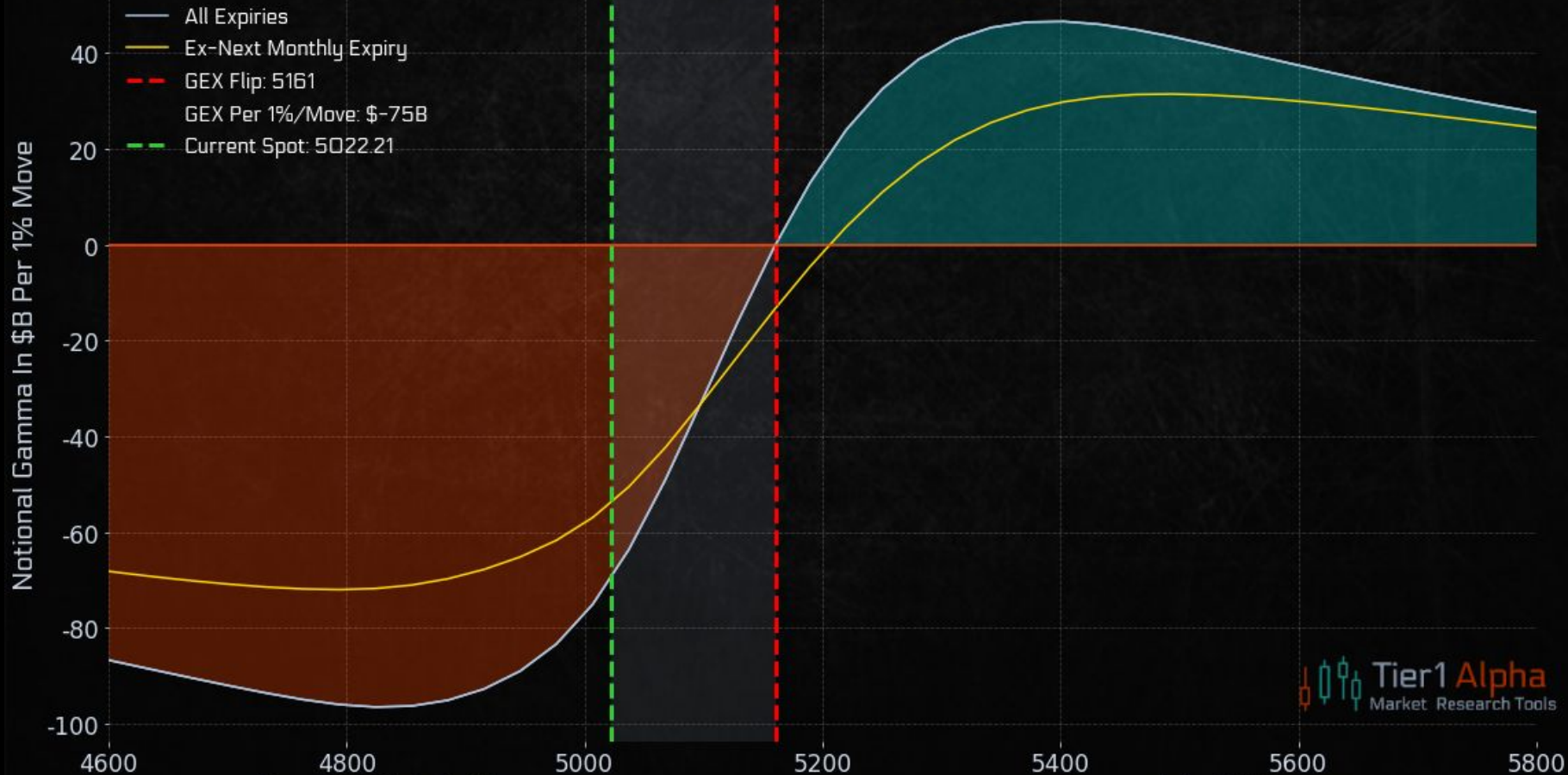
5000.0
5025.0
5050.0
5100.0
5150.0



Date: 2024/04/17

Source: Intrinio/Tier1Alpha.com

S&P 500 (SPX) Estimated Dealer Gamma Exposure - Weighted Expirations

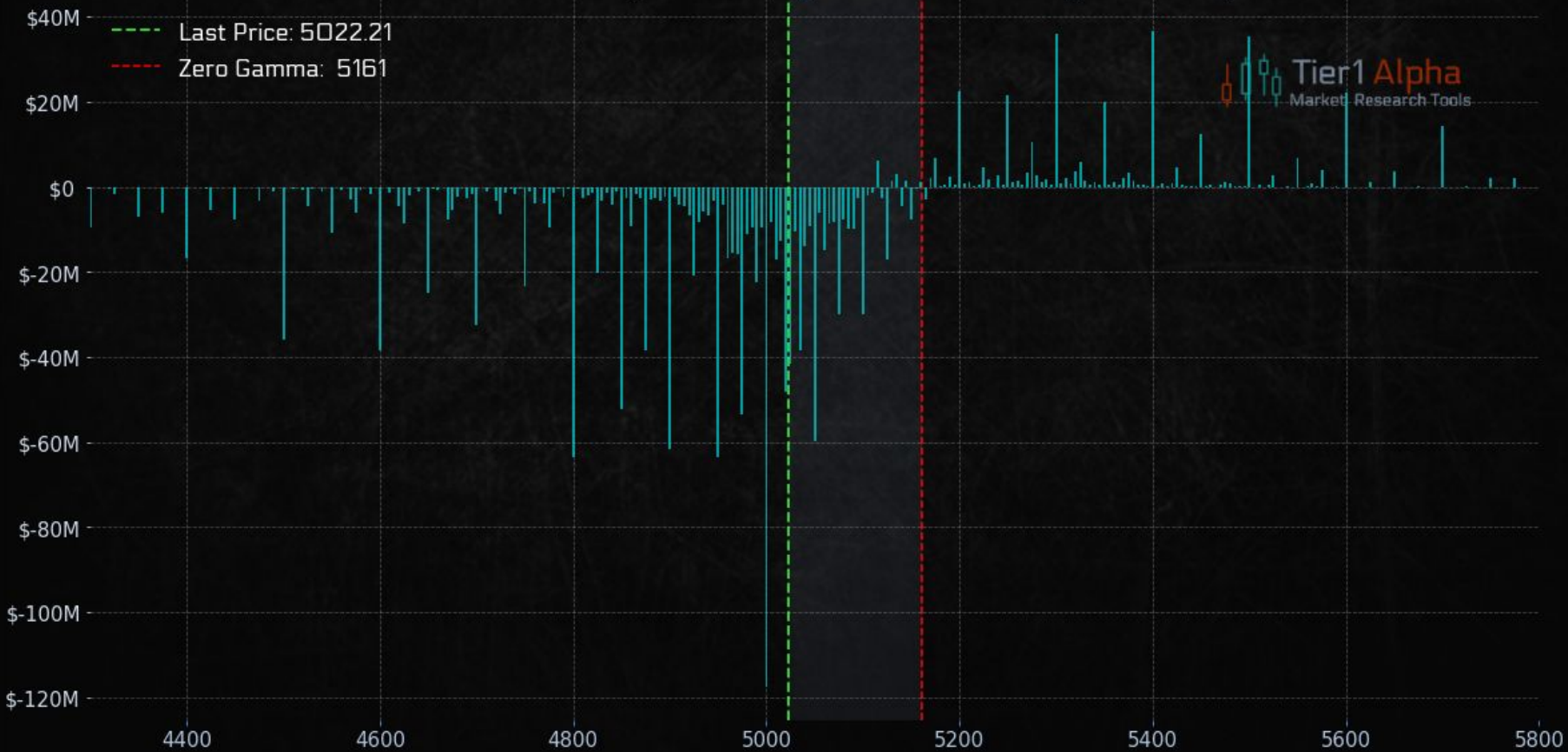


Date: 2024/04/17

Source: Tier1Alpha.com



SPX Total Gamma Exposure By Strike -- Weighted Expirations



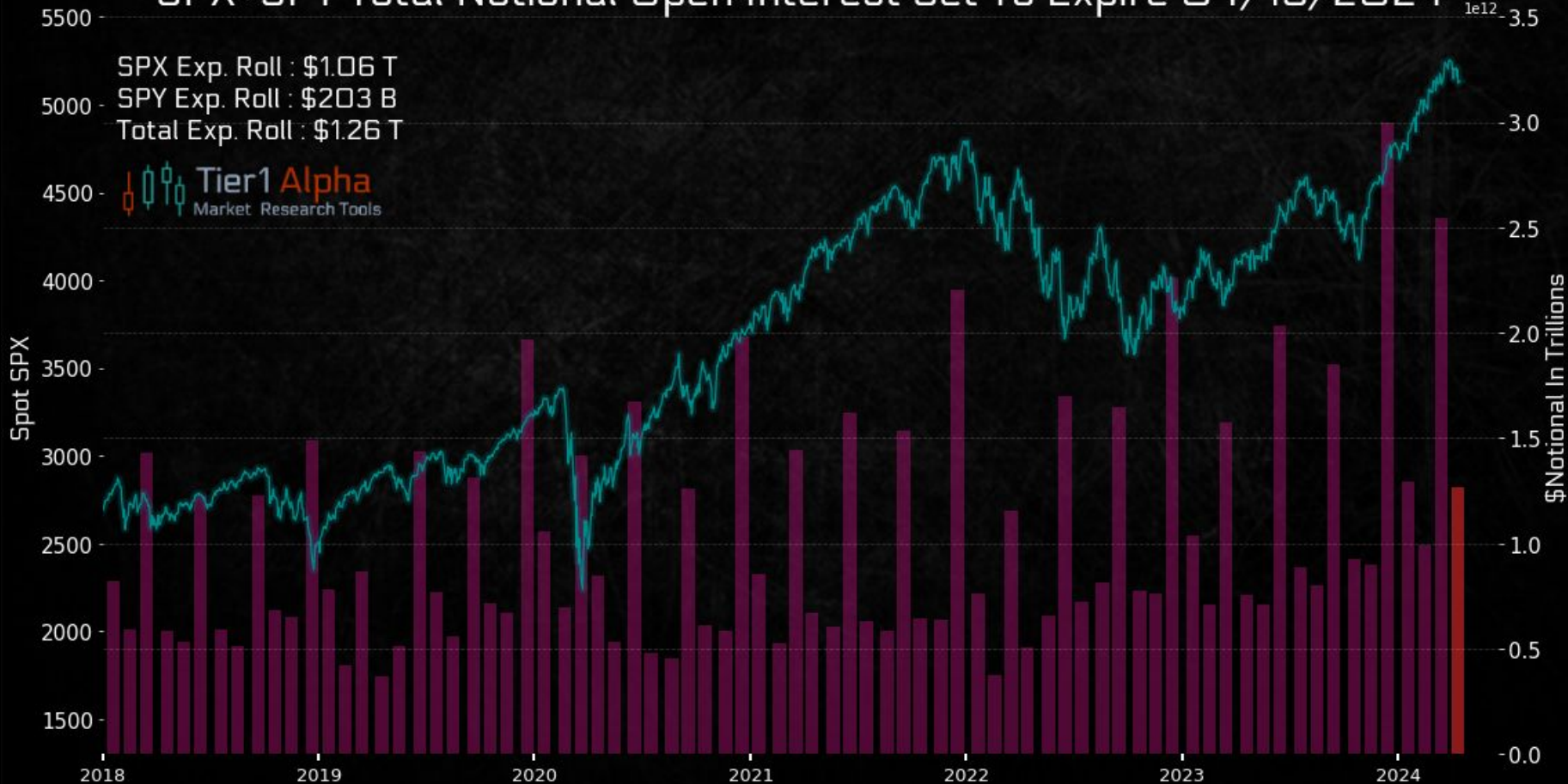
Date: 2024/04/17

Source: Intrinio/ Tier1Alpha.com

SPX+SPY Total Notional Open Interest Set To Expire 04/19/2024

SPX Exp. Roll : \$1.06 T
SPY Exp. Roll : \$203 B
Total Exp. Roll : \$1.26 T

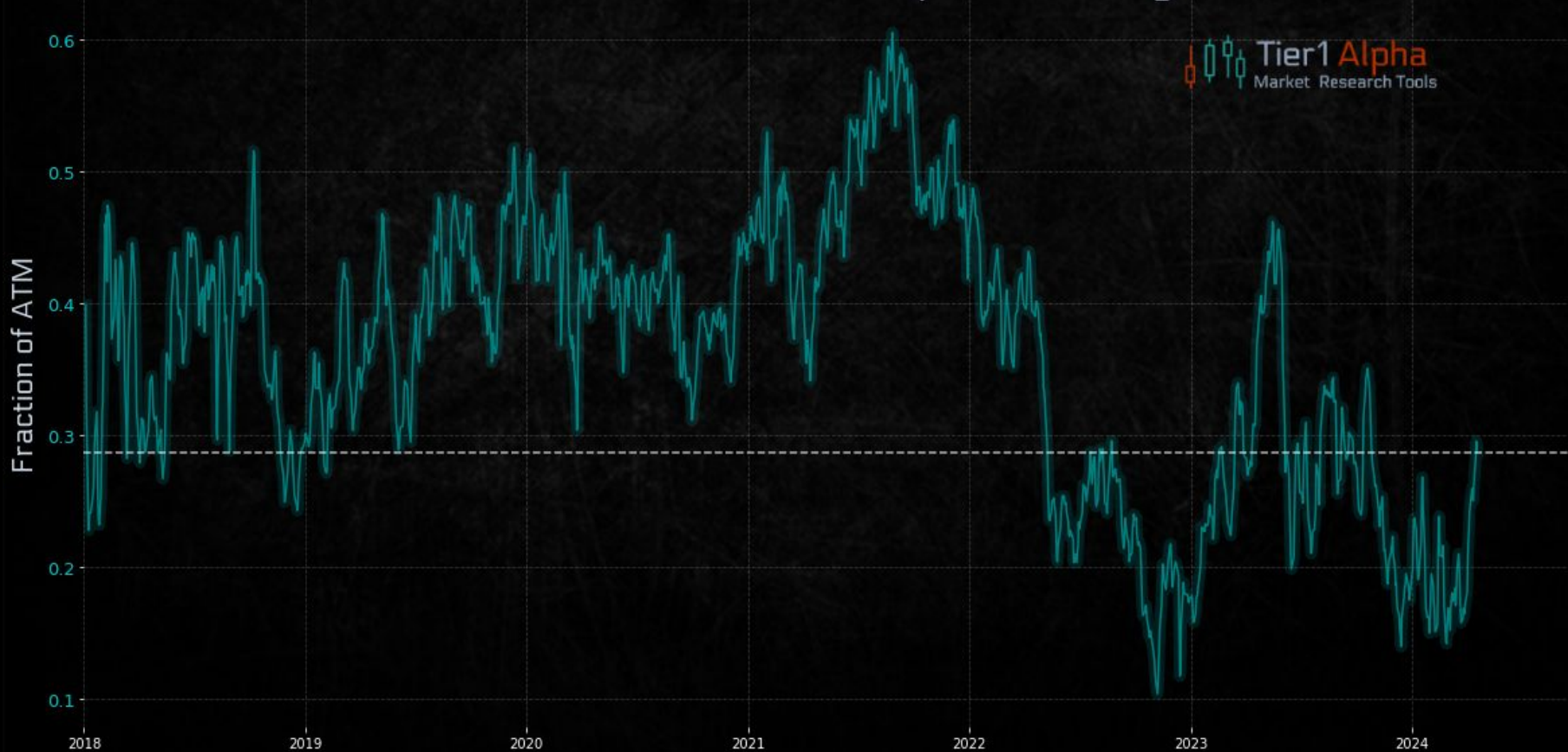
Tier1 Alpha
Market Research Tools



Date: 2024/04/15

Source: Orats/ Tier1Alpha.com

1-Month 25-Delta Put vs 25-Delta Call Implied Volatility Skew, Normalized

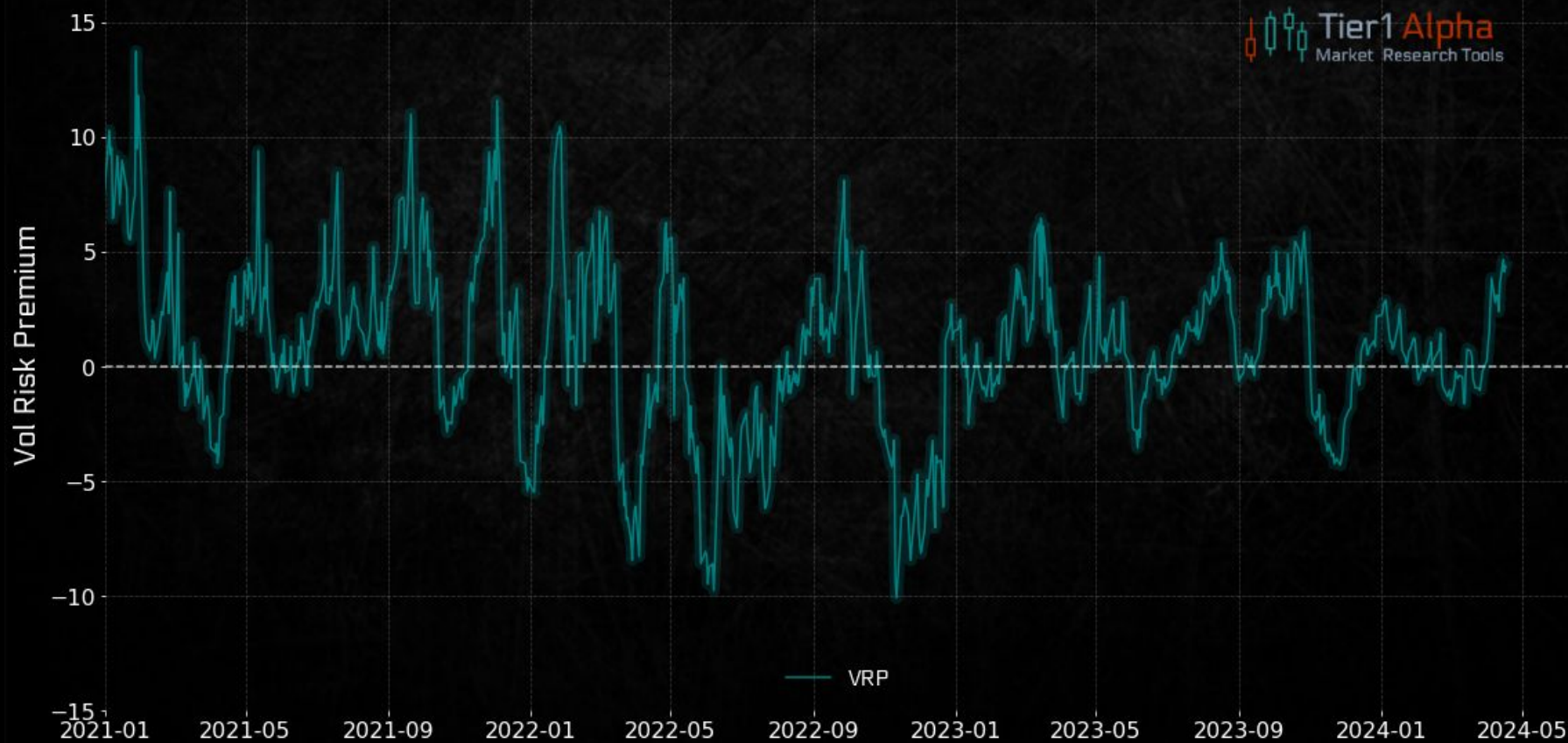


Tier1 Alpha
Market Research Tools

Date: 2024/04/17

Source: Tier1Alpha.com

SPX Volatility Risk Premium: 1m ATM Implied Vol vs 1m Realized Vol

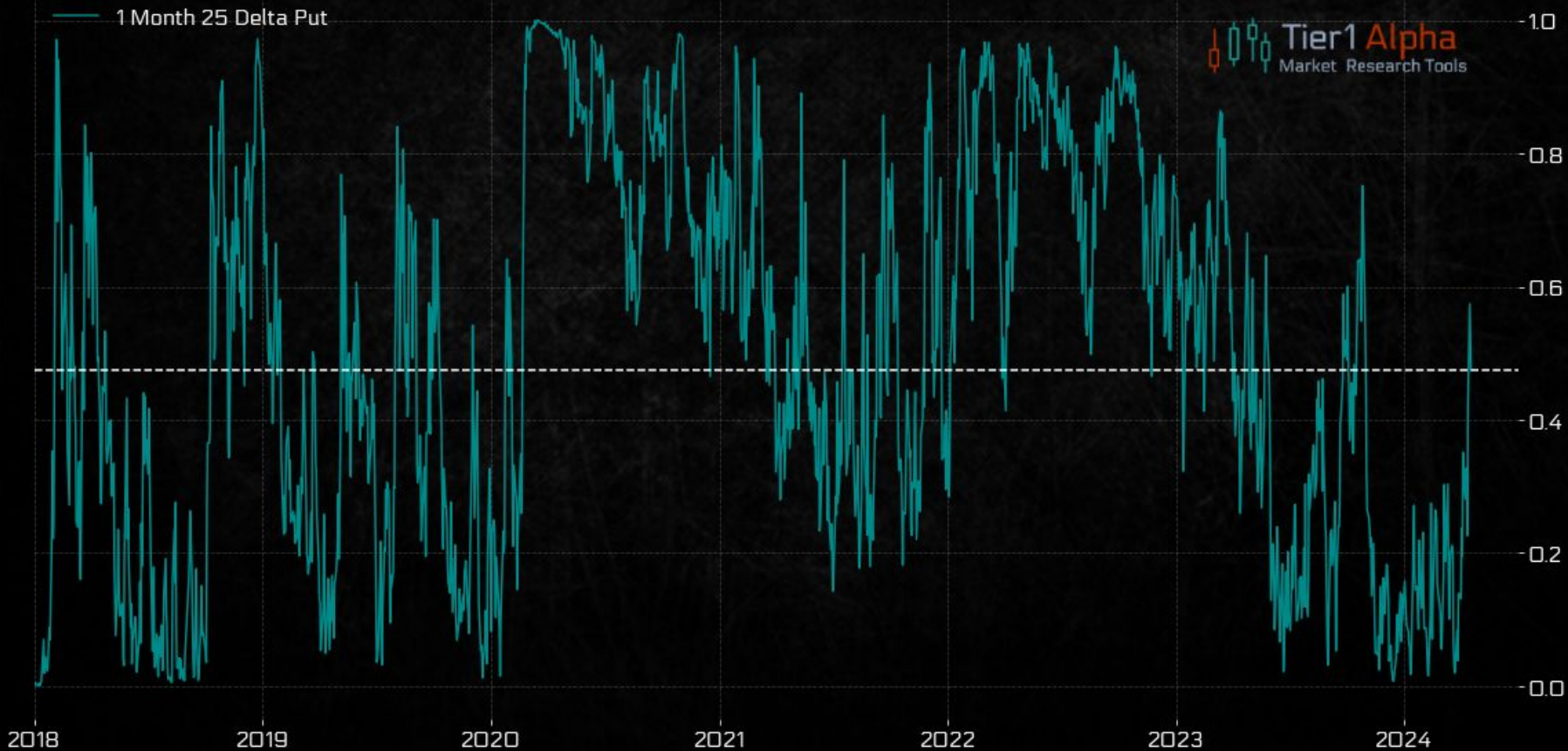


Tier1 Alpha
Market Research Tools

Date: 2024/04/17

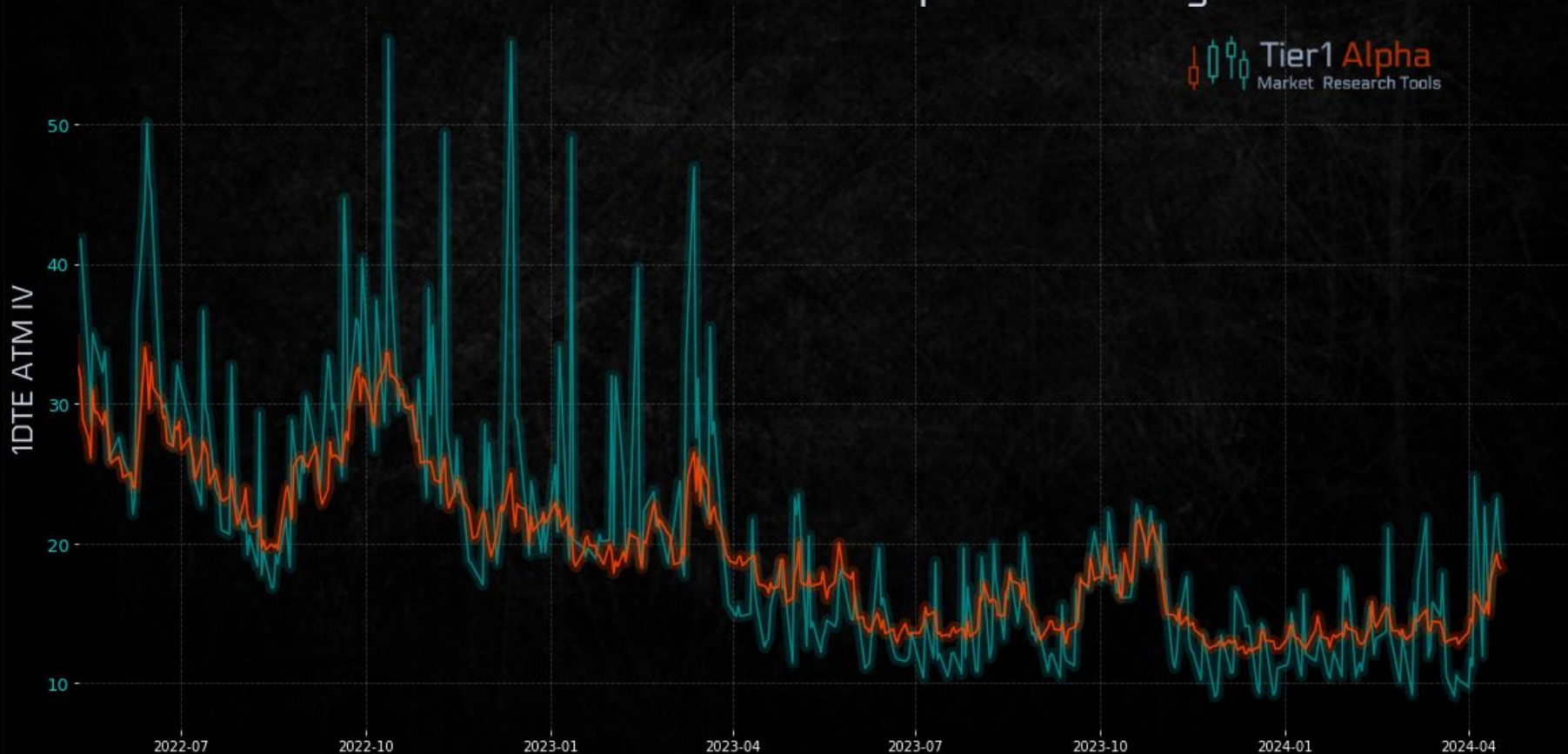
Source: Tier1Alpha.com

Rolling Cost of 1 Month 25 Delta Put Options Percentile Rank



SPX 1DTE 50-Delta Implied Volatility

Tier1 Alpha
Market Research Tools



Date: 2024/04/17

Source: Tier1Alpha.com

Nasdaq 100 (NDX) Probable Volatility & Put/Call Gamma By Strike, Weighted Expirations

Tier1 Alpha
Market Research Tools

Strikes In Play

17400.0
17500.0
17850.0
17900.0
18000.0

Lower PV Band: 17298.0 Upper PV Band: 18125.0 Positive Gamma Negative Gamma Zero Gamma: 17596

03/21/2024

03/28/2024

04/05/2024

04/12/2024

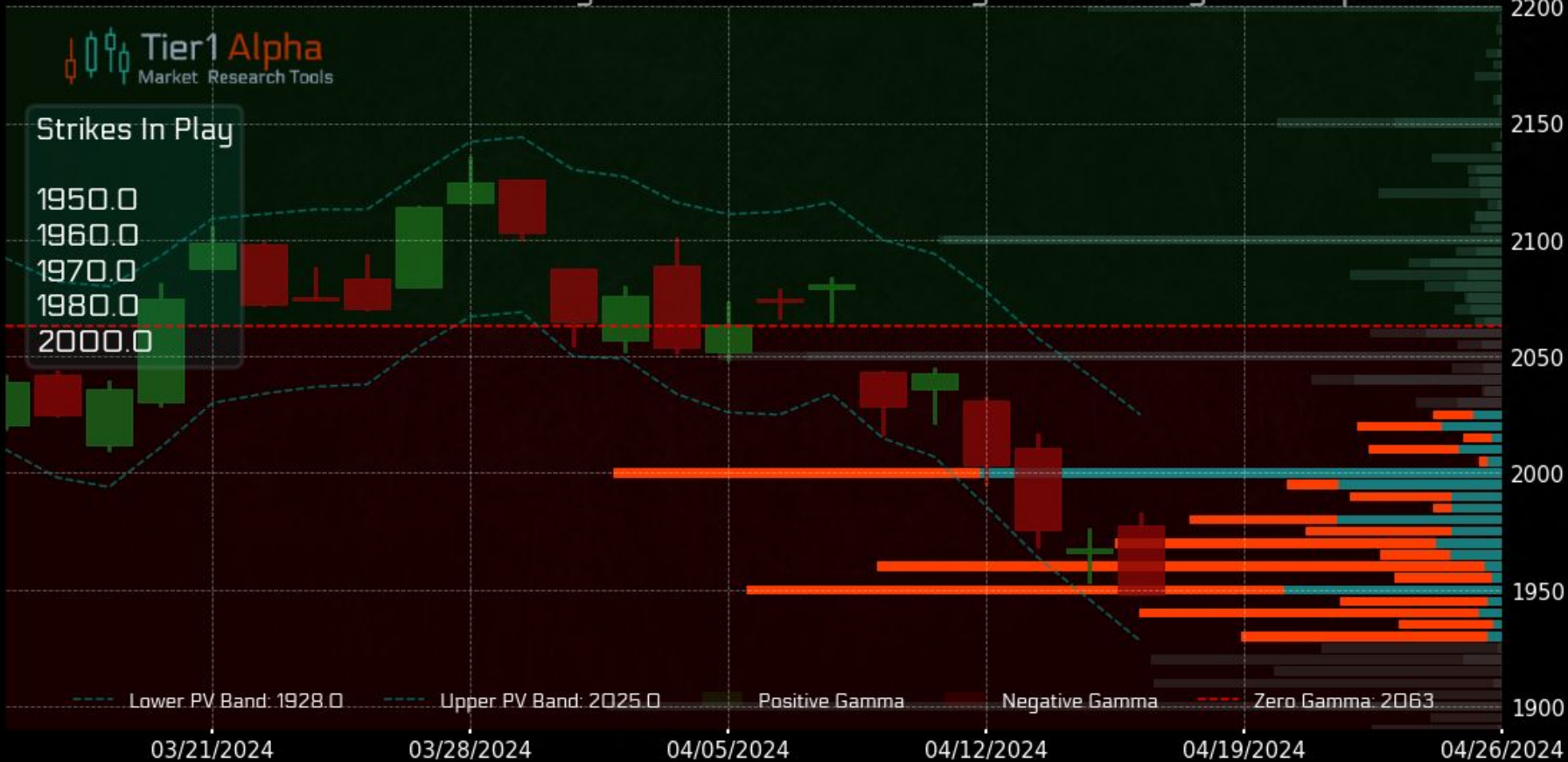
04/19/2024

04/26/2024

Date: 2024/04/17

Source: Intrinio/ Tier1Alpha.com

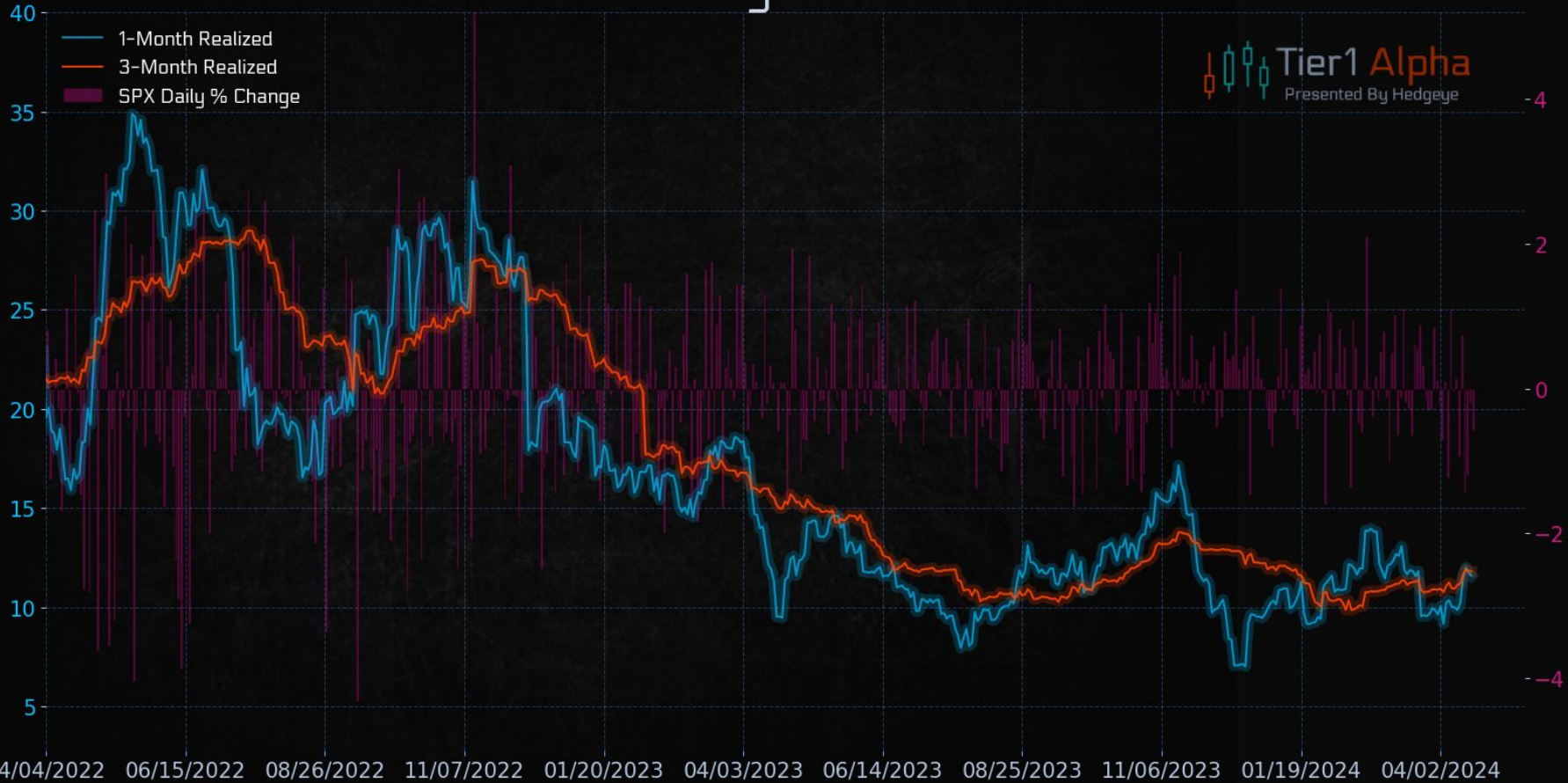
Russell 2000 Probable Volatility & Put/Call Gamma By Strike, Weighted Expirations



Date: 2024/04/17

Source: Intrinio/ Tier1Alpha.com

SPX Realized Volatility -- 1 Month vs 3 Month

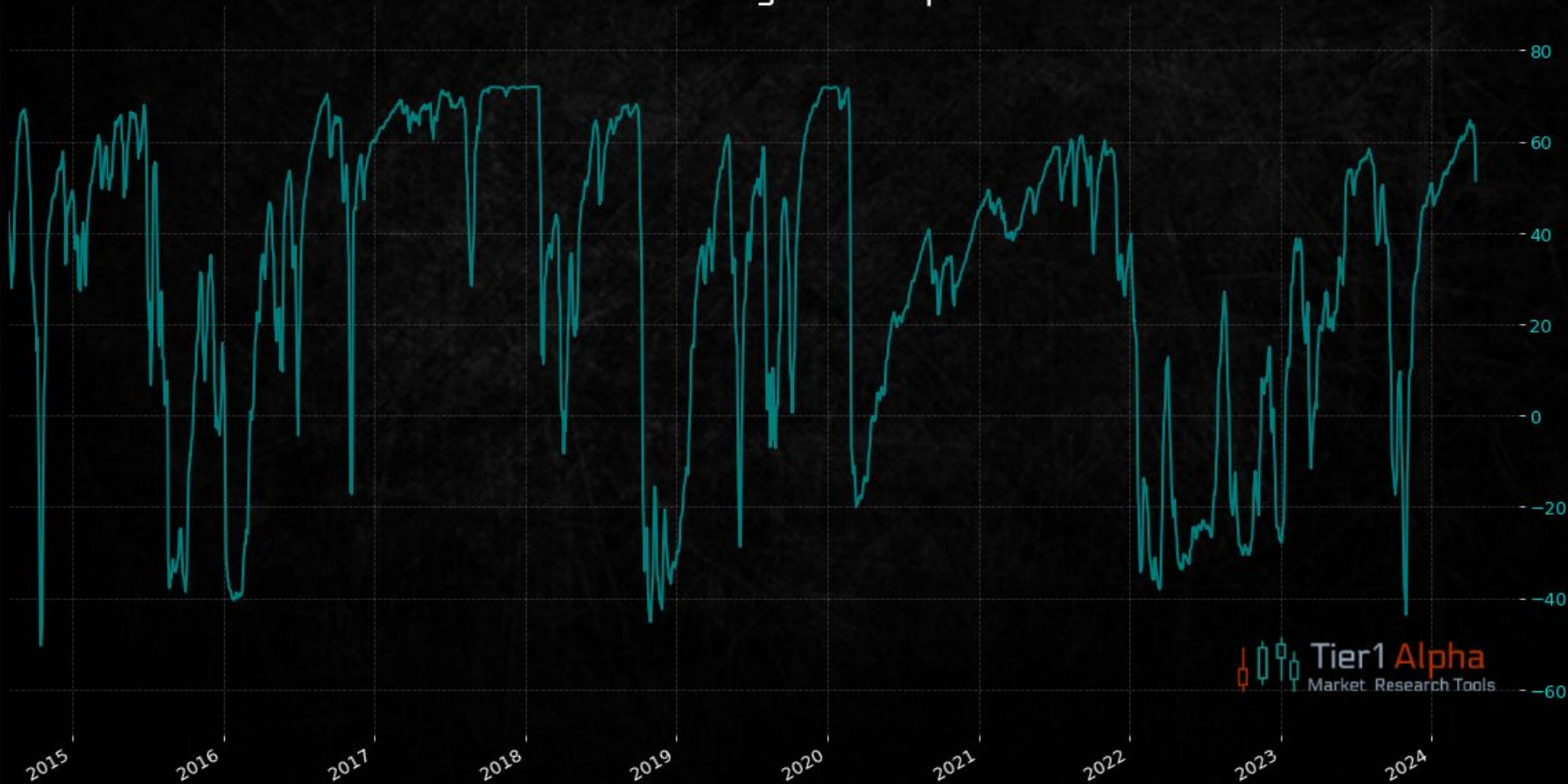


Tier1 Alpha
Presented By Hedgeye

Date: 2024/04/17

Source: Tier1Alpha.com

CTA Positioning in US Equities



Date: 2024/04/17

Source: Tier1Alpha.com

 **Tier1 Alpha**
Market Research Tools

Systematic Positioning Index Vs. SPX

 Tier1 Alpha
Presented By Hedgeye

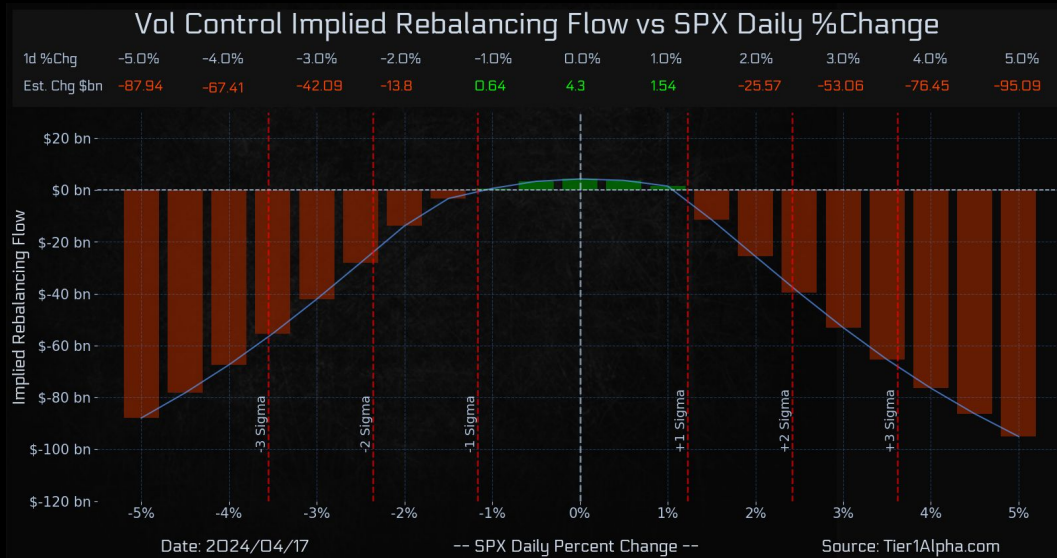


Date: 2024/04/17

Source: Tier1Alpha.com

SPX Realized Vol Data In Sample for 2024-04-18

| Dropoff | 1m Dates | 1m Drop % | 3m Dates | 3m Drop % |
|---------|------------|-----------|------------|-----------|
| T+1 | 2024-03-20 | 0.9% | 2024-01-19 | 1.2% |
| T+2 | 2024-03-21 | 0.3% | 2024-01-22 | 0.2% |
| T+3 | 2024-03-22 | -0.1% | 2024-01-23 | 0.3% |
| T+4 | 2024-03-25 | -0.3% | 2024-01-24 | 0.1% |
| T+5 | 2024-03-26 | -0.3% | 2024-01-25 | 0.5% |
| T+6 | 2024-03-27 | 0.9% | 2024-01-26 | -0.1% |
| T+7 | 2024-03-28 | 0.1% | 2024-01-29 | 0.8% |
| T+8 | 2024-04-01 | -0.2% | 2024-01-30 | -0.1% |
| T+9 | 2024-04-02 | -0.7% | 2024-01-31 | -1.6% |
| T+10 | 2024-04-03 | 0.1% | 2024-02-01 | 1.2% |

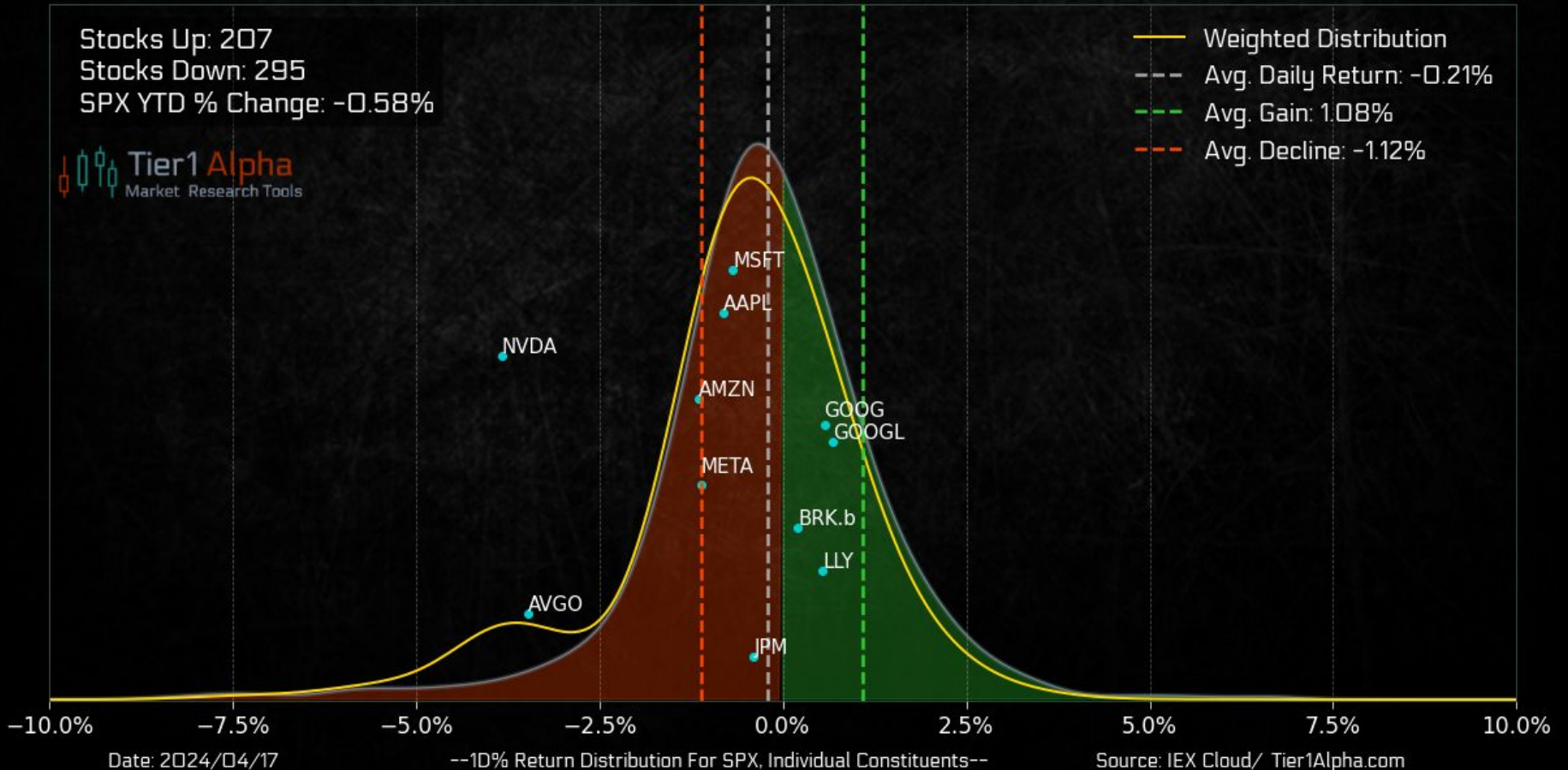


S&P 500 MBAD Indicator for 2024/04/17

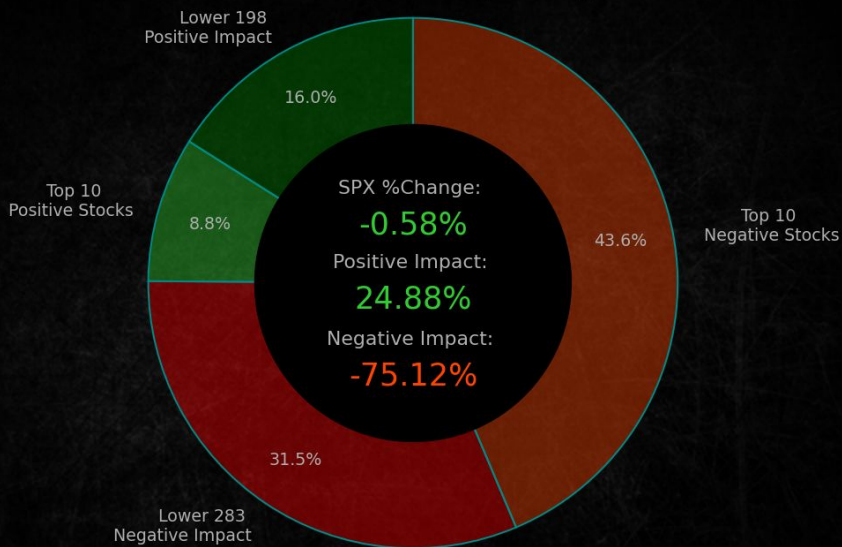
Stocks Up: 207
Stocks Down: 295
SPX YTD % Change: -0.58%



- Weighted Distribution
- - - Avg. Daily Return: -0.21%
- - - Avg. Gain: 1.08%
- - - Avg. Decline: -1.12%



SPX Constituents Relative Impact By Market Cap



Date: 2024/04/17

Source: Tier1Alpha.com

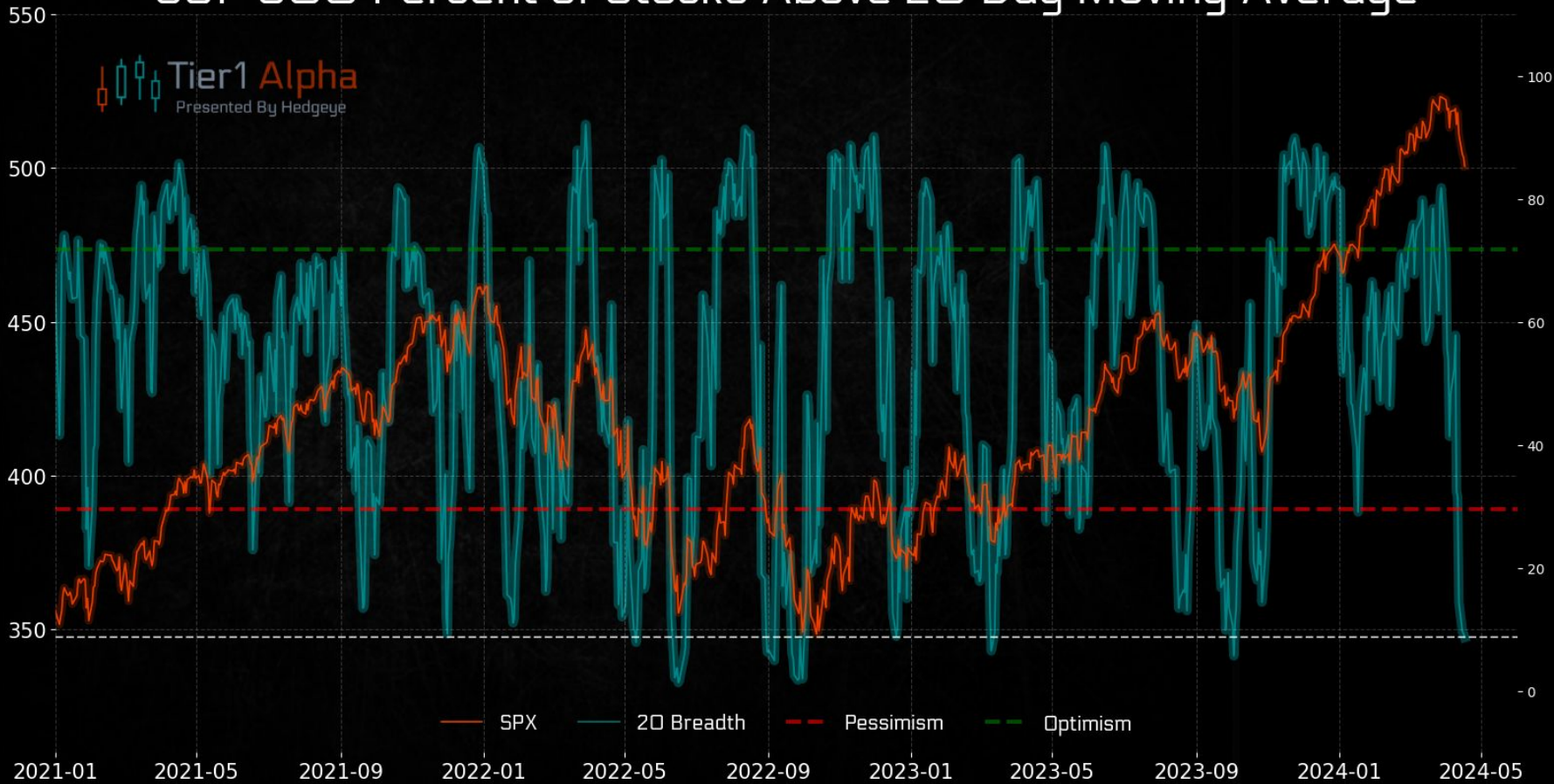
SPX Constituents Relative Impact By Market Cap

Largest Positive Impact

Largest Negative Impact

| Top Contributor | Daily %Return | Positive Impact | % Weight | Top Detractor | Daily %Return.1 | Negative Impact | % Weight.1 |
|-----------------|---------------|-----------------|----------|---------------|-----------------|-----------------|------------|
| UNH | 2.2% | 1.8% | 0.97% | NVDA | -3.9% | -17.0% | 5.0% |
| GOOGL | 0.7% | 1.3% | 2.15% | AAPL | -0.8% | -4.2% | 5.9% |
| GOOG | 0.6% | 0.9% | 1.82% | MSFT | -0.7% | -4.2% | 7.23% |
| NEE | 3.4% | 0.9% | 0.3% | AVGO | -3.5% | -4.2% | 1.36% |
| BAC | 1.6% | 0.8% | 0.58% | AMZN | -1.1% | -3.9% | 3.95% |
| MCD | 1.7% | 0.7% | 0.45% | AMD | -5.8% | -3.1% | 0.61% |
| LLY | 0.5% | 0.7% | 1.41% | META | -1.1% | -2.5% | 2.59% |
| ABBV | 1.1% | 0.6% | 0.67% | AMAT | -4.6% | -1.6% | 0.4% |
| WFC | 1.4% | 0.6% | 0.48% | PLD | -7.2% | -1.6% | 0.25% |
| PEP | 1.2% | 0.6% | 0.54% | LRCX | -5.3% | -1.3% | 0.29% |

S&P 500 Percent of Stocks Above 20 Day Moving Average



Date: 2024/04/17

Source: IEX Cloud/ Tier1Alpha.com



Professional Insights For An Options Dominated World

Visit our website at: www.Tier1Alpha.com

Contact us at: info@tier1alpha.com

Disclaimer

This presentation, including the charts and related information contained herein, should not be construed as investment advice, a recommendation, or a solicitation or offer to buy or sell any securities. Past results do not guarantee future performance. Tier1 Alpha has relied on information from publicly available sources and has not confirmed the accuracy of such information. Presentation is made for information purposes only and does not necessarily reflect the current thinking of Tier1 Alpha. Before purchasing any securities, you should consult an investment professional as securities investments can involve a high degree of risk.