



Market Structure Report

04-08-2024

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

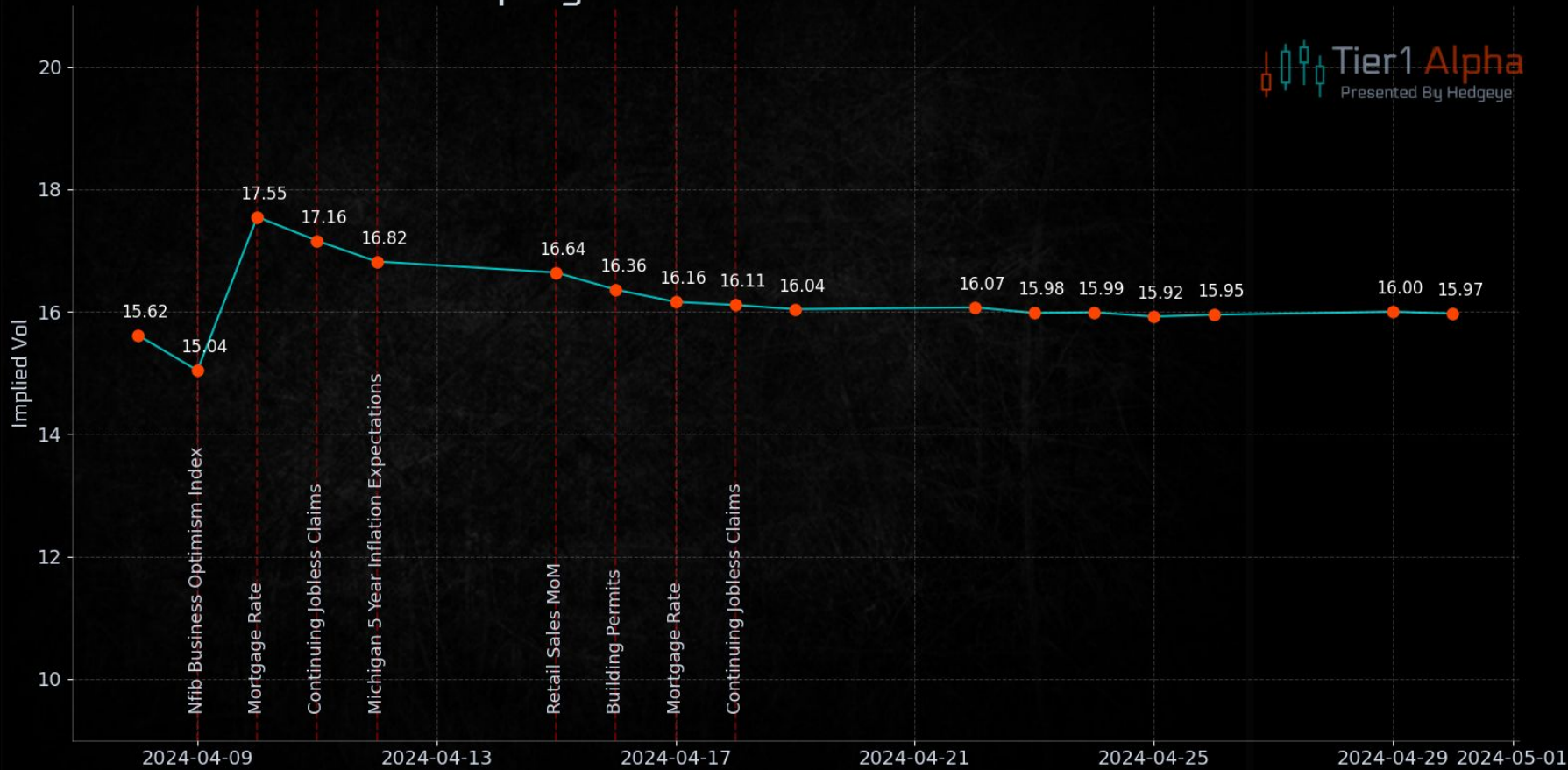
Tier1 Alpha, LLC is not a registered investment advisor, and it does not provide investment advice. The employees, members, and officers of Tier1 Alpha trade, invest, and make other financial decisions using the information and research tier provides in all of its research. Tier1 Alpha employees are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

Summary:

- Last Friday's market reversal was another classic example of how negative gamma flows can amplify volatility in both directions, as dealers were forced to chase the market higher.
- Despite the reversal, there was still a notable demand for downside protection last Friday, as evidenced by the increase in implied vol skew and elevated Put option premiums.
- This further suggests the move in SPX was mostly in response to dealers hedging their short gamma exposure to the upside rather than a fundamental shift in market sentiment.
- Dealers will start the week off in negative gamma, which implies the conditions for higher volatility are still in place. However, given how close the spot SPX is to our gamma flipping point at the 5228 strike, these Vol-supplying flows will likely have a more pronounced impact on the downside, while an upside move would place dealers back into a neutral position.
- For today, our SPX Probable Volatility bands suggest the trading range will stay between the 5238 level to the downside and the 5275 strike to the upside. We expect these levels to hold until Wednesday, at which time the latest CPI data could set a new trend.
- The most significant strikes in play are the 5150 strike to the downside, the 5200 strike in the middle, and the 5250 strike, which is near the upper end of our bands
- Friday served as another subtle reminder that upside volatility is *STILL* volatility. While we initially anticipated a modest decrease in the 1-month vol, negative dealer gamma prevailed instead, pushing it approximately 1% higher.

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

Short-dated Equity Vol Term Structure vs Economic Events



Date: 2024/04/05

Source: Orats/Tier1Alpha.com

Economic Event Calendar With Short-Dated Options Positioning

Date	Event	Estimate	Previous	Impact	Call IV	Put IV	SPX IV	Expected Move	P/C Vol	P/C OI
2024-04-09	Nfib Business Optimism Index	--	89.4	low	14.54	16.11	15.32	+/- 1.13%	1.87	2.63
2024-04-09	Economic Optimism Index	--	43.5	medium	14.54	16.11	15.32	+/- 1.13%	1.87	2.63
2024-04-10	Mortgage Rate	--	6.91	low	17.37	18.24	17.81	+/- 1.61%	1.95	2.24
2024-04-10	Mortgage Applications	--	-0.6	low	17.37	18.24	17.81	+/- 1.61%	1.95	2.24
2024-04-10	MBA Mortgage Refinance Index	--	453.5	low	17.37	18.24	17.81	+/- 1.61%	1.95	2.24
2024-04-10	MBA Purchase Index	--	145.6	low	17.37	18.24	17.81	+/- 1.61%	1.95	2.24
2024-04-10	Core Inflation Rate MoM	0.3	0.4	high	17.37	18.24	17.81	+/- 1.61%	1.95	2.24
2024-04-10	Core Inflation Rate	3.7	3.8	high	17.37	18.24	17.81	+/- 1.61%	1.95	2.24
2024-04-10	Inflation Rate Mom	0.3	0.4	high	17.37	18.24	17.81	+/- 1.61%	1.95	2.24
2024-04-10	Inflation Rate	3.4	3.2	high	17.37	18.24	17.81	+/- 1.61%	1.95	2.24
2024-04-11	Continuing Jobless Claims	--	1791.0	low	17.64	17.23	17.43	+/- 1.82%	1.75	2.23
2024-04-11	Initial Jobless Claims	215.0	221.0	medium	17.64	17.23	17.43	+/- 1.82%	1.75	2.23

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
4700.0	26.98	1.2	20.43	0.57	20.0	0.56
4750.0	25.22	1.09	19.56	0.54	19.31	0.53
4800.0	23.48	0.86	18.74	0.57	18.64	0.52
4850.0	21.78	0.63	17.9	0.5	17.97	0.49
4900.0	20.24	0.49	17.11	0.45	17.32	0.46
4950.0	18.81	0.31	16.34	0.43	16.69	0.43
5000.0	17.48	0.17	15.59	0.33	16.06	0.38
5050.0	16.29	0.05	14.89	0.28	15.48	0.37
5100.0	15.15	-0.1	14.23	0.22	14.91	0.33
5150.0	14.1	-0.22	13.62	0.15	14.37	0.26
5200.0	13.14	-0.4	13.03	0.01	13.86	0.2
5250.0	12.29	-0.59	12.54	-0.04	13.25	0.0
5300.0	11.54	-0.86	12.1	-0.14	12.96	0.09
5350.0	11.05	-1.01	11.72	-0.24	12.57	0.04
5400.0	10.66	-1.36	11.4	-0.36	12.22	-0.02
5450.0	10.78	-1.57	11.2	-0.4	11.92	-0.1
5500.0	11.46	-1.48	11.06	-0.49	11.67	-0.17
5550.0	12.4	-1.47	10.99	-0.6	11.48	-0.23
5600.0	13.5	-1.26	11.11	-0.65	11.36	-0.26
5650.0	14.66	-1.27	11.26	-0.75	11.27	-0.32
5700.0	16.12	-0.45	11.57	-0.77	11.24	-0.36

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



Strikes In Play

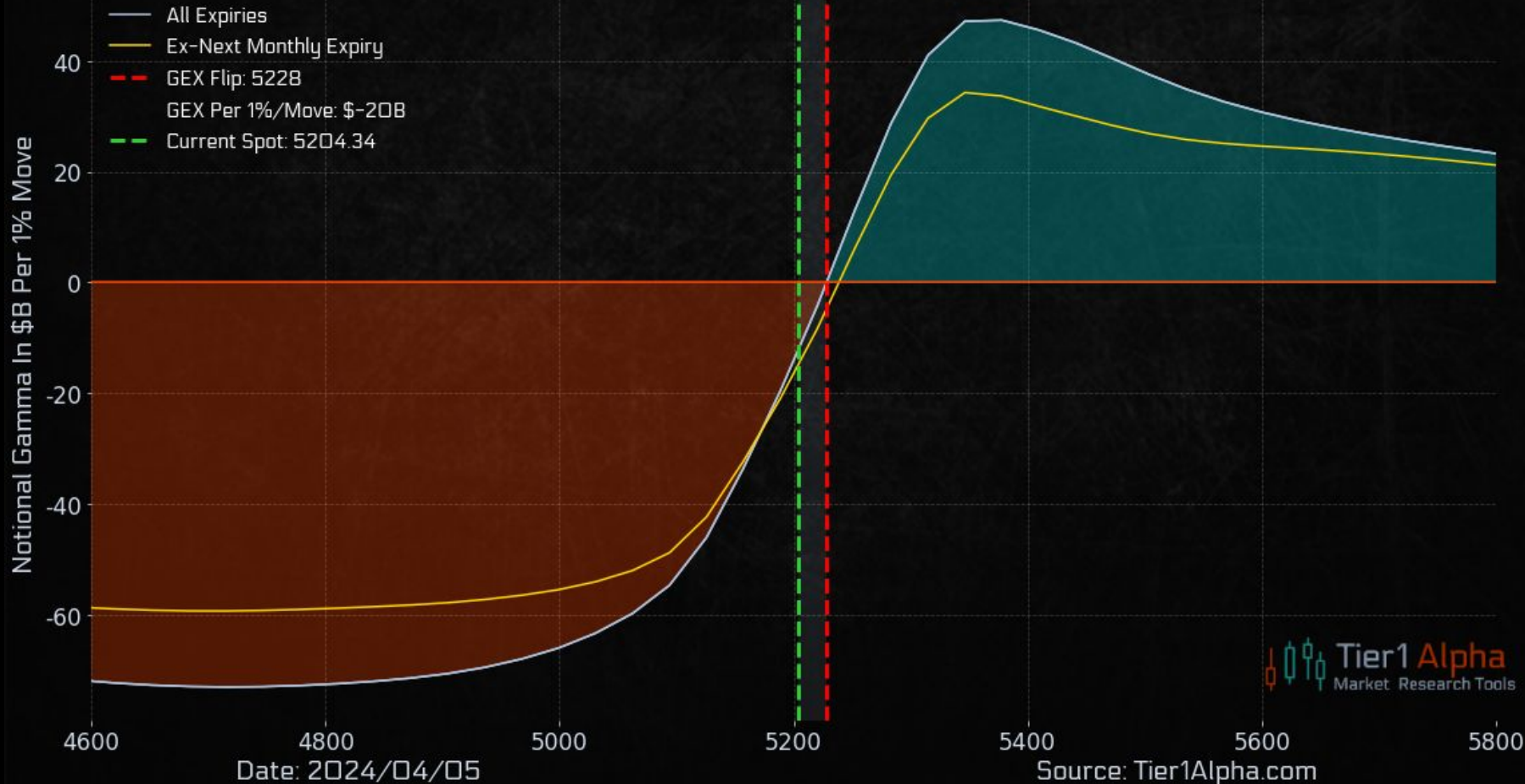
5150.0
5175.0
5200.0
5225.0
5250.0



Date: 2024/04/05

Source: Intrinio/ Tier1Alpha.com

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



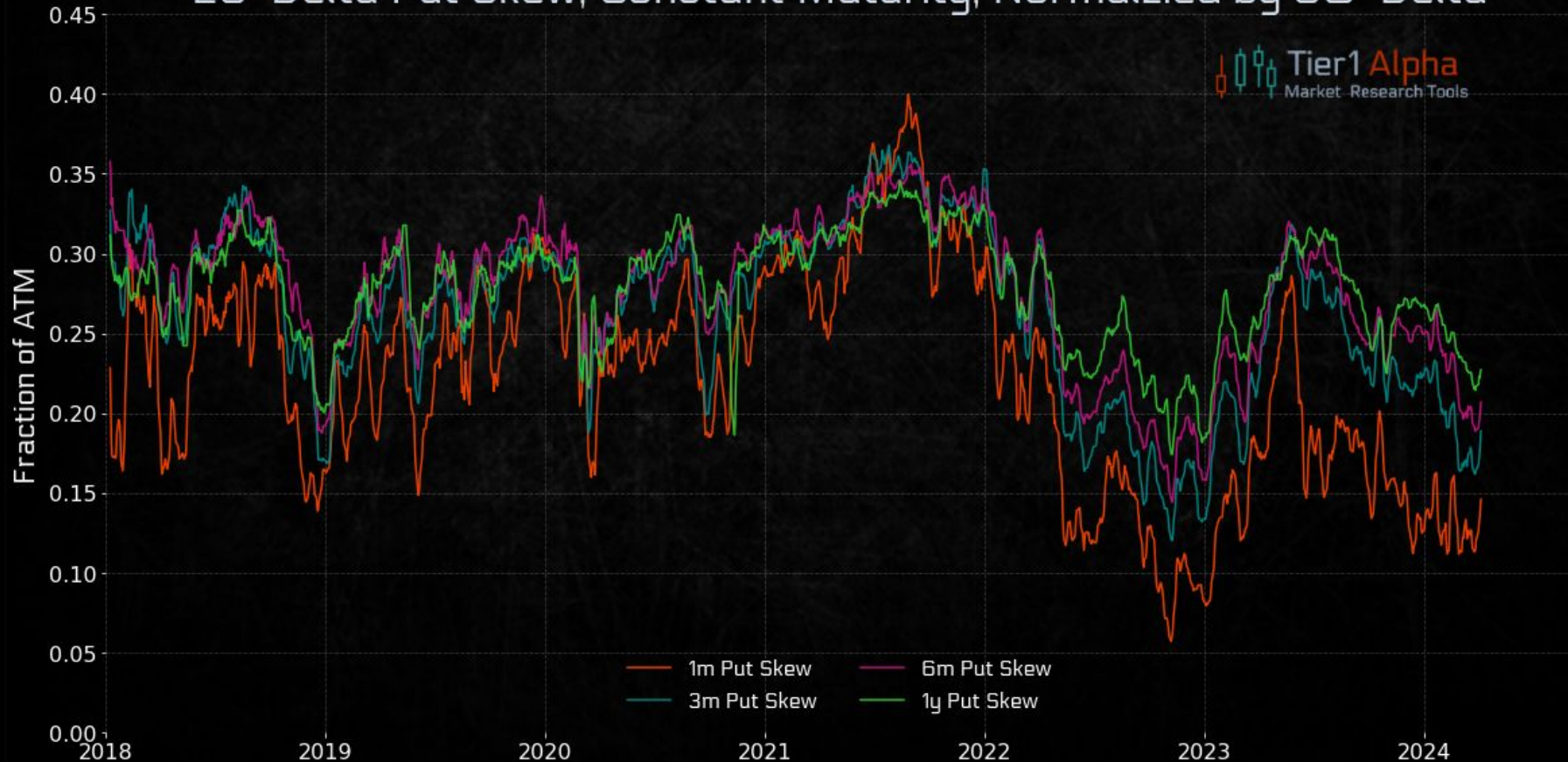
SPX Total Gamma Exposure By Strike -- Weighted Expirations



Date: 2024/04/05

Source: Intrinsic/Tier1Alpha.com

25-Delta Put Skew, Constant Maturity, Normalized by 50-Delta

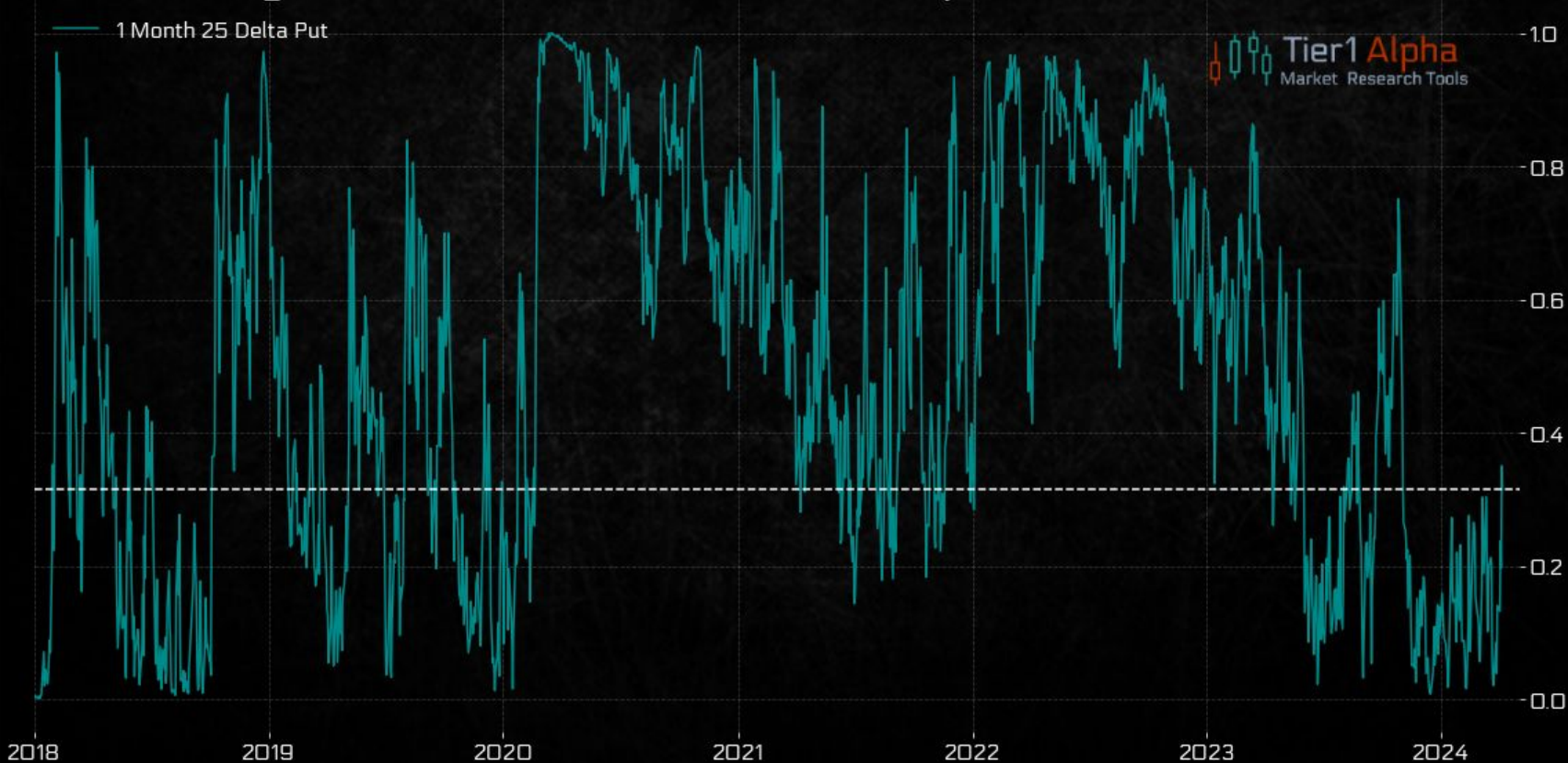


Tier1 Alpha
Market Research Tools

Date: 2024/04/07

Source: Tier1Alpha.com

Rolling Cost of 1 Month 25 Delta Put Options Percentile Rank

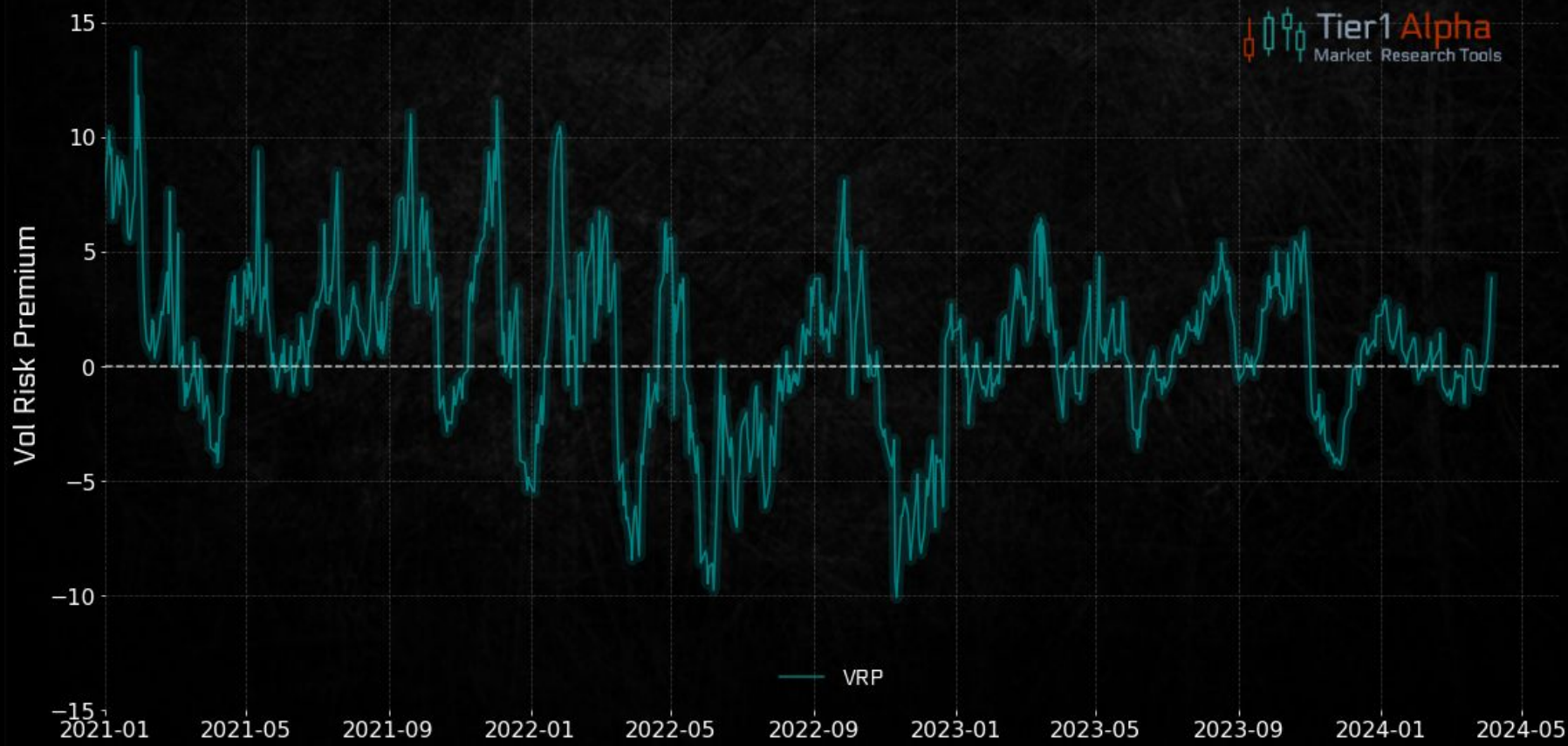


Tier1 Alpha
Market Research Tools

Date: 2024/04/07

Source: Tier1Alpha.com

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

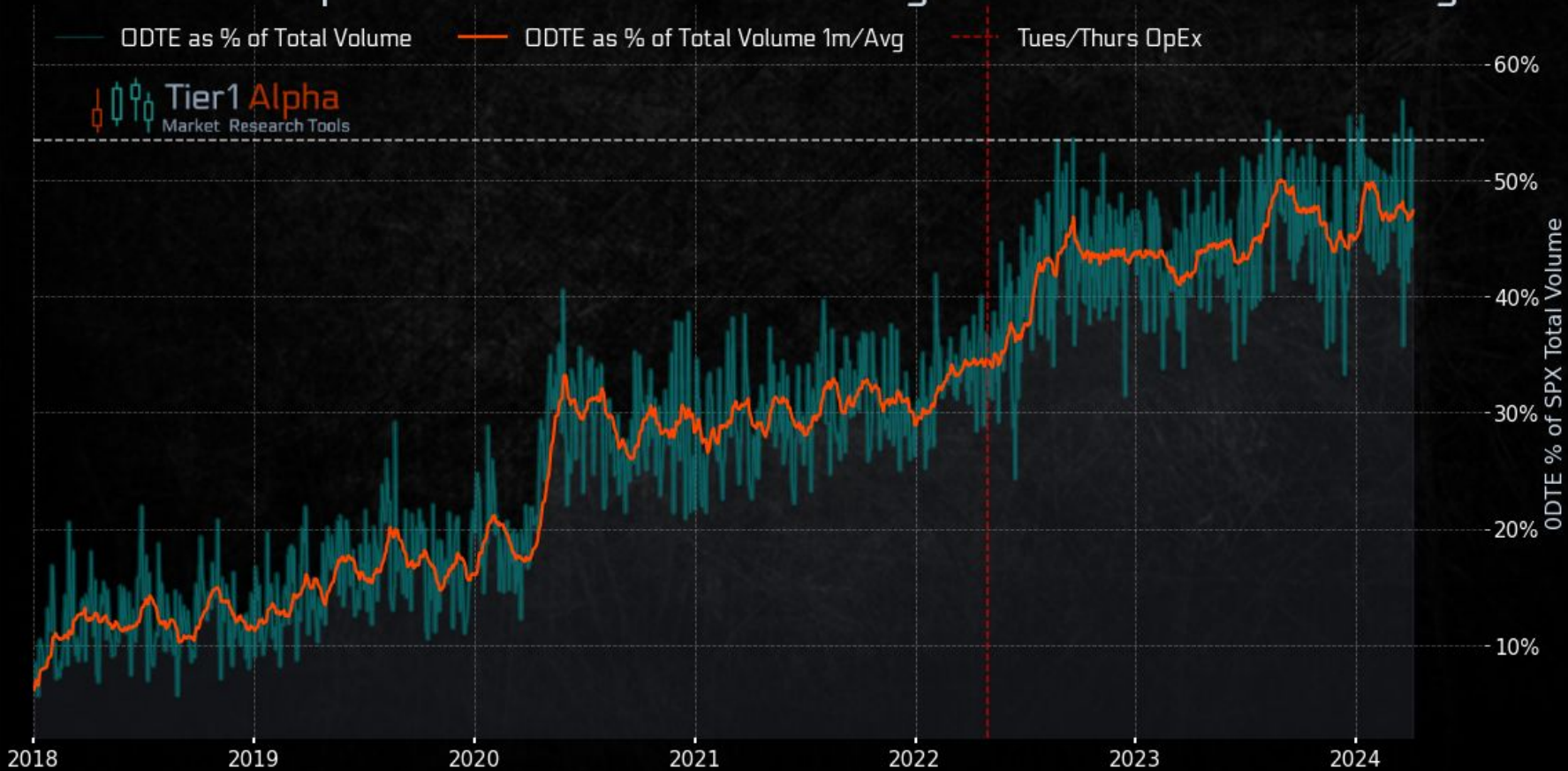


Tier1 Alpha
Market Research Tools

Date: 2024/04/07

Source: Tier1Alpha.com

ODTE SPX Option Volume as a Percentage of Total Volume 1m Avg.



Tier1 Alpha
Market Research Tools

Date: 2024/04/07

Source: Tier1Alpha.com

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



Date: 2024/04/05

Source: Intrinio/Tier1Alpha.com

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



Strikes In Play

- 2040.0
- 2050.0
- 2060.0
- 2080.0
- 2100.0



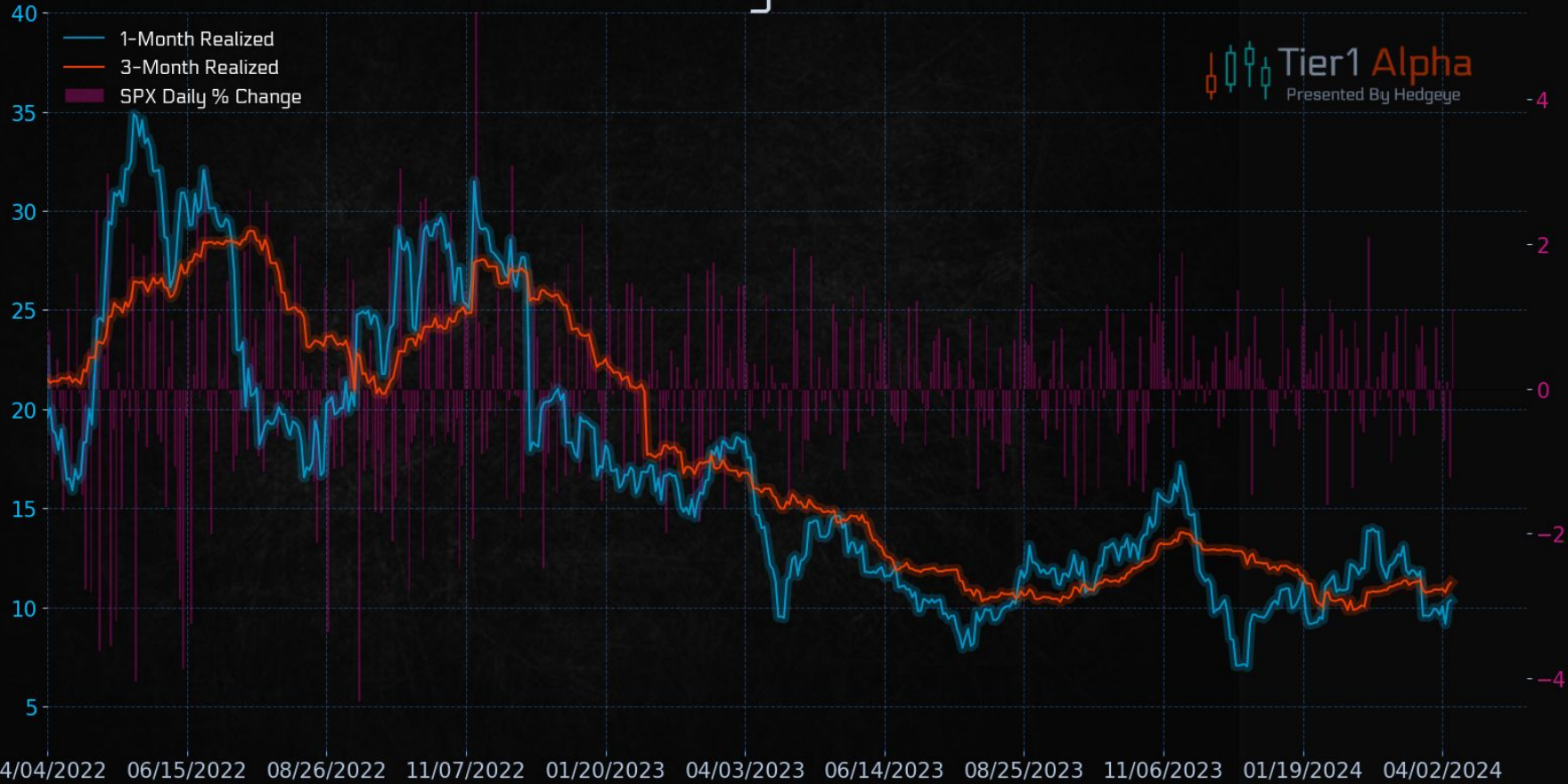
Date: 2024/04/05

Source: Intrinio/Tier1Alpha.com

Quant Fund Flows Summary:

- Although the move was not significant enough to push the 1-month vol above the 3-month volatility, it considerably narrowed the spread between the two, which places Vol control funds in an interesting position for two reasons.
- First, we expect there to be a large decrease in the 3-month volatility today, as it drops a 1.4% return from its trailing sample window. Secondly, we expect an uptick in volatility surrounding the upcoming CPI event this Wednesday, potentially causing the 1-month volatility to increase, which would compress the spread even further.
- While we had not anticipated it so soon, these combined dynamics mean we're officially back on crossover watch, which, if it occurs, would place volatility control funds back into a higher-risk regime.
- In our opinion, this is a dangerous setup to have ahead of a macro catalyst like CPI, especially if dealers remain in negative gamma, which could supply enough volatility to force systematic funds to aggressively deleverage their equity positions.
- For today, however, expect to see some supportive inflows as long as SPX can stay within a +/- 1% move. On a flat market, we could even see as much as \$5.8 billion in buying requirements be triggered, but at this point in the cycle, all that buying means more potential selling pressure down the line.

SPX Realized Volatility -- 1 Month vs 3 Month



Tier1 Alpha
Presented By Hedgeye

Date: 2024/04/07

Source: Tier1Alpha.com

Vol Control Implied Notional Equity Exposure



Tier1 Alpha
Market Research Tools

Date: 2024/04/07

Source: Tier1Alpha.com

Vol Control Implied Notional Flows

Tier1 Alpha
Presented By Hedgeye



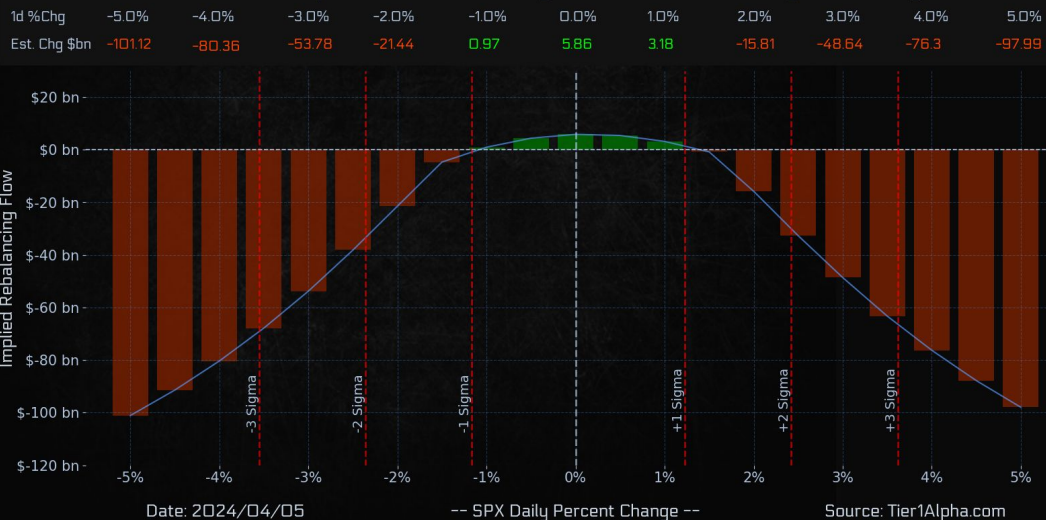
Date: 2024/04/05

Source: Tier1Alpha.com

SPX Realized Vol Data In Sample for 2024-04-08

Dropoff	1m Dates	1m Drop %	3m Dates	3m Drop %
T+1	2024-03-08	-0.6%	2024-01-08	1.4%
T+2	2024-03-11	-0.1%	2024-01-09	-0.2%
T+3	2024-03-12	1.1%	2024-01-10	0.6%
T+4	2024-03-13	-0.2%	2024-01-11	-0.1%
T+5	2024-03-14	-0.3%	2024-01-12	0.1%
T+6	2024-03-15	-0.6%	2024-01-16	-0.4%
T+7	2024-03-18	0.6%	2024-01-17	-0.6%
T+8	2024-03-19	0.6%	2024-01-18	0.9%
T+9	2024-03-20	0.9%	2024-01-19	1.2%
T+10	2024-03-21	0.3%	2024-01-22	0.2%

Vol Control Implied Rebalancing Flow vs SPX Daily %Change

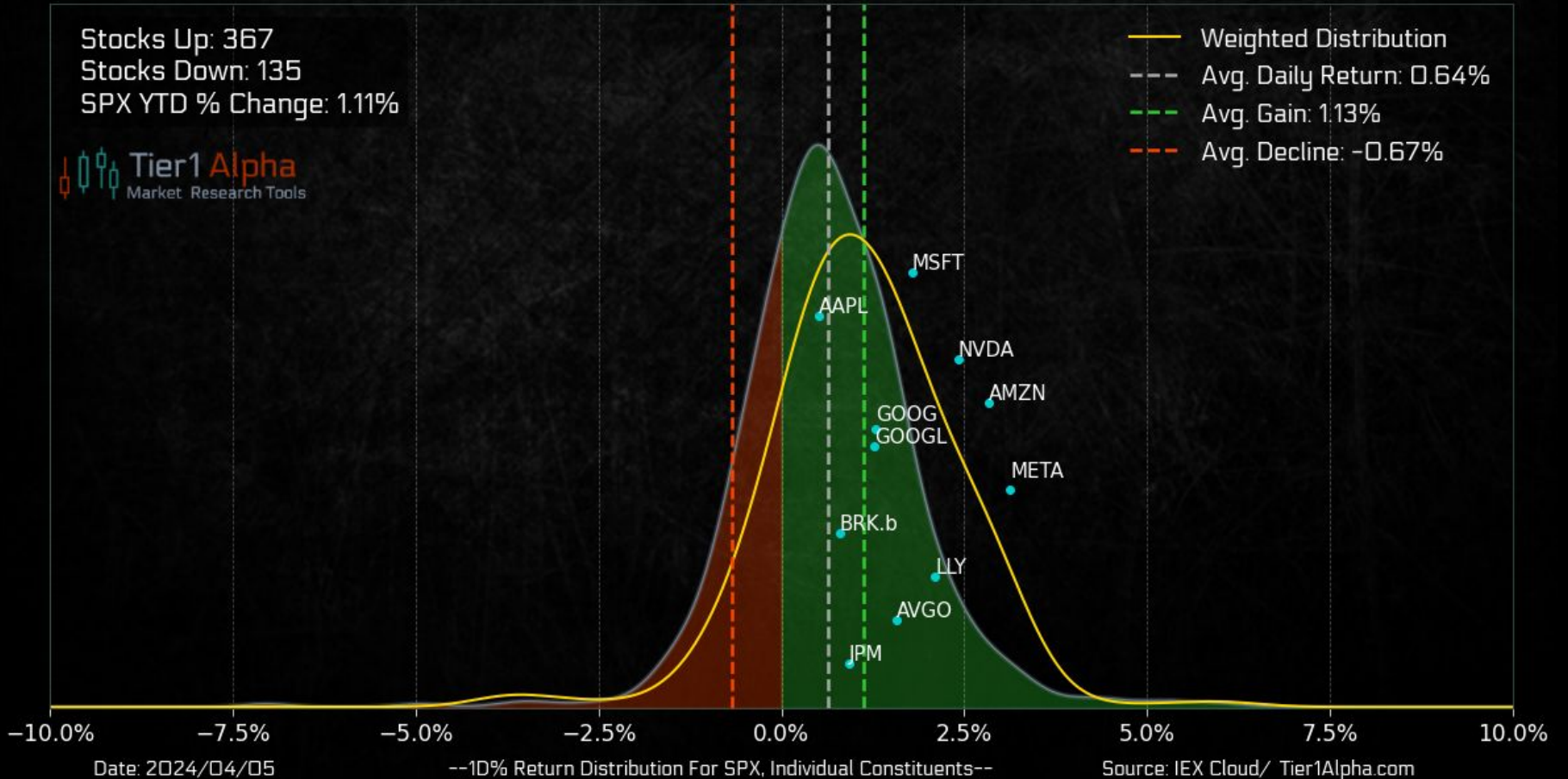


S&P 500 MBAD Indicator for 2024/04/05

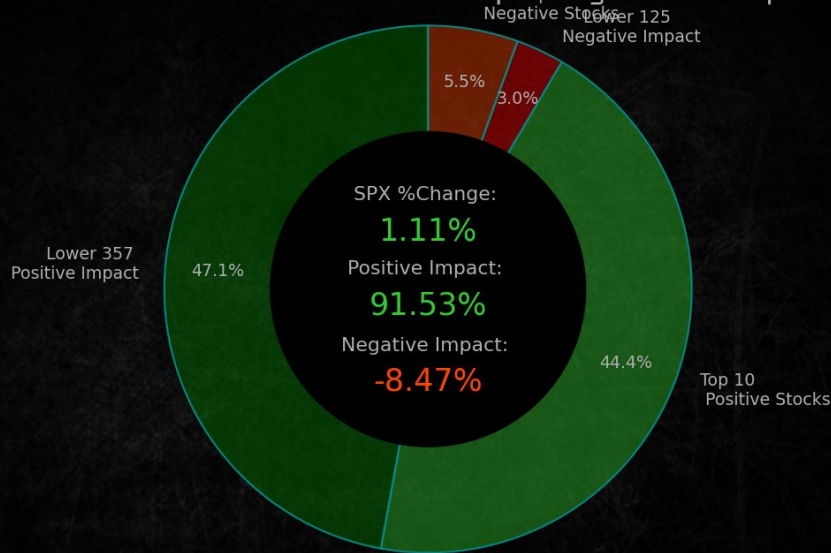
Stocks Up: 367
Stocks Down: 135
SPX YTD % Change: 1.11%



- Weighted Distribution
- - - Avg. Daily Return: 0.64%
- - - Avg. Gain: 1.13%
- - - Avg. Decline: -0.67%



SPX Constituents Relative Impact By Market Cap



Date: 2024/04/07

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
MSFT	1.8%	9.8%	7.17%	TSLA	-3.6%	-3.0%	1.1%
NVDA	2.4%	9.3%	5.07%	INTC	-2.6%	-0.8%	0.43%
AMZN	2.8%	7.9%	3.76%	MCD	-1.3%	-0.4%	0.46%
META	3.2%	5.9%	2.46%	VZ	-0.8%	-0.2%	0.4%
LLY	2.1%	2.2%	1.38%	ENPH	-7.0%	-0.2%	0.04%
GOOGL	1.3%	2.0%	2.08%	T	-0.9%	-0.2%	0.28%
GE	6.0%	1.9%	0.43%	PM	-0.7%	-0.2%	0.32%
AAPL	0.4%	1.9%	5.61%	TXN	-0.6%	-0.2%	0.36%
GOOG	1.3%	1.7%	1.75%	ADBE	-0.4%	-0.2%	0.52%
AVGO	1.7%	1.7%	1.35%	SBUX	-0.9%	-0.2%	0.24%

S&P 500 Percent of Stocks Above 200 Day Moving Average



Tier1 Alpha
Presented By Hedgeye

SPX 200 Breadth Extreme Pessimism Extreme Optimism

Date: 2024/04/05

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.