



Market Structure Report

04-22-2024

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:

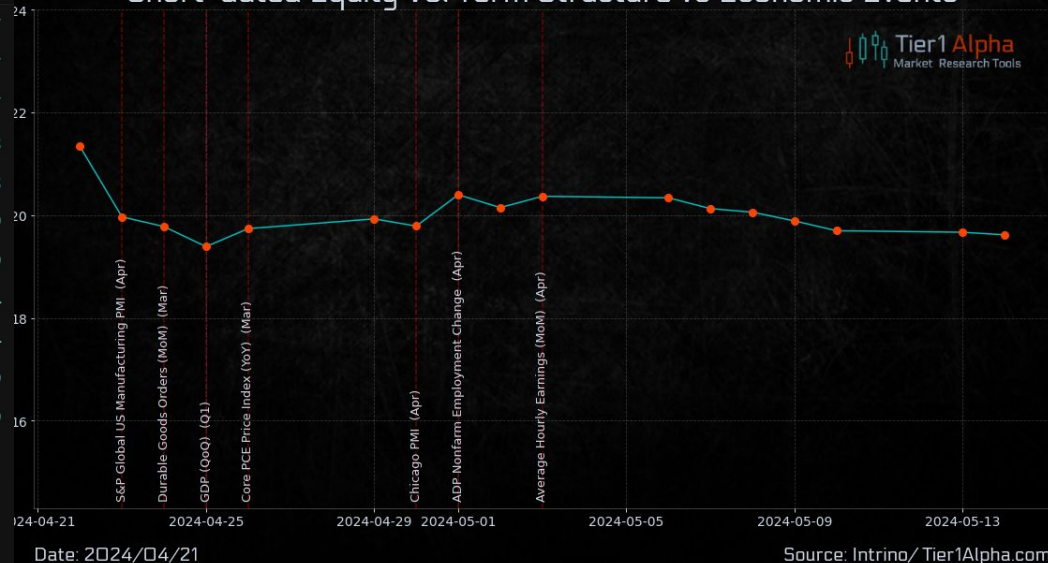
- After last Friday's monthly options expiration, we saw a significant amount of dealer gamma removed from the market. However, market makers are still broadly short gamma, which suggests that higher volatility should be expected in the near term. Last week, we saw most of this volatility contained to both the intraday and after-hours price action, while the close-to-close volatility remained flatter than we had expected.
- From a broader positioning standpoint, that was actually a more favorable outcome because systematic strategies typically rely on realized volatility as their toggle for equity exposure. Outside of CTA funds, that means there was less selling taking place in the background, which likely helped prevent the recent weakness in SPX from turning into a more significant event.
- In fact, if you look at our MBAD indicator below, you'll notice that last Friday's decline was really just driven by a handful of stocks, while the broader index was strong. This is NOT the type of breadth typically observed during a systematic deleveraging event, where widespread selling occurs as money rapidly flows out of S&P 500-linked products, like futures and ETFs.
- For today, there remains limited room towards the downside with our lower band suggesting support around the 4930 strike. However, even after last Friday's expiration, the 5000 strike remains the key level to watch, as we view the more tactical trading range as lying between the 4950 and 5050 strikes, which represents a spread of approximately 2%.
- Given that SPX has had a negative print for six consecutive days, we're biased for near-term strength, as longer stretches have been quite rare. In fact, over the past 30 years, there have only been seven instances where the index has posted negative returns for more than six days in a row, with the last occurrence taking place in 2020.
- Despite the weak close, breadth was strong last Friday as over 67% of the SPX was in the green. However, even with an average gain of 1.2%, it still wasn't enough to balance out the weakness in mega tech stocks, which is what ultimately drove the index lower. In total, just ten companies were responsible for nearly 55% of the negative momentum, with Nvidia's notable 10% decline accounting for almost half of that impact.

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

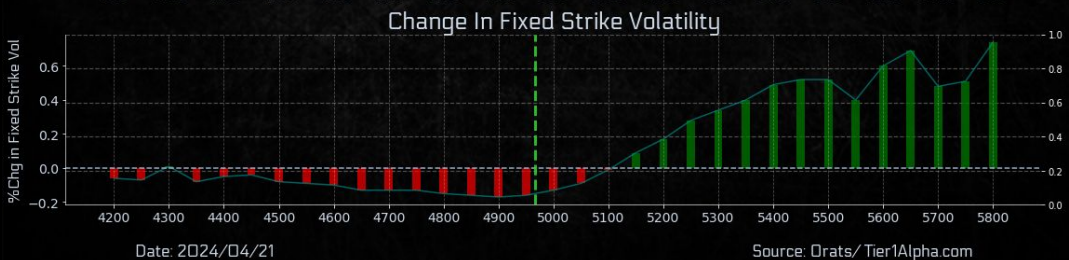
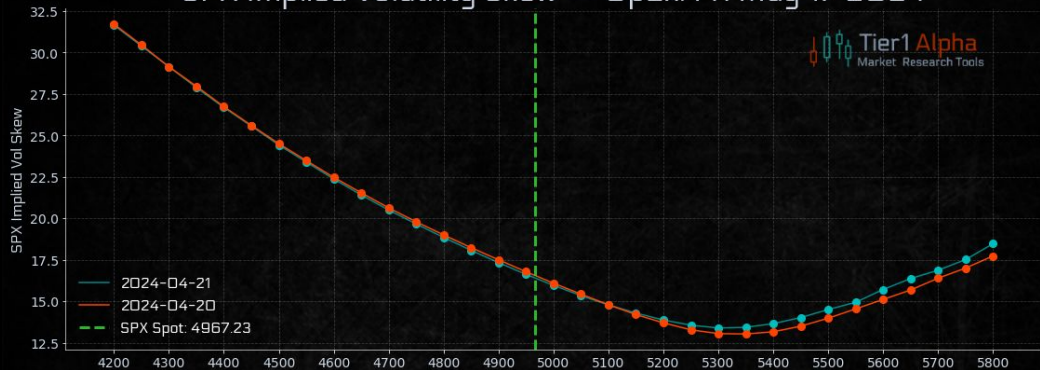
Economic Event Calendar

Date	Event	Estimate	Previous	Impact	SPX IV
2024-04-23	S&P Global US Manufacturing PMI (Apr)	nan	51.9	High	19.97
2024-04-23	S&P Global Services PMI (Apr)	nan	51.7	High	19.97
2024-04-23	New Home Sales (Mar)	nan	662K	High	19.97
2024-04-24	Durable Goods Orders (MoM) (Mar)	nan	1.3%	High	19.78
2024-04-24	Crude Oil Inventories	nan	2.735M	High	19.78
2024-04-25	GDP (QoQ) (Q1)	nan	3.4%	High	19.39
2024-04-25	Initial Jobless Claims	nan	212K	High	19.39
2024-04-26	Core PCE Price Index (MoM) (Mar)	nan	0.3%	High	19.74
2024-04-26	Core PCE Price Index (YoY) (Mar)	nan	2.8%	High	19.74
2024-04-30	Chicago PMI (Apr)	nan	41.4	High	19.79
2024-04-30	CB Consumer Confidence (Apr)	nan	104.7	High	19.79
2024-05-01	ADP Nonfarm Employment Change (Apr)	nan	184K	High	20.4
2024-05-01	S&P Global US Manufacturing PMI (Apr)	nan	nan	High	20.4
2024-05-01	ISM Manufacturing PMI (Apr)	nan	50.3	High	20.4
2024-05-01	ISM Manufacturing Prices (Apr)	nan	55.8	High	20.4

Short-dated Equity Vol Term Structure vs Economic Events



SPX Implied Volatility Skew -- OpEx: Fri May 17 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
4700.0	20.5	-0.13	19.82	-0.15	17.63	-0.08
4750.0	19.66	-0.13	19.16	-0.15	17.1	-0.05
4800.0	18.85	-0.15	18.52	-0.16	16.59	-0.03
4850.0	18.07	-0.16	17.91	-0.13	16.11	0.01
4900.0	17.33	-0.17	17.33	-0.11	15.67	0.05
4950.0	16.62	-0.16	16.76	-0.07	15.25	0.1
5000.0	15.96	-0.13	16.22	-0.03	14.85	0.14
5050.0	15.34	-0.09	15.73	0.02	14.48	0.19
5100.0	14.78	-0.01	15.26	0.07	14.15	0.25
5150.0	14.29	0.09	14.82	0.12	13.86	0.31
5200.0	13.87	0.17	14.42	0.2	13.58	0.35
5250.0	13.56	0.28	14.07	0.27	13.36	0.4
5300.0	13.39	0.34	13.75	0.33	13.16	0.43
5350.0	13.43	0.4	13.47	0.38	12.97	0.44
5400.0	13.65	0.49	13.22	0.42	12.86	0.48
5450.0	14.02	0.52	13.03	0.44	12.75	0.47
5500.0	14.5	0.52	12.89	0.45	12.68	0.44
5550.0	14.94	0.4	12.85	0.48	12.68	0.43
5600.0	15.71	0.6	12.83	0.47	12.69	0.41
5650.0	16.37	0.69	12.89	0.44	12.77	0.39
5700.0	16.87	0.48	13.0	0.41	12.92	0.42

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

Tier1 Alpha
Market Research Tools

Strikes In Play

4950.0
4975.0
5000.0
5050.0
5100.0



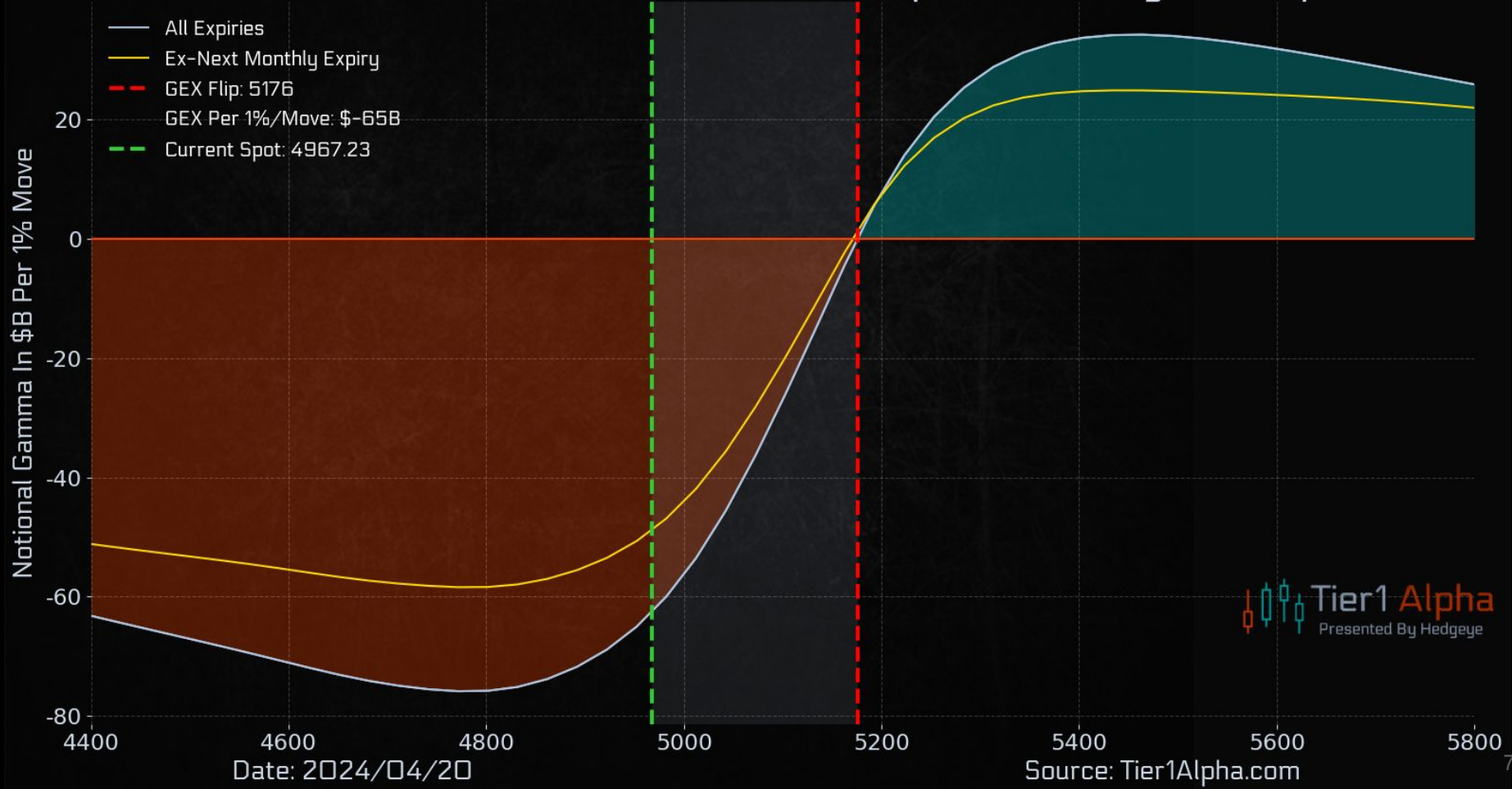
Positive Gamma Negative Gamma Zero Gamma: 5176 Lower PV Band: 4930.0 Upper PV Band: 5106.0

03/21/2024 03/28/2024 04/05/2024 04/12/2024 04/19/2024 04/26/2024

Date: 2024/04/21

Source: Intrinio/ Tier1Alpha.com

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



SPX Total Gamma Exposure By Strike -- Weighted Expirations



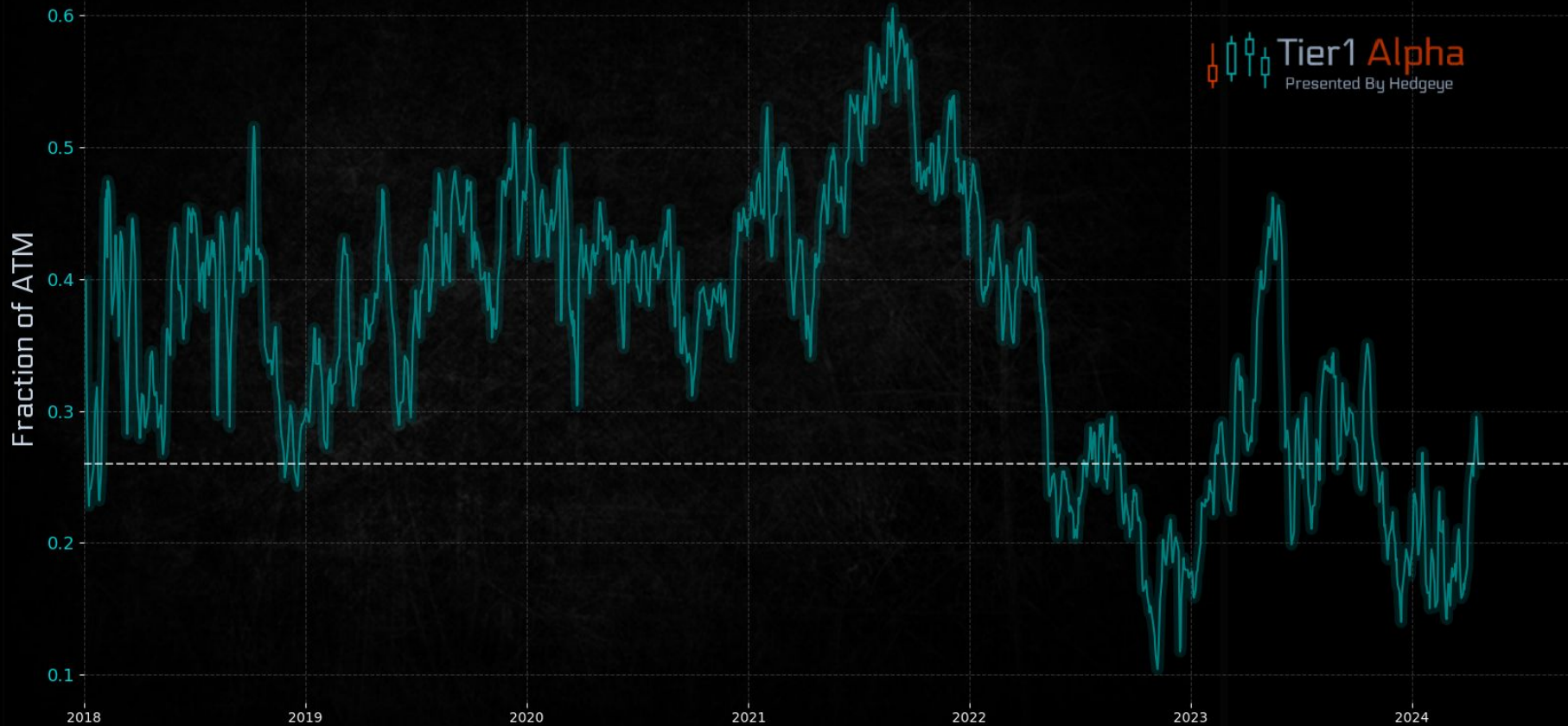
Date: 2024/04/20

Source: Intrinio/ Tier1Alpha.com

Consecutive Negative Closing Days Streaks for S&P 500



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

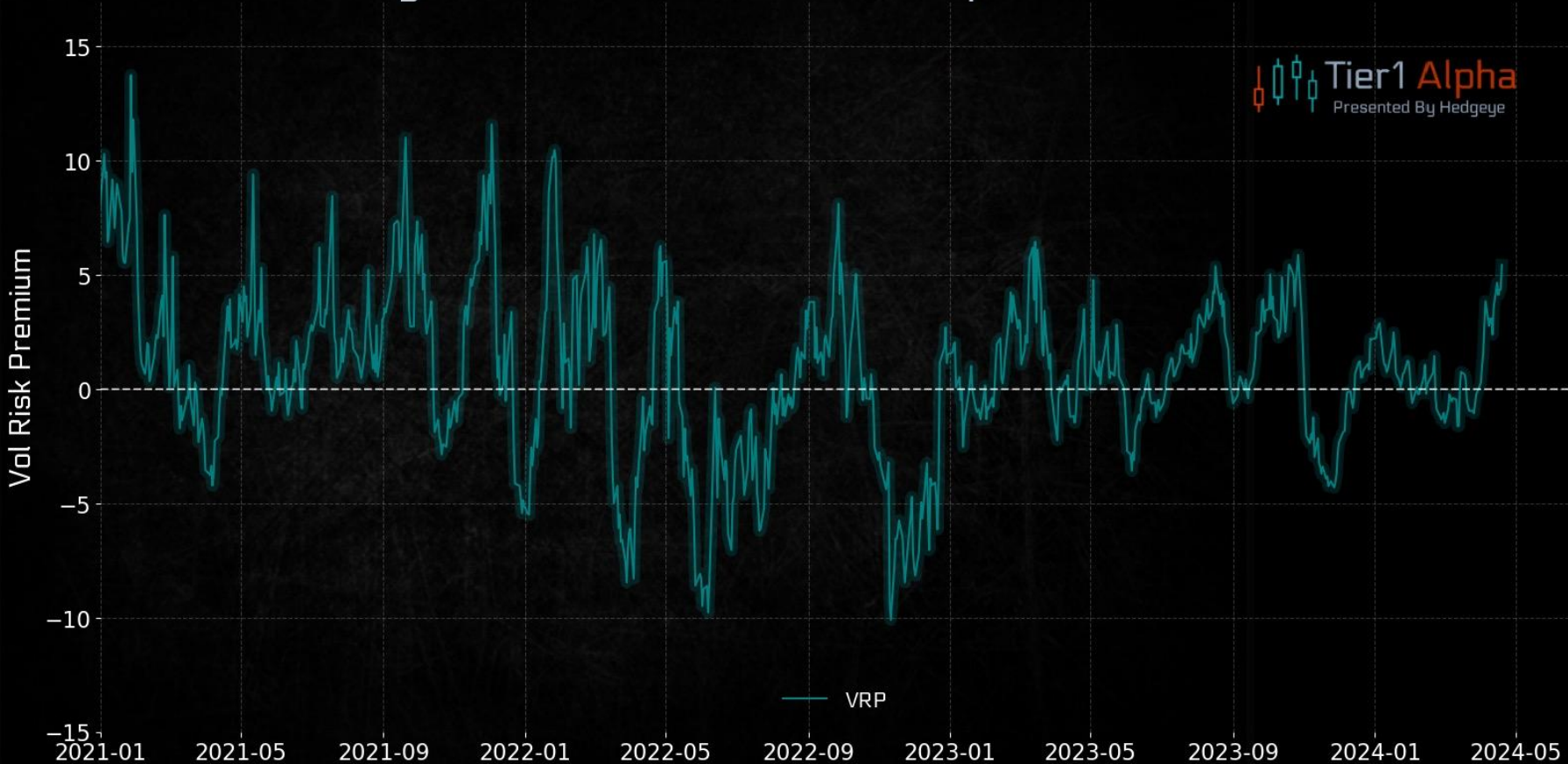


Tier1 Alpha
Presented By Hedgeye

Date: 2024/04/21

Source: Tier1Alpha.com

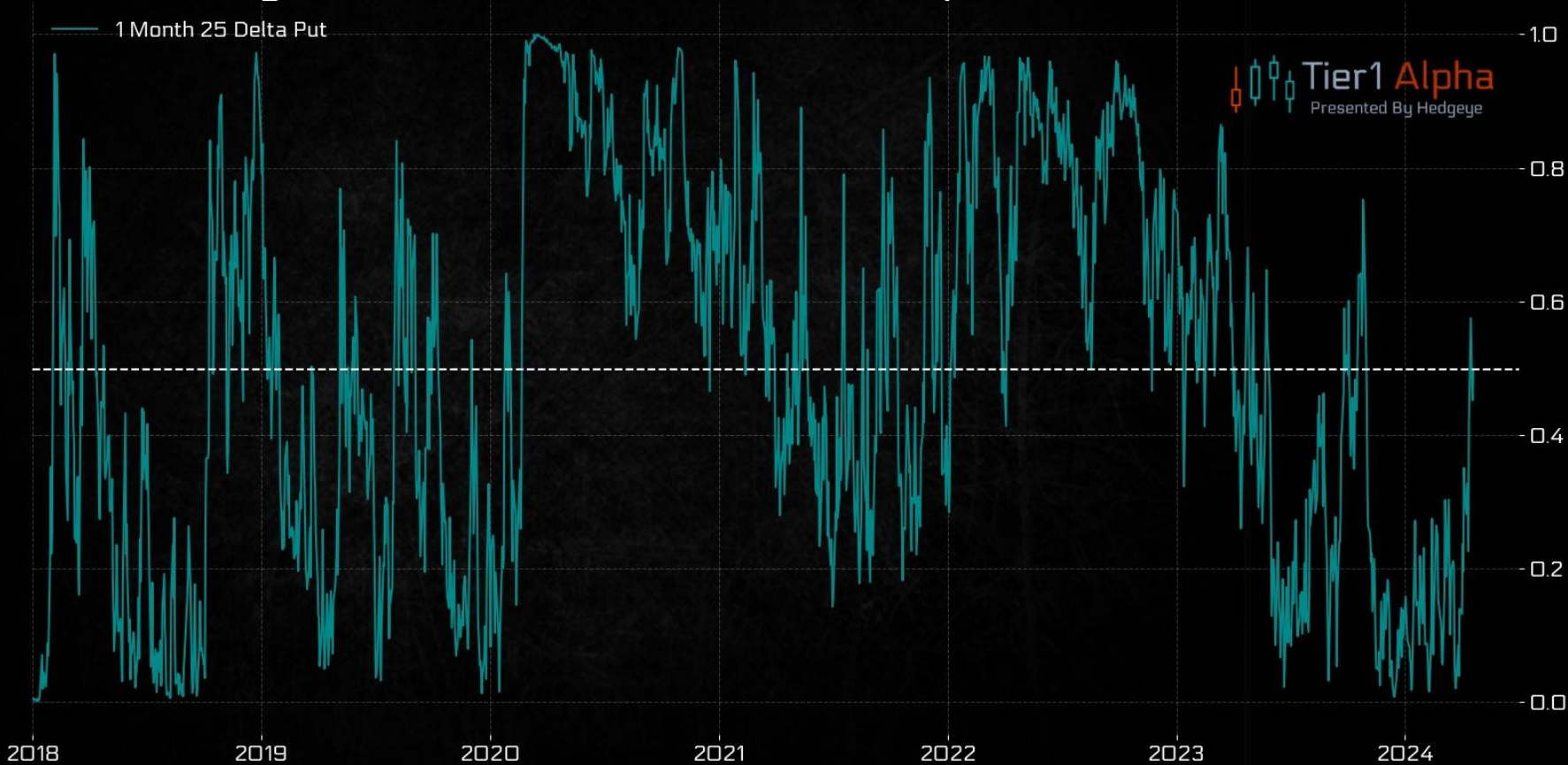
SPX Volatility Risk Premium: 1m ATM Implied Vol vs 1m Realized Vol



Date: 2024/04/21

Source: Tier1Alpha.com

Rolling Cost of 1 Month 25 Delta Put Options Percentile Rank

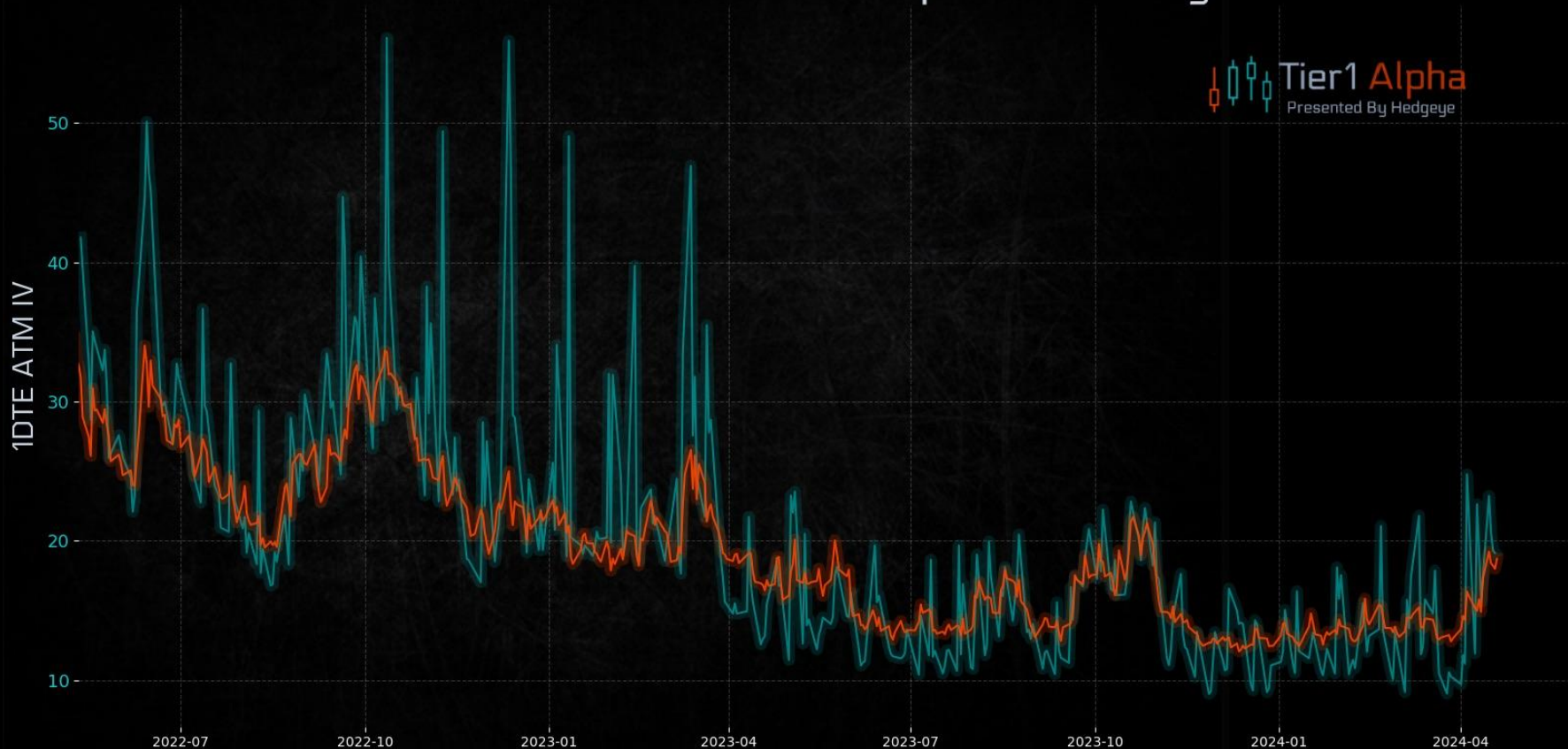


Tier1 Alpha
Presented By Hedgeye

Date: 2024/04/21

Source: Tier1Alpha.com

SPX 1DTE 50-Delta Implied Volatility



Tier1 Alpha
Presented By Hedgeye

Date: 2024/04/21

Source: Tier1Alpha.com

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



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

Tier1 Alpha
Market Research Tools

Strikes In Play

1950.0
1960.0
1970.0
1980.0
2000.0



03/21/2024

03/28/2024

04/05/2024

04/12/2024

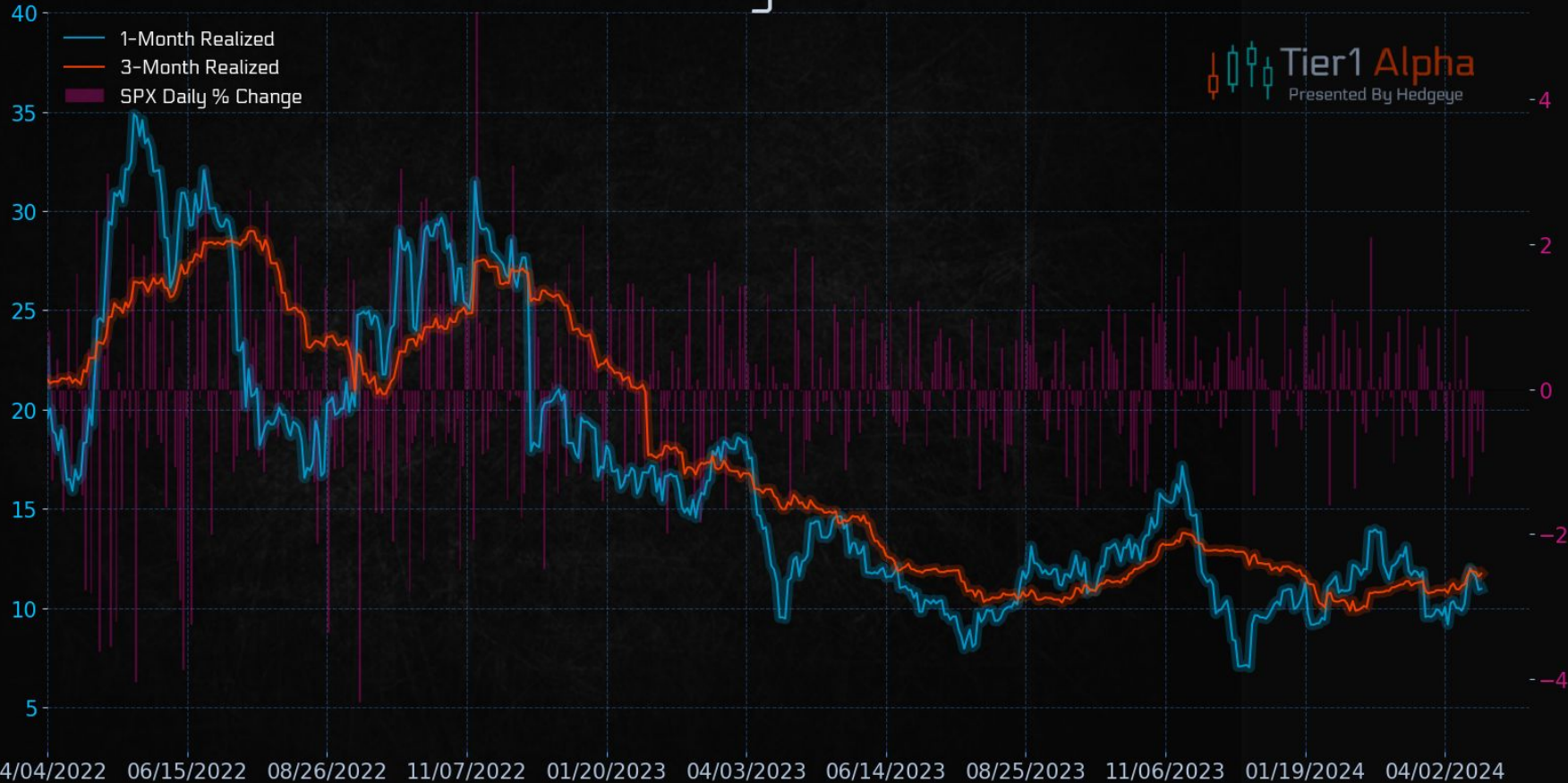
04/19/2024

04/26/2024

Date: 2024/04/21

Source: Intrinio/ Tier1Alpha.com

SPX Realized Volatility -- 1 Month vs 3 Month



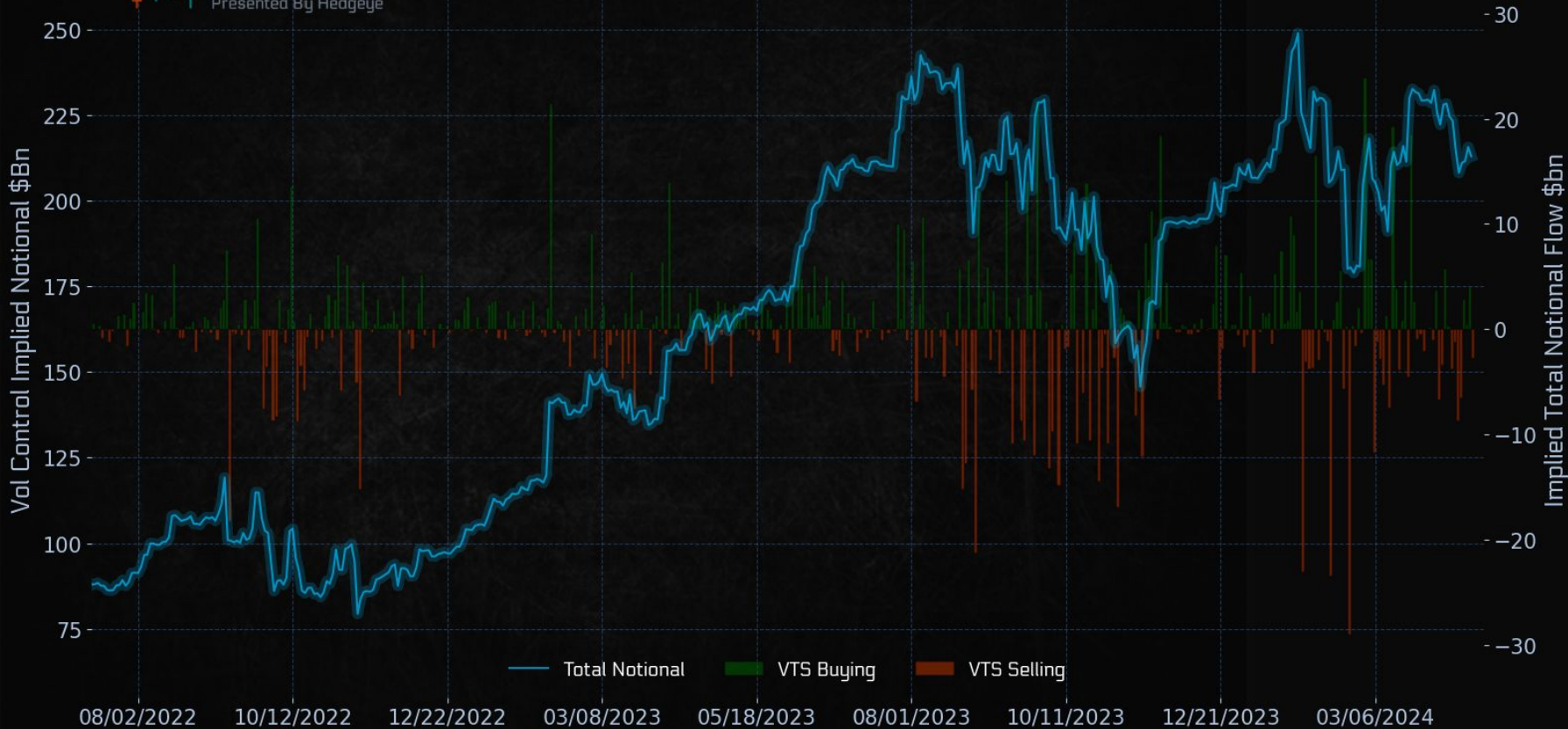
Tier1 Alpha
Presented By Hedgeye

Date: 2024/04/19

Source: Tier1Alpha.com

Vol Control Implied Notional Flows

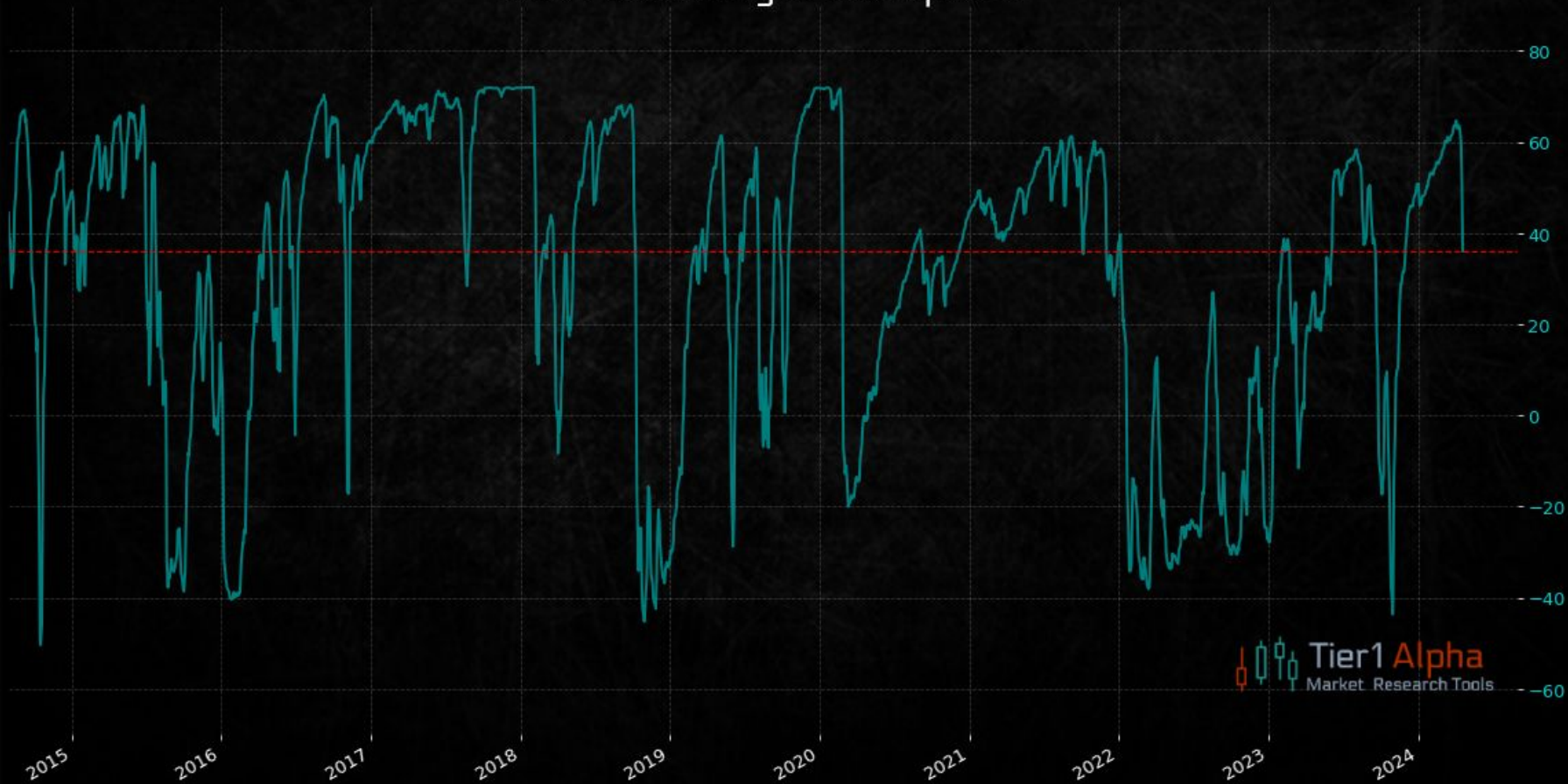
Tier1 Alpha
Presented By Hedgeye



Date: 2024/04/19

Source: Tier1Alpha.com

CTA Positioning in US Equities



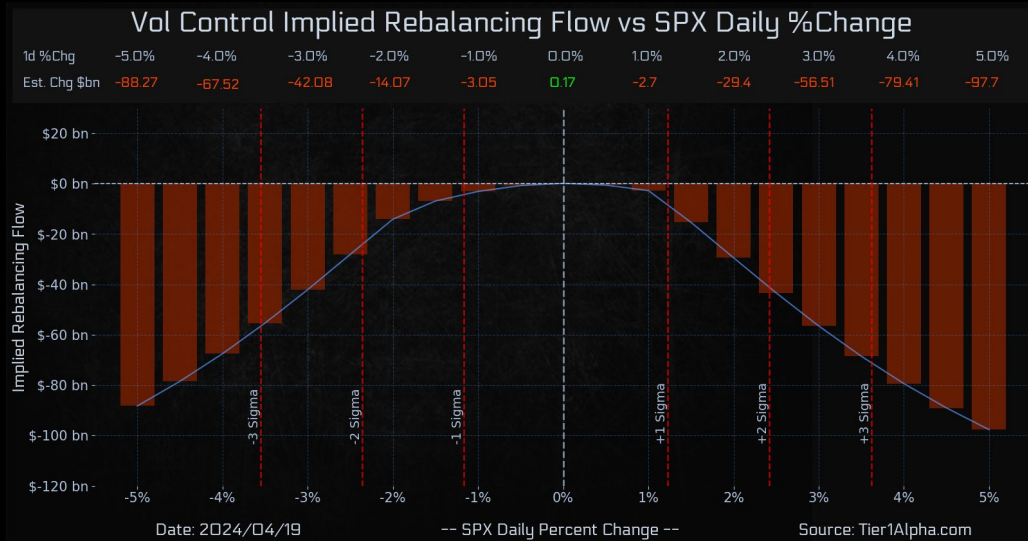
Date: 2024/04/19

Source: Tier1Alpha.com

 Tier1 Alpha
Market Research Tools

SPX Realized Vol Data In Sample for 2024-04-22

Dropoff	1m Dates	1m Drop %	3m Dates	3m Drop %
T+1	2024-03-22	-0.1%	2024-01-23	0.3%
T+2	2024-03-25	-0.3%	2024-01-24	0.1%
T+3	2024-03-26	-0.3%	2024-01-25	0.5%
T+4	2024-03-27	0.9%	2024-01-26	-0.1%
T+5	2024-03-28	0.1%	2024-01-29	0.8%
T+6	2024-04-01	-0.2%	2024-01-30	-0.1%
T+7	2024-04-02	-0.7%	2024-01-31	-1.6%
T+8	2024-04-03	0.1%	2024-02-01	1.2%
T+9	2024-04-04	-1.2%	2024-02-02	1.1%
T+10	2024-04-05	1.1%	2024-02-05	-0.3%

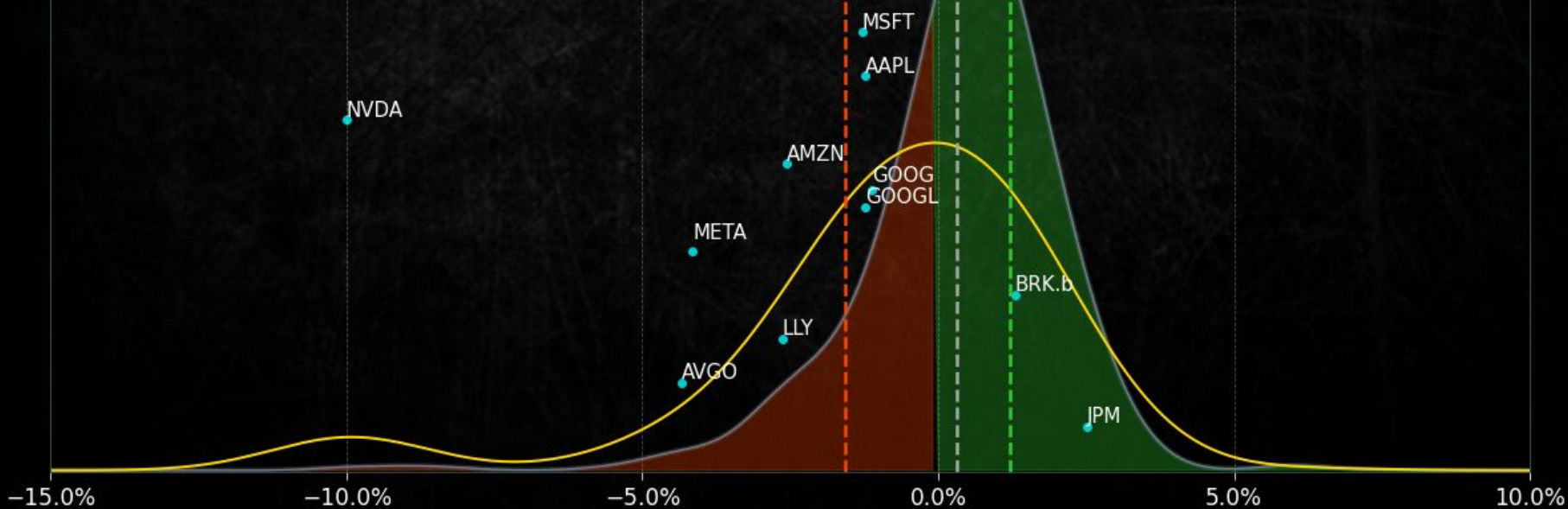


S&P 500 MBAD Indicator for 2024/04/19

Stocks Up: 339
Stocks Down: 163
SPX YTD % Change: -0.88%



- Weighted Distribution
- - - Avg. Daily Return: 0.31%
- - - Avg. Gain: 1.21%
- - - Avg. Decline: -1.57%

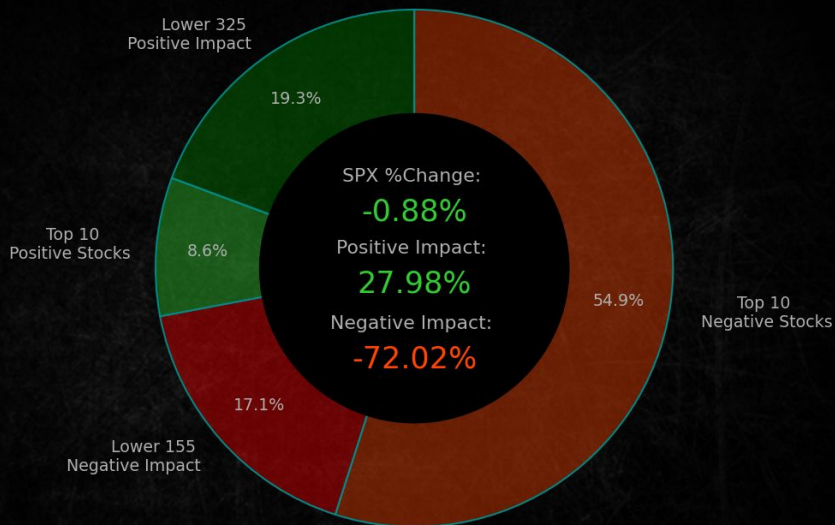


Date: 2024/04/19

--1D% Return Distribution For SPX, Individual Constituents--

Source: IEX Cloud/ Tier1Alpha.com

SPX Constituents Relative Impact By Market Cap



Date: 2024/04/21

Source: Tier1Alpha.com

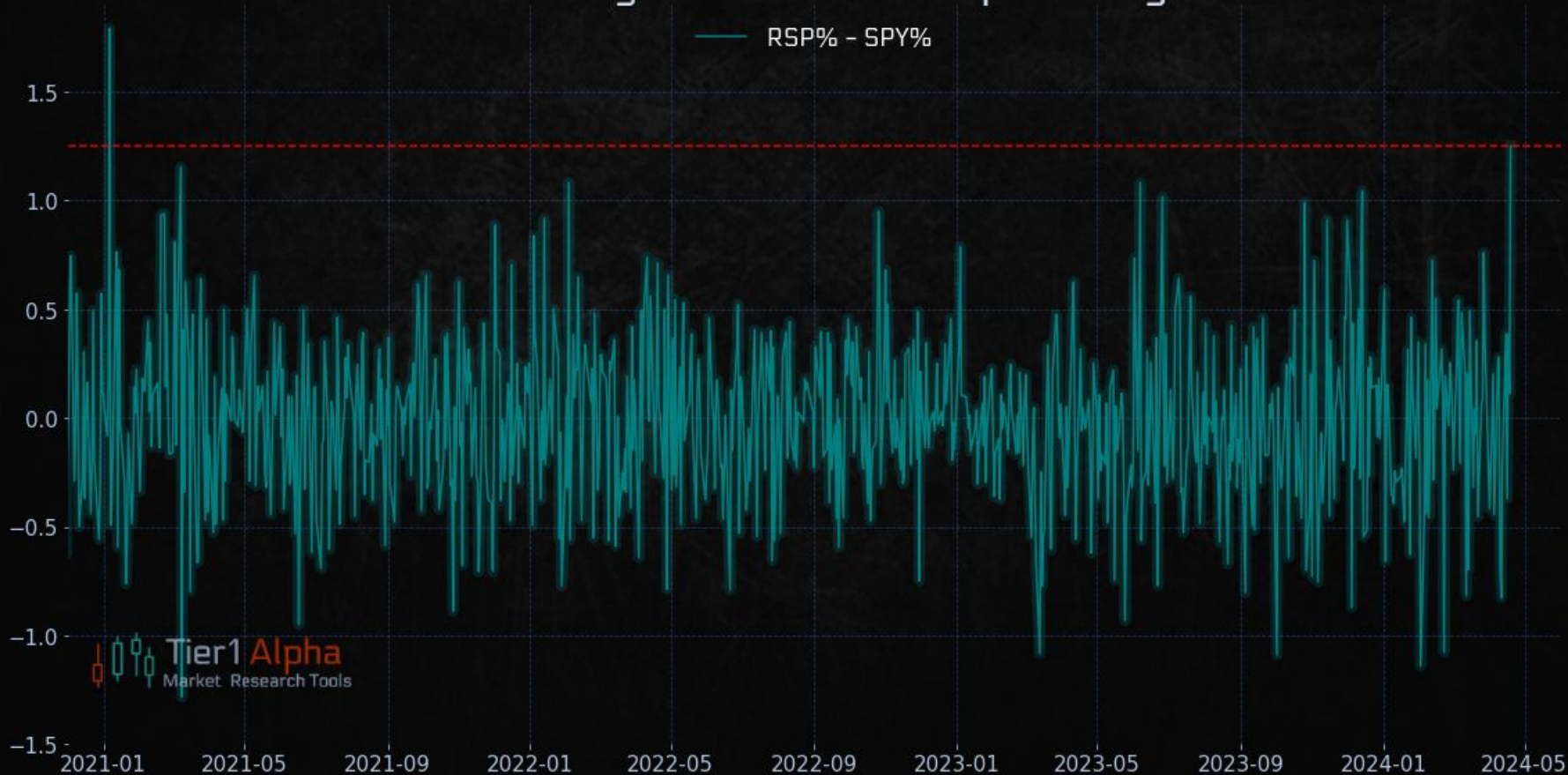
SPX Constituents Relative Impact By Market Cap

Largest Positive Impact

Largest Negative Impact

Top Contributor	Daily %Return	Positive Impact	% Weight	Top Detractor	Daily %Return.1	Negative Impact	% Weight.1
JPM	2.5%	1.6%	1.24%	NVDA	-10.0%	-25.4%	4.97%
BRK.B	1.3%	1.1%	1.73%	META	-4.1%	-5.5%	2.62%
BAC	3.4%	1.0%	0.58%	AMZN	-2.6%	-5.1%	3.89%
AXP	6.2%	1.0%	0.3%	MSFT	-1.3%	-4.6%	7.14%
UNH	1.6%	0.9%	1.08%	AAPL	-1.2%	-3.6%	5.76%
WFC	2.7%	0.7%	0.5%	NFLX	-9.1%	-2.9%	0.63%
XOM	1.1%	0.7%	1.12%	AVGO	-4.3%	-2.9%	1.32%
JNJ	1.5%	0.6%	0.83%	LLY	-2.6%	-1.9%	1.41%
KO	2.1%	0.6%	0.54%	AMD	-5.4%	-1.7%	0.6%
CVX	1.5%	0.5%	0.65%	GOOGL	-1.2%	-1.4%	2.19%

Difference in Daily Returns: RSP Equal Weight vs. SPY

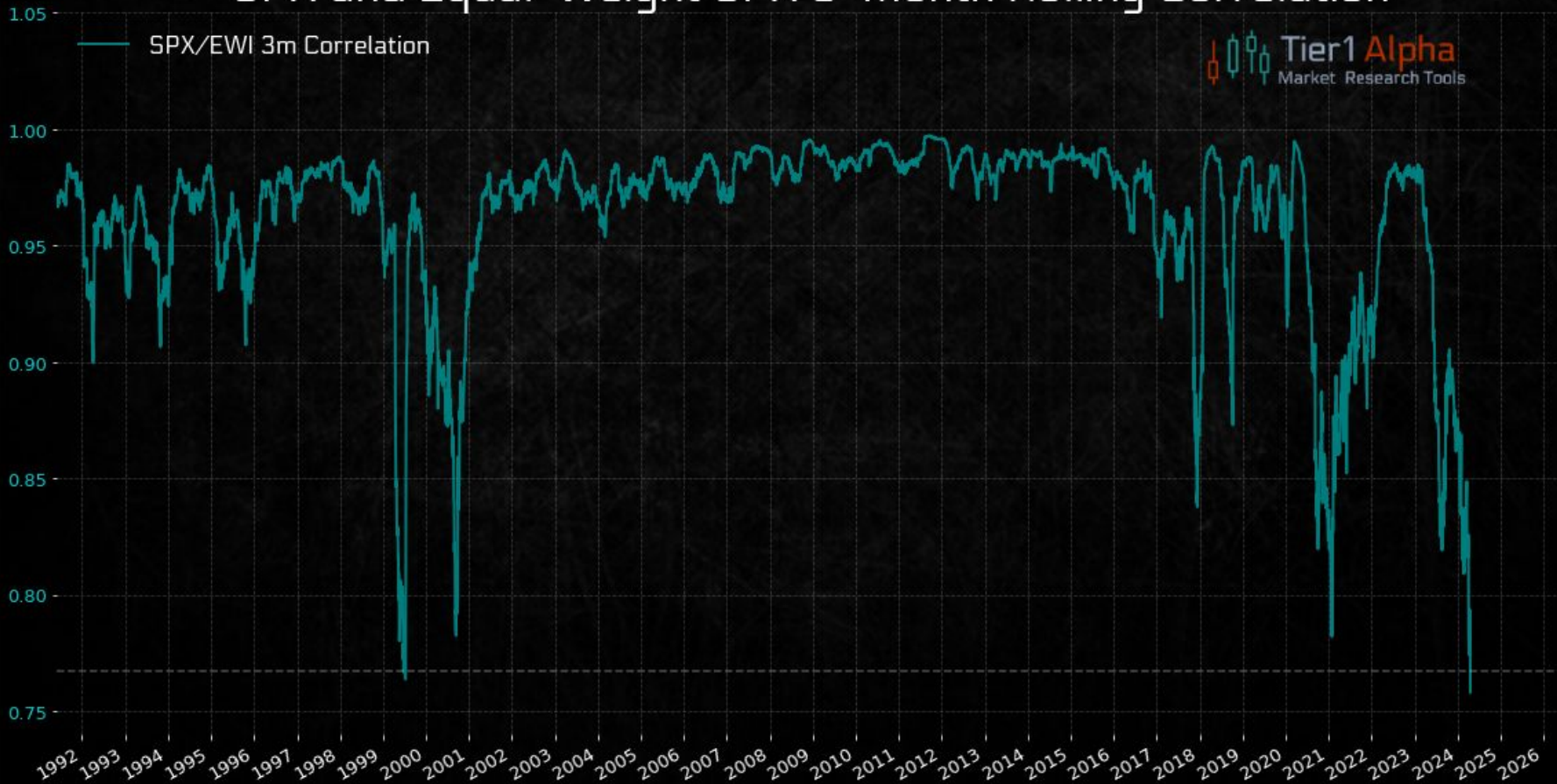


Tier1 Alpha
Market Research Tools

Date: 2024/04/20

Source: Tier1Alpha.com

SPX and Equal-Weight SPX 3-Month Rolling Correlation



Tier1 Alpha
Market Research Tools

Date: 2024/04/20

Source: 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.