



Market Structure Report

04-23-2024

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Summary:

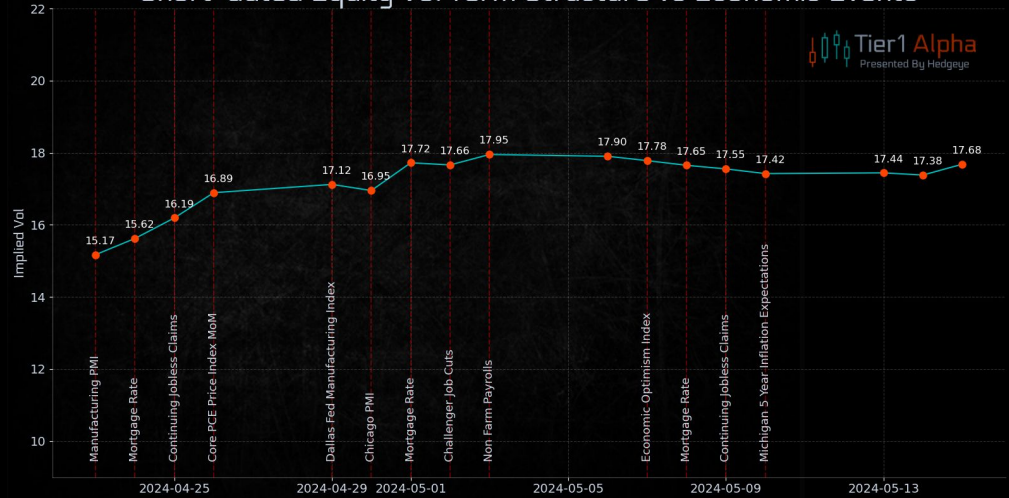
- Similar to last week, yesterday's volatility was primarily confined to the intraday price action, with a substantial high-to-low spread of 1.42%.
- From a structural standpoint, a significant number of investors also capitulated on their unprofitable weekend hedges, which enabled dealers to buy back their delta exposure.
- We suspect this likely contributed to the directional component of the move, as the rally was accompanied by both a collapse in skew and a modest decrease in Put premiums.
- However, dealers are still short a significant amount of gamma, so all else being equal, we'd expect the volatility to continue.
- Yesterday's trading range largely played out, as SPX stayed between the 4950 and 5050 strikes, with the 5000 level being the main attraction. We also began to see the slope of our PV bands flatten out, although the overall trend is still bearish.
- For today, we broadly expect to see the same levels in play, with some near-term consolation around the 5000 strike likely.
- It's crucial to note that our upper band is currently trading below the level where dealers would shift into positive gamma territory, suggesting that this higher volatility environment will continue until further notice.
- Although realized volatility has remained relatively subdued so far, the fact that dealers will be trapped in negative gamma suggests that these levels could begin to increase, potentially serving as the catalyst needed to spark more significant selling pressure from Systematic funds that use volatility as a toggle for their equity exposure.
- While conditions did modestly improve yesterday, this is still an extremely dangerous setup from a positioning standpoint, and the slightest misstep could trigger a cascade of selling, potentially sending the market into new lows.

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
2024-04-23	Manufacturing PMI	52.0	51.9	medium	15.12
2024-04-23	New Home Sales MoM	nan	-0.3	medium	15.12
2024-04-24	Mortgage Rate	nan	7.13	low	15.62
2024-04-24	Mortgage Applications	nan	3.3	low	15.62
2024-04-24	MBA Mortgage Refinance Index	nan	500.7	low	15.62
2024-04-24	MBA Purchase Index	nan	145.6	low	15.62
2024-04-24	Durable Goods Orders	2.5	1.3	high	15.62
2024-04-25	Continuing Jobless Claims	nan	1812.0	low	16.07
2024-04-25	GDP Growth Rate	2.5	3.4	high	16.07
2024-04-25	Initial Jobless Claims	215.0	212.0	medium	16.07
2024-04-26	Core PCE Price Index MoM	0.3	0.3	high	16.89
2024-04-26	Personal Income	0.5	0.3	high	16.89

Short-dated Equity Vol Term Structure vs Economic Events

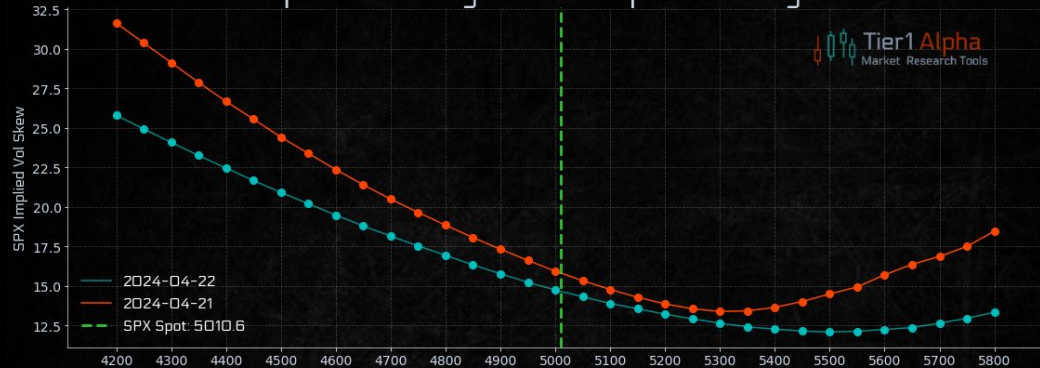


Date: 2024/04/22

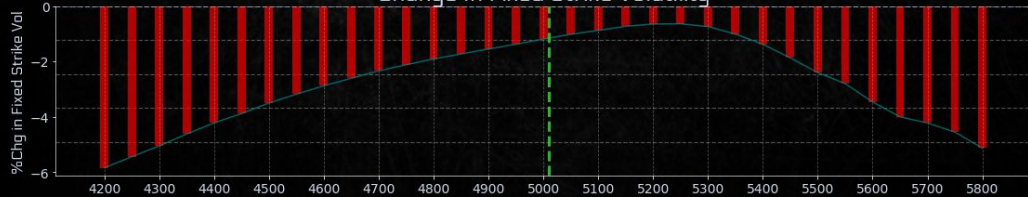
Source: Orats/Tier1Alpha.com



SPX Implied Volatility Skew -- OpEx: Fri May 17 2024



Change In Fixed Strike Volatility



Date: 2024/04/22

Source: Drats/ Tier1Alpha.com

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
4400.0	22.46	-4.22	22.3	-1.85	20.0	-1.23
4450.0	21.68	-3.88	21.62	-1.75	19.44	-1.15
4500.0	20.92	-3.5	20.96	-1.67	18.88	-1.1
4550.0	20.21	-3.18	20.31	-1.59	18.32	-1.04
4600.0	19.49	-2.88	19.69	-1.49	17.8	-0.97
4650.0	18.8	-2.61	19.07	-1.41	17.28	-0.91
4700.0	18.16	-2.34	18.46	-1.36	16.78	-0.85
4750.0	17.54	-2.12	17.88	-1.28	16.3	-0.8
4800.0	16.94	-1.91	17.29	-1.23	15.83	-0.76
4850.0	16.34	-1.73	16.74	-1.17	15.39	-0.72
4900.0	15.78	-1.55	16.23	-1.1	14.97	-0.69
4950.0	15.24	-1.38	15.72	-1.04	14.6	-0.65
5000.0	14.75	-1.19	15.23	-0.99	14.23	-0.62
5050.0	14.32	-1.02	14.78	-0.94	13.89	-0.59
5100.0	13.9	-0.88	14.38	-0.88	13.58	-0.57
5150.0	13.56	-0.73	14.0	-0.82	13.3	-0.56
5200.0	13.22	-0.65	13.65	-0.77	13.05	-0.53
5250.0	12.92	-0.64	13.33	-0.74	12.82	-0.54
5300.0	12.65	-0.74	13.07	-0.68	12.63	-0.53
5350.0	12.42	-1.01	12.82	-0.65	12.45	-0.52
5400.0	12.27	-1.38	12.6	-0.62	12.31	-0.55
5450.0	12.15	-1.87	12.41	-0.62	12.2	-0.55
5500.0	12.1	-2.4	12.28	-0.61	12.12	-0.56
5550.0	12.14	-2.8	12.17	-0.68	12.09	-0.59
5600.0	12.25	-3.46	12.09	-0.74	12.06	-0.63
5650.0	12.37	-4.0	12.04	-0.85	12.1	-0.67
5700.0	12.65	-4.22	12.06	-0.94	12.17	-0.75

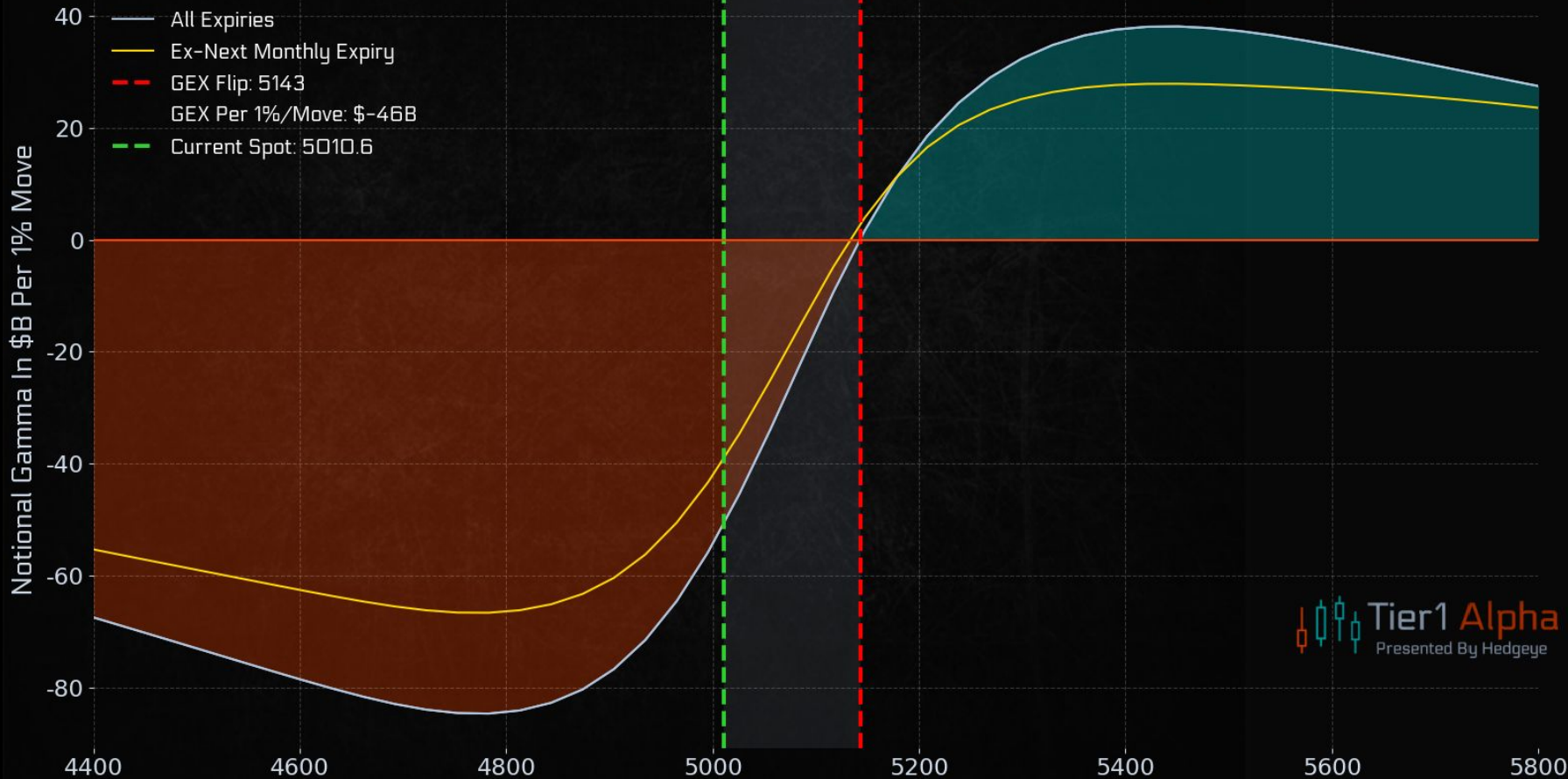
SPX Probable Volatility & Put/Call Gamma By Strike, Weighted Expirations



Date: 2024/04/22

Source: Intrinio/Tier1Alpha.com

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



Date: 2024/04/22

Source: Tier1Alpha.com

 Tier1 Alpha
Presented By Hedgeye

SPX Total Gamma Exposure By Strike -- Weighted Expirations



Date: 2024/04/22

Source: Intrinsic/Tier1Alpha.com

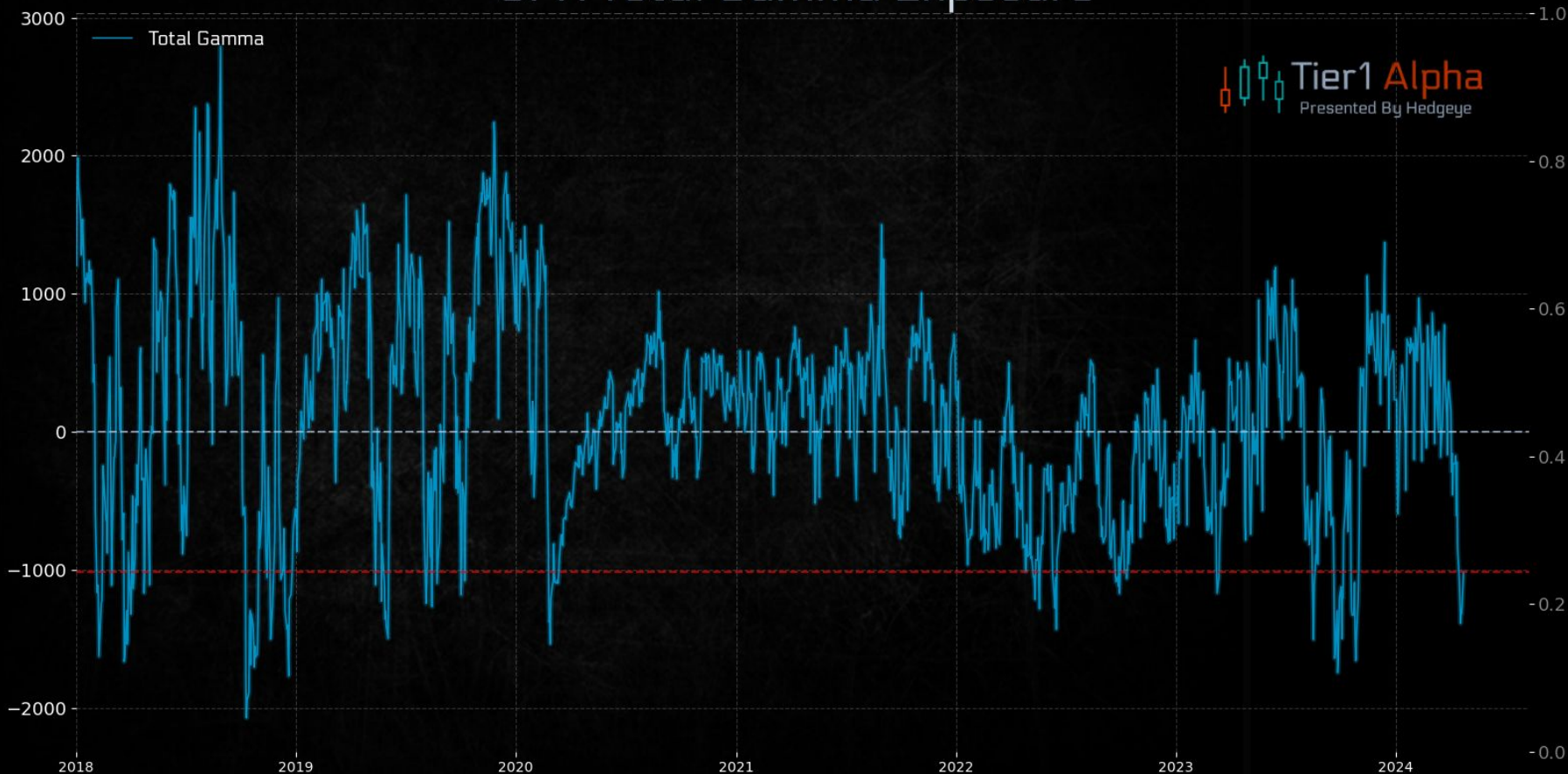
Systematic Positioning Index Vs. SPX



Date: 2024/04/22

Source: Tier1Alpha.com

SPX Total Gamma Exposure



Tier1 Alpha
Presented By Hedgeye

Date: 2024/04/22

Source: Tier1Alpha.com

SPX Dealer Gamma Exposure By Regime



Tier1 Alpha
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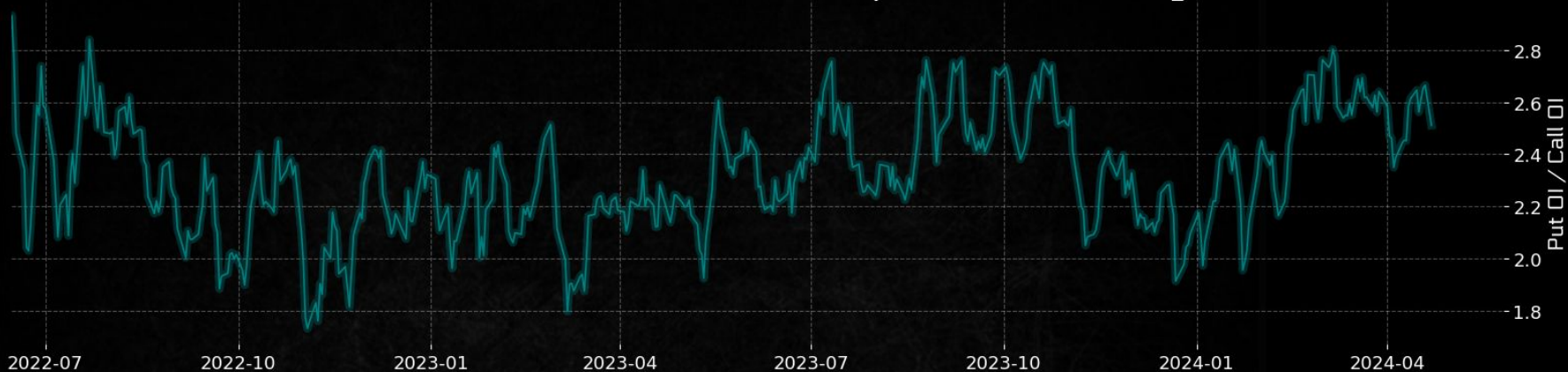
Date: 2024/04/22

Source: Tier1Alpha.com

S&P 500 Post-OpEx Week Returns by Month and Year (2018-Present)

	2018	2019	2020	2021	2022	2023	2024	Monthly Average
January	2.23%	-1.01%	-2.58%	2.31%	-1.36%	4.14%	1.06%	0.68%
February	1.73%	0.74%	-11.49%	-2.45%	0.58%	-2.37%	1.28%	-1.71%
March	-5.95%	-0.77%	10.26%	1.57%	1.79%	1.39%	2.29%	1.51%
April	-0.01%	0.89%	-1.32%	-0.13%	-1.19%	0.87%	nan%	-0.15%
May	0.31%	-1.17%	3.2%	1.16%	6.58%	0.32%	nan%	1.73%
June	-0.89%	-0.29%	-2.86%	2.74%	6.68%	-1.75%	nan%	0.6%
July	0.61%	1.65%	-0.28%	1.96%	2.55%	1.01%	nan%	1.25%
August	0.86%	-1.44%	3.26%	1.52%	-4.04%	0.82%	nan%	0.17%
September	-0.54%	-1.01%	-0.63%	0.51%	-4.65%	-2.93%	nan%	-1.54%
October	-3.94%	1.22%	-0.53%	1.64%	3.95%	-2.53%	nan%	-0.03%
November	-2.3%	-0.33%	1.8%	-0.91%	-0.04%	0.81%	nan%	-0.16%
December	3.73%	0.0%	0.7%	3.69%	-0.2%	0.75%	nan%	1.45%
Annual Average	-0.35%	-0.13%	-0.04%	1.14%	0.89%	0.04%	1.54%	nan%

SPX+SPXW ODTE Put/Call Ratio Open Interest 5d Avg.



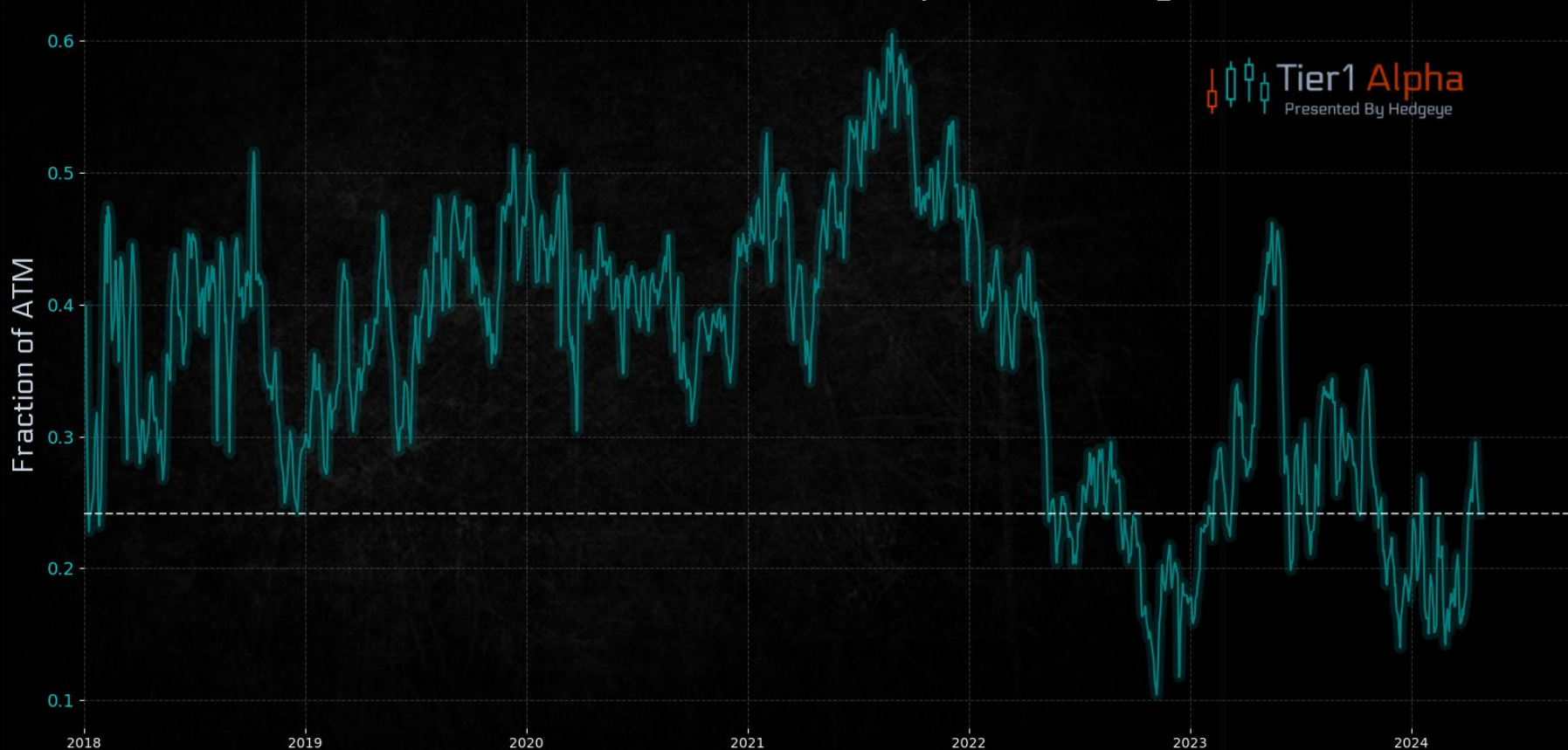
SPX+SPXW ODTE Put/Call Ratio Volume 5d Avg.



Date: 2024/04/22

Source: Intrinio/Tier1Alpha.com

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

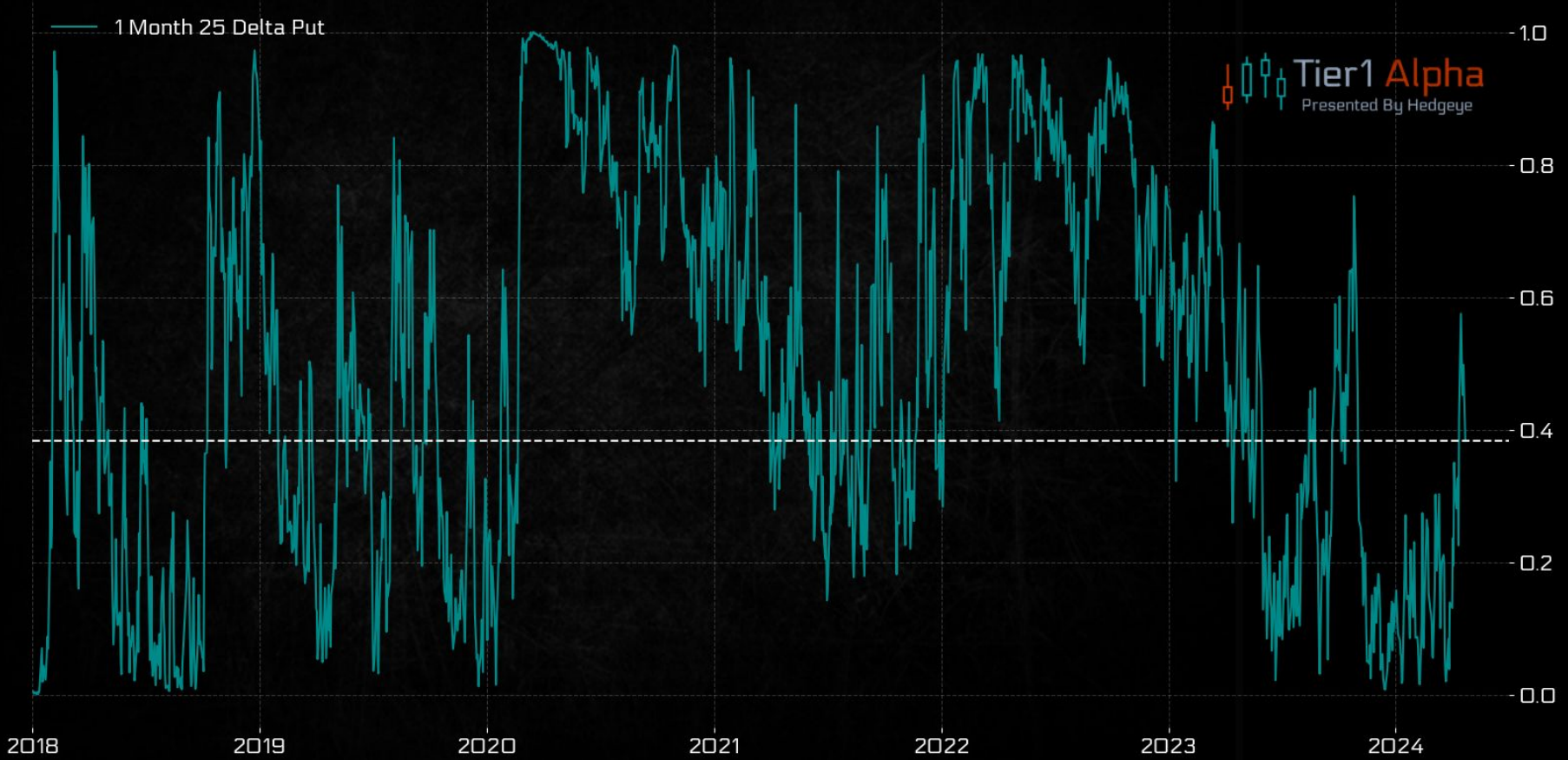


Tier1 Alpha
Presented By Hedgeye

Date: 2024/04/22

Source: Tier1Alpha.com

Rolling Cost of 1 Month 25 Delta Put Options Percentile Rank



Tier1 Alpha
Presented By Hedgeye

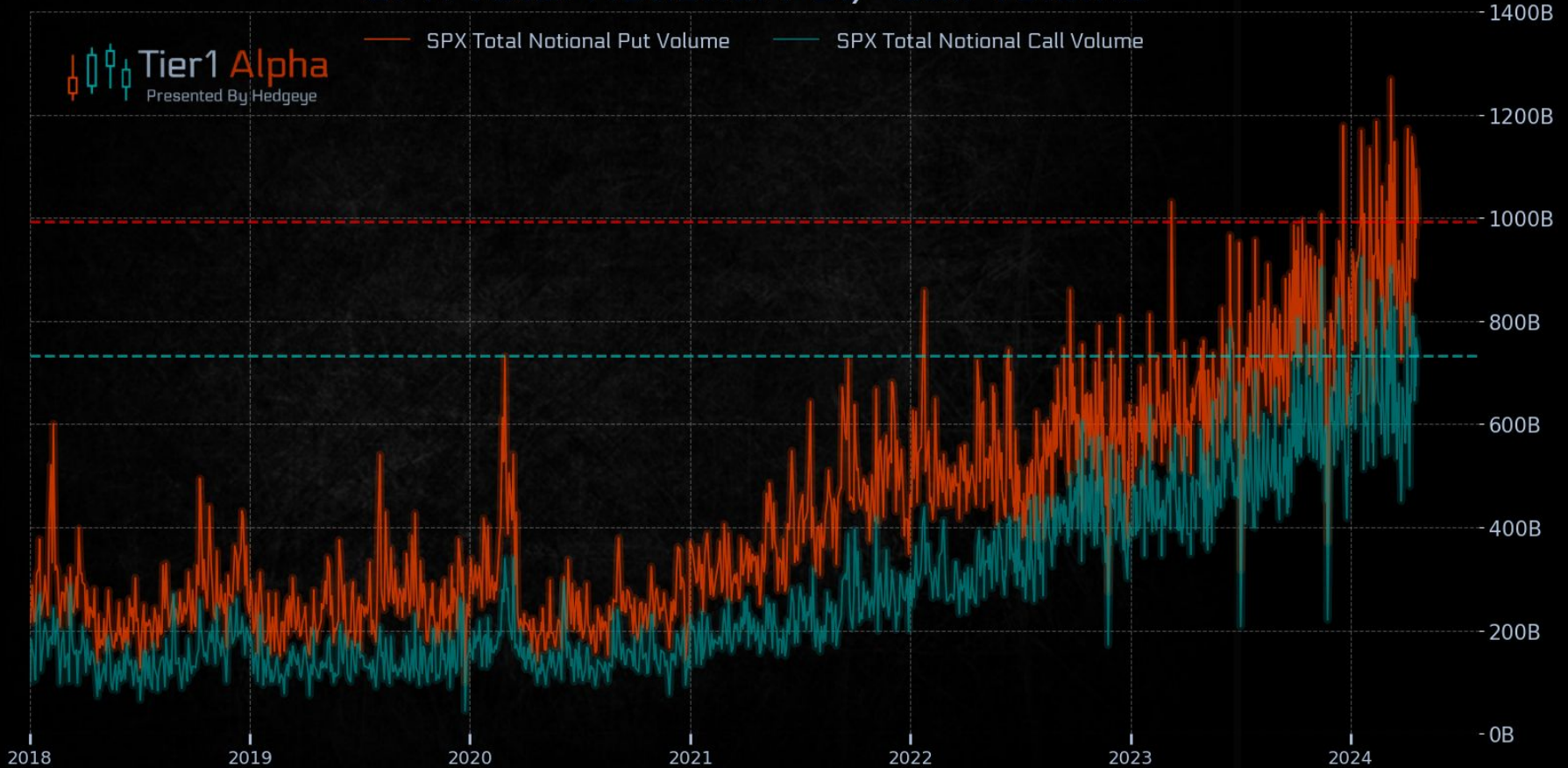
Date: 2024/04/22

Source: Tier1Alpha.com

SPX Total Notional Put/Call Volume

 Tier1 Alpha
Presented By Hedgeye

— SPX Total Notional Put Volume — SPX Total Notional Call Volume

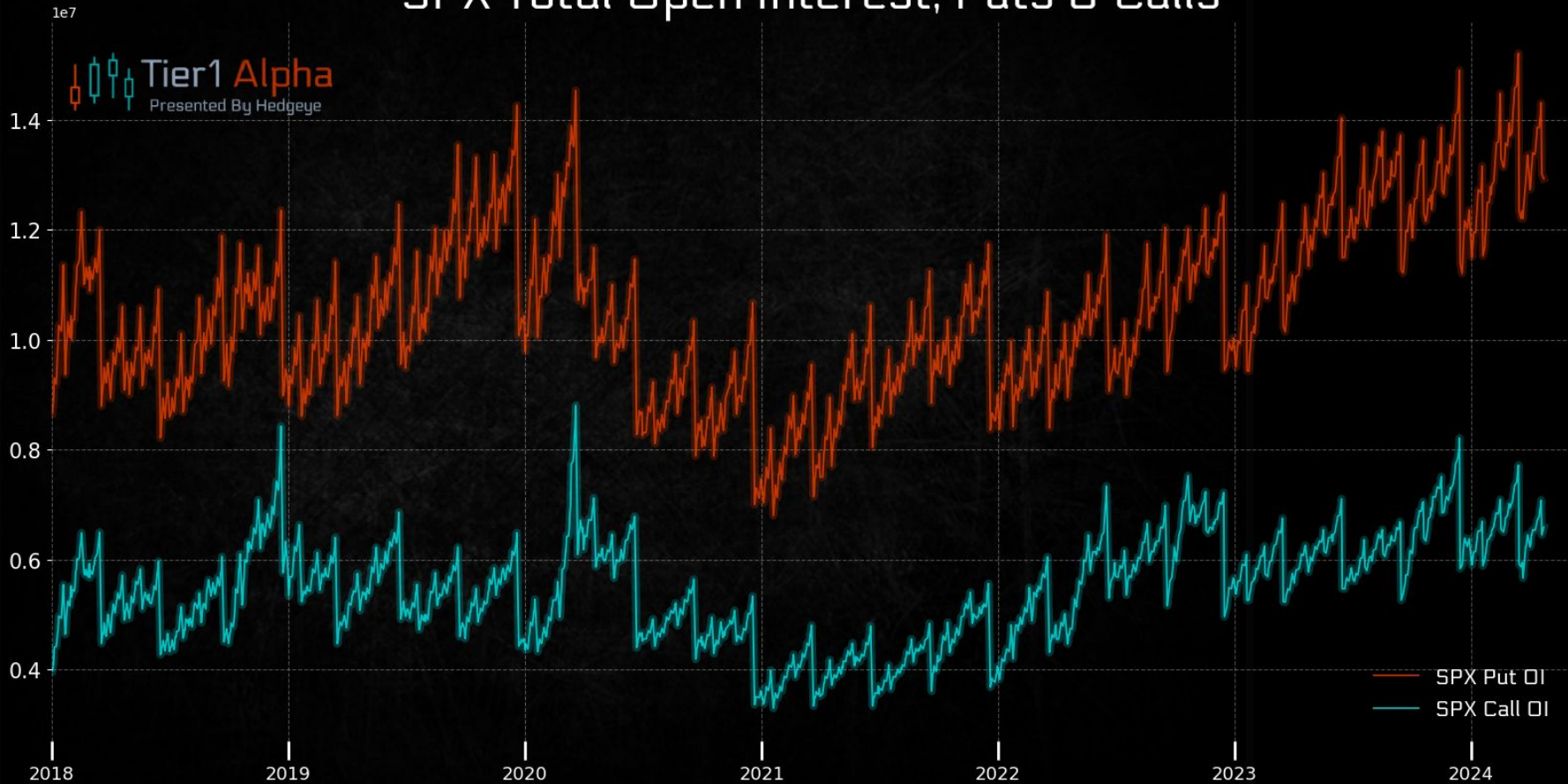


Date: 2024/04/23

*Not Investment Advice

Source: Tier1Alpha.com

SPX Total Open Interest, Puts & Calls



Date: 2024/04/23

Source: Tier1Alpha.com

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

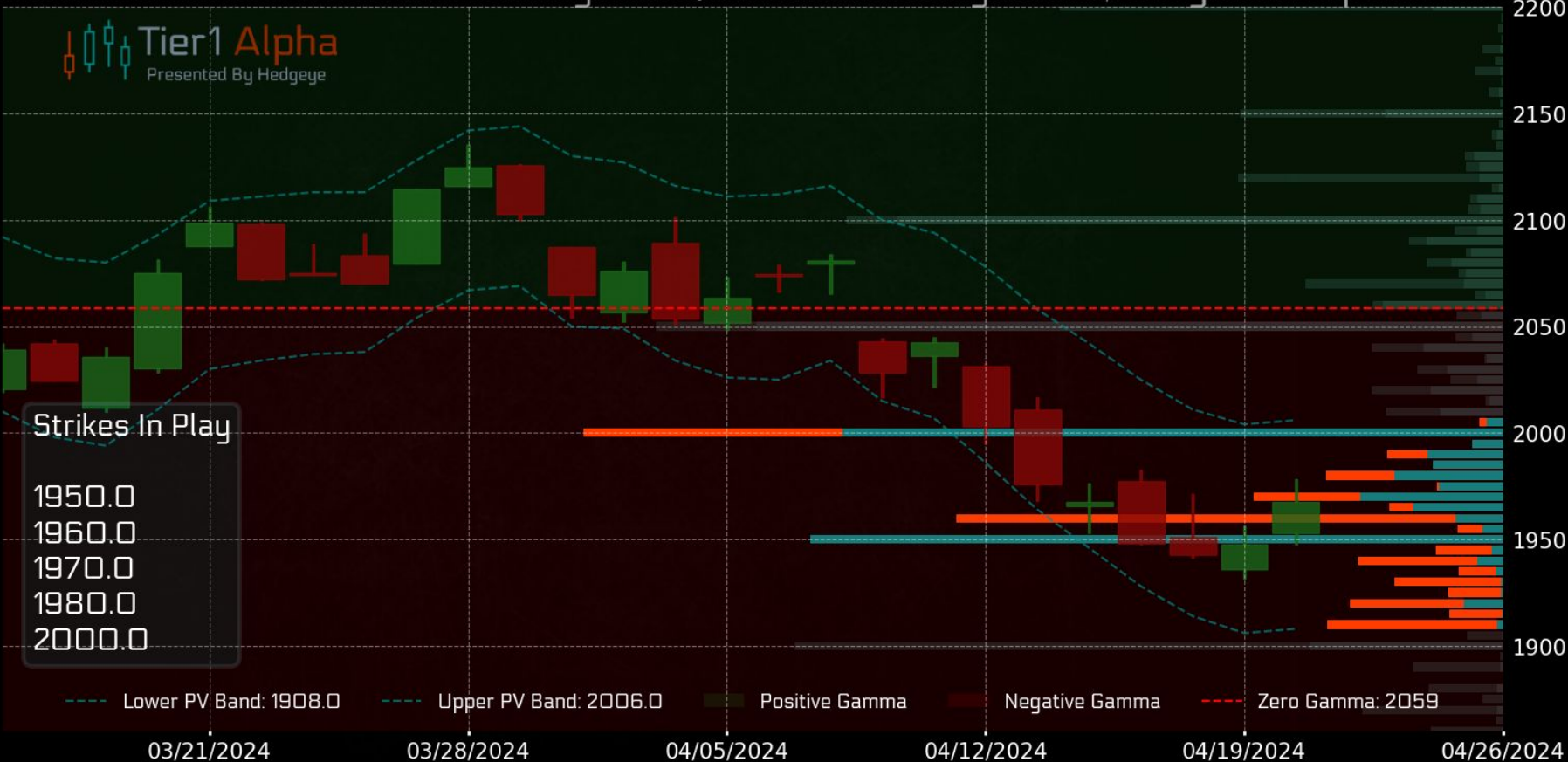


Date: 2024/04/22

Source: Intrinio/ Tier1Alpha.com

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

Tier1 Alpha
Presented By Hedgeye



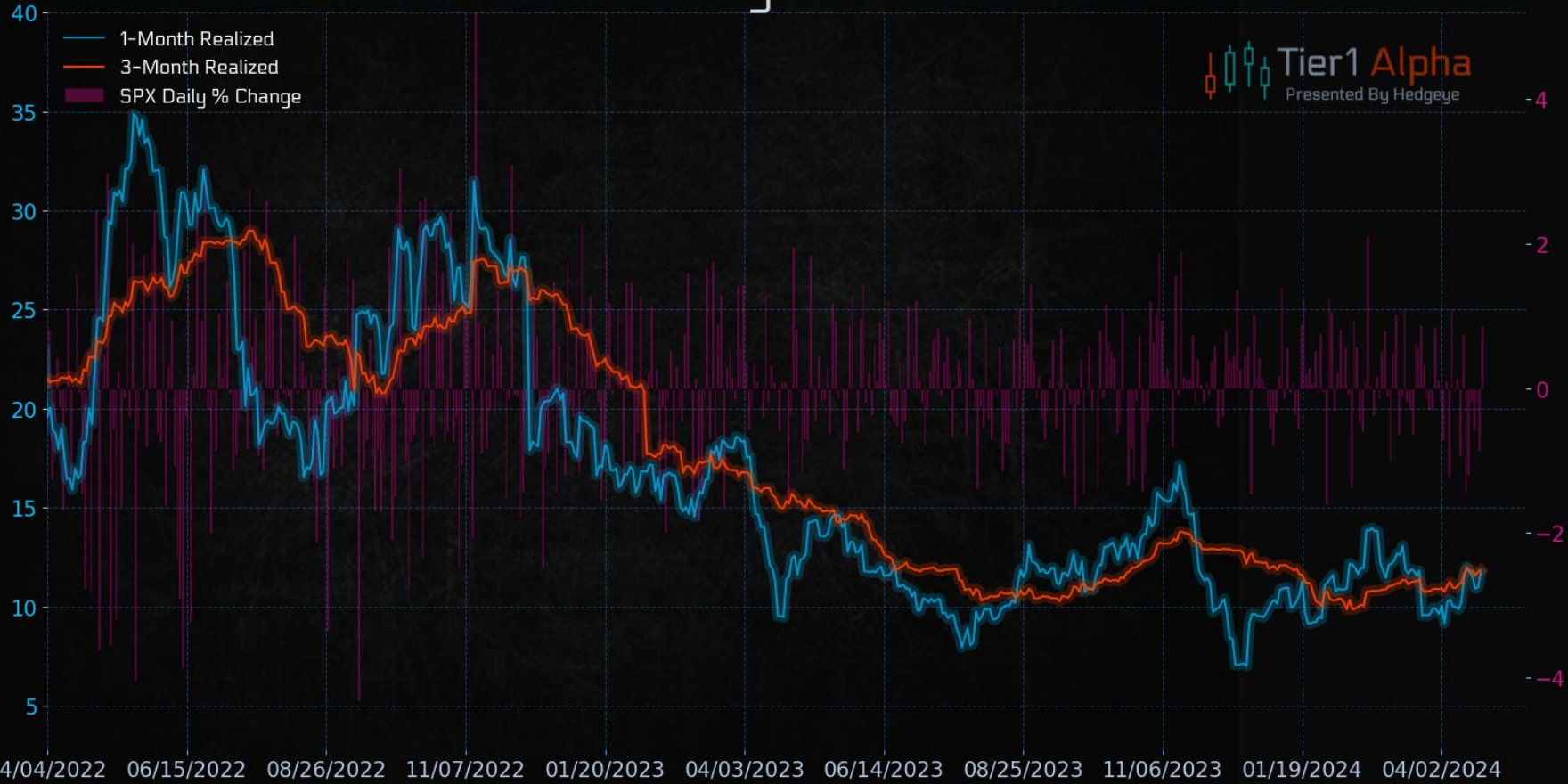
Strikes In Play

- 1950.0
- 1960.0
- 1970.0
- 1980.0
- 2000.0

Date: 2024/04/22

Source: Intrinio/ Tier1Alpha.com

SPX Realized Volatility -- 1 Month vs 3 Month



Tier1 Alpha
Presented By Hedgeye

Date: 2024/04/22

Source: Tier1Alpha.com

Vol Control Implied Notional Flows

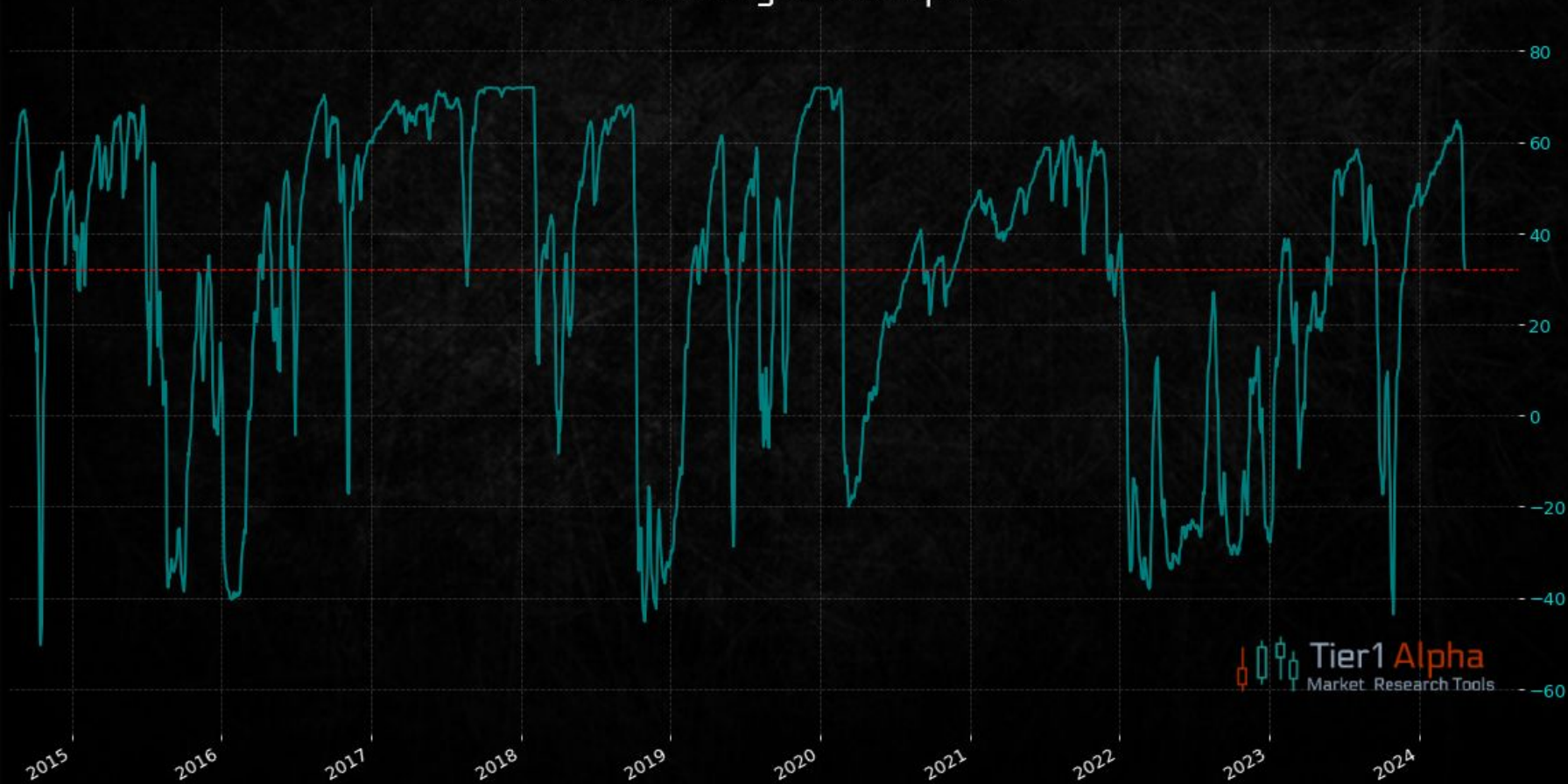
Tier1 Alpha
Presented By Hedgeye



Date: 2024/04/22

Source: Tier1Alpha.com

CTA Positioning in US Equities



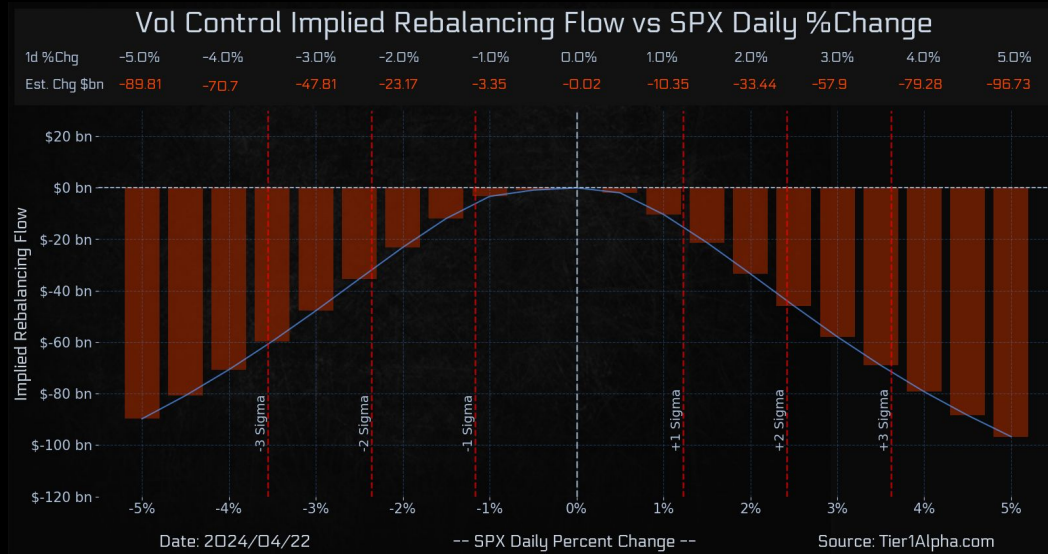
Date: 2024/04/22

Source: Tier1Alpha.com

 Tier1 Alpha
Market Research Tools

SPX Realized Vol Data In Sample for 2024-04-23

Dropoff	1m Dates	1m Drop %	3m Dates	3m Drop %
T+1	2024-03-25	-0.3%	2024-01-24	0.1%
T+2	2024-03-26	-0.3%	2024-01-25	0.5%
T+3	2024-03-27	0.9%	2024-01-26	-0.1%
T+4	2024-03-28	0.1%	2024-01-29	0.8%
T+5	2024-04-01	-0.2%	2024-01-30	-0.1%
T+6	2024-04-02	-0.7%	2024-01-31	-1.6%
T+7	2024-04-03	0.1%	2024-02-01	1.2%
T+8	2024-04-04	-1.2%	2024-02-02	1.1%
T+9	2024-04-05	1.1%	2024-02-05	-0.3%
T+10	2024-04-08	-0.0%	2024-02-06	0.2%



S&P 500 MBAD Indicator for 2024/04/22

Stocks Up: 416
Stocks Down: 86
SPX YTD % Change: 0.87%



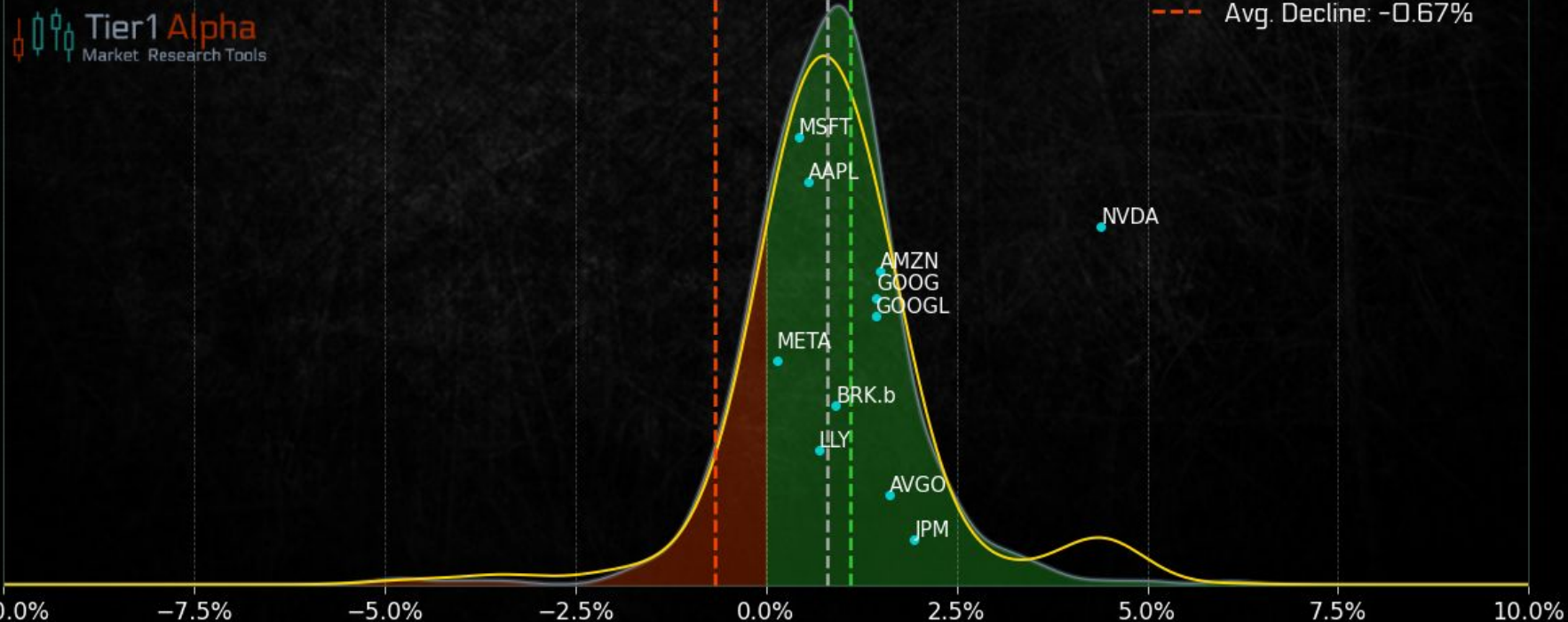
- Weighted Distribution
- - - Avg. Daily Return: 0.8%
- - - Avg. Gain: 1.1%
- - - Avg. Decline: -0.67%

-10.0% -7.5% -5.0% -2.5% 0.0% 2.5% 5.0% 7.5% 10.0%

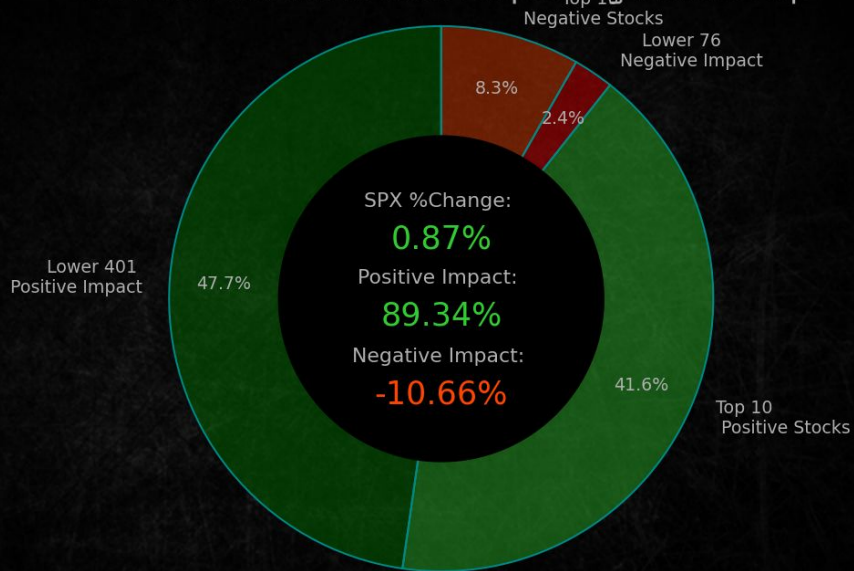
Date: 2024/04/22

--10% Return Distribution For SPX, Individual Constituents--

Source: IEX Cloud/ Tier1Alpha.com



SPX Constituents Relative Impact By Market Cap



Date: 2024/04/22

Source: Tier1Alpha.com

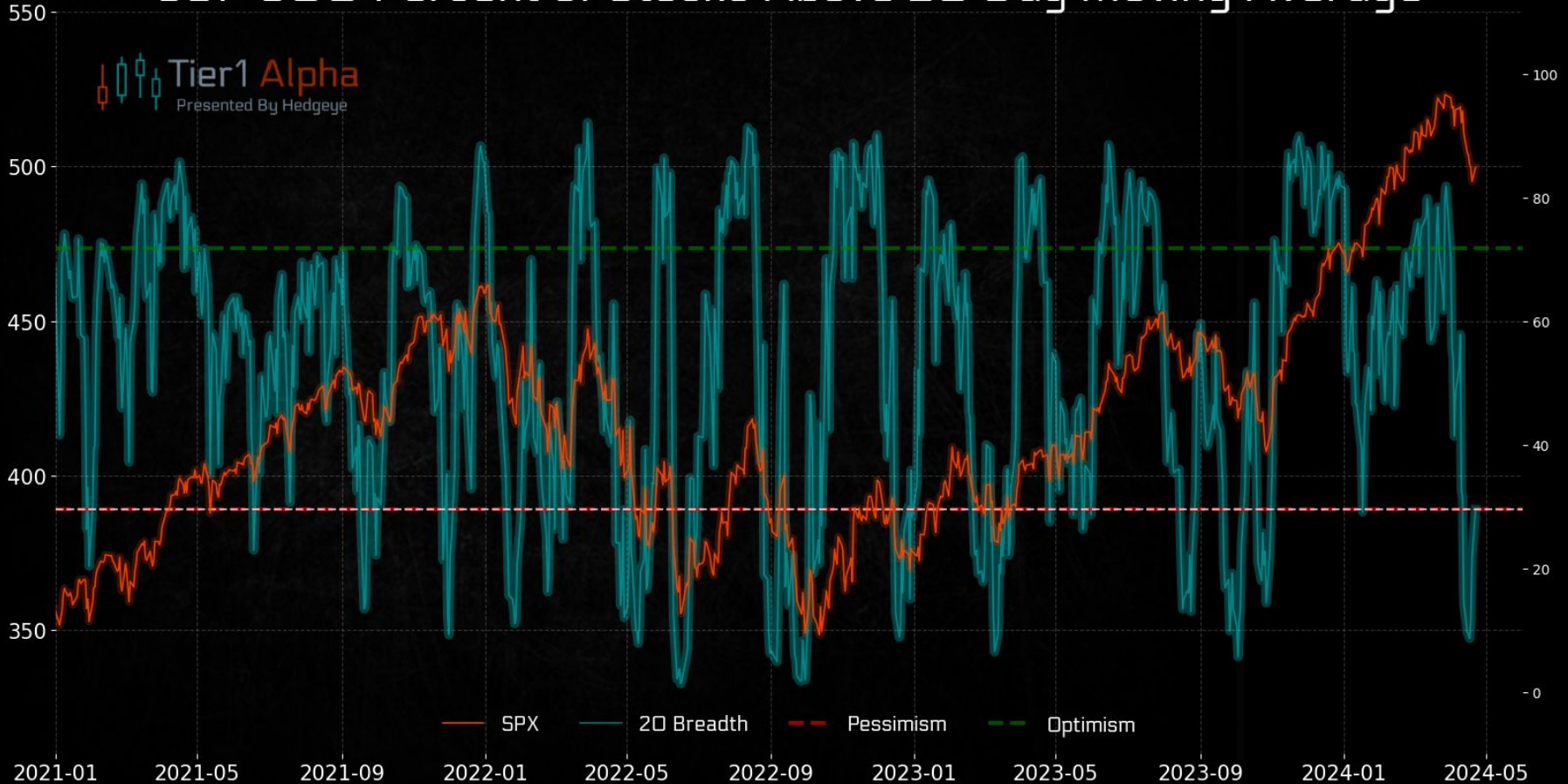
SPX Constituents Relative Impact By Market Cap

Largest Positive Impact

Largest Negative Impact

Top Contributor	Daily %Return	Positive Impact	% Weight	Top Detractor	Daily %Return.1	Negative Impact	% Weight.1
NVDA	4.4%	19.3%	4.97%	TSLA	-3.4%	-3.0%	0.99%
AMZN	1.5%	5.1%	3.89%	UNH	-2.0%	-1.9%	1.08%
AAPL	0.6%	2.8%	5.76%	VZ	-4.7%	-1.6%	0.4%
GOOGL	1.4%	2.8%	2.19%	NEM	-4.0%	-0.4%	0.11%
MSFT	0.4%	2.7%	7.14%	T	-1.2%	-0.3%	0.28%
GOOG	1.4%	2.3%	1.85%	CAH	-5.0%	-0.3%	0.06%
JPM	1.9%	2.1%	1.24%	DIS	-0.6%	-0.2%	0.49%
AVGO	1.6%	1.9%	1.32%	PGR	-0.8%	-0.2%	0.29%
BRK.B	0.9%	1.4%	1.73%	FCX	-1.3%	-0.2%	0.17%
PG	1.5%	1.2%	0.88%	CSCO	-0.4%	-0.2%	0.46%

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



Date: 2024/04/22

Source: IEX Cloud/ Tier1Alpha.com



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