



# Market Structure Report

04-17-2024

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# Summary:

- Dealers remain short gamma, which means the conditions for higher volatility are still firmly in place. However, it's important to note that we're now closer to the bottom of our gamma curve, which begins to level out below the 5000 strike.
- While we anticipate volatility to remain elevated below that level, dealers would be generally well-hedged against downside convexity, making the 5000 strike a strong potential support level in the near term.
- However, with the April options expiration just around the corner, we expect some repositioning to occur at these lower strikes, potentially pushing the bottom of our gamma curve even lower.
- Overall, we estimate that around \$1.2 trillion in SPX/ SPY notional open interest will either expire or be rolled into the May contracts this Friday, which will remove a large amount of gamma from the market.
- Consequently, dealers will likely remain short gamma after the expiration unless the SPX can climb back above the 5200 strike by then. That said, it's important to note that we've seen skew increase the most in 30-day and 90-day contracts, which will remain unaffected by the expiration.
- Our SPX probable volatility bands have continued to trend lower, putting the 5025 strike back in play. However, given how close the 5000 strike is at this point, we wouldn't be surprised to see that level hit on a strong enough downside move.
- Despite the moderate breadth profile, 50-day breadth continued to deteriorate. Currently, only 30% of the index is still trading higher than their respective 50-day moving averages, which is a 15th percentile level over the past decade. This leaves plenty of room for further downside, which, if history is a guide, we're likely to see before a recovery.

**Volatility Regime:**

Low

Neutral

High

**Flow Risk:**

Bullish

Neutral

Bearish

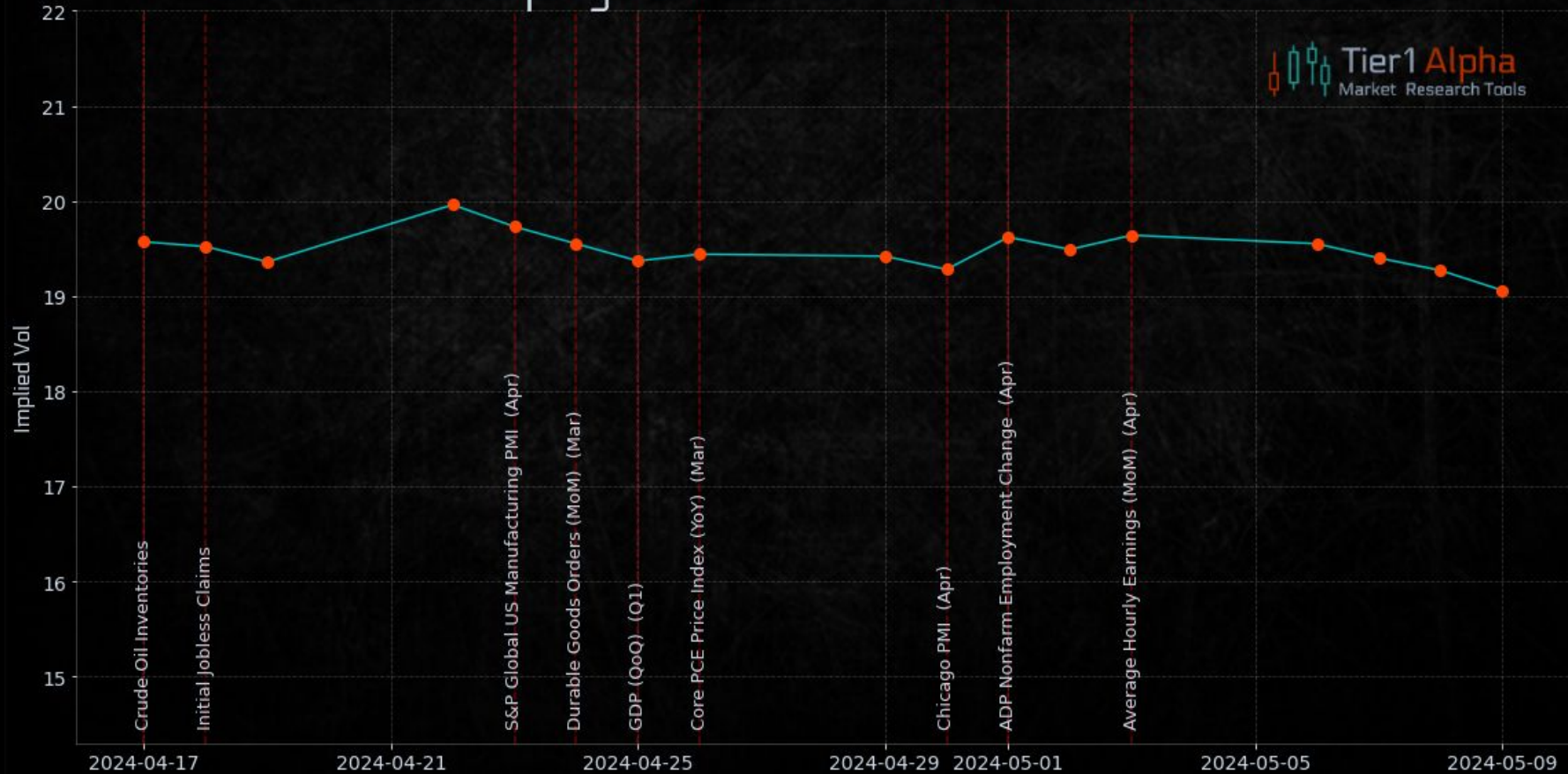
**PV Band Risk/Reward:**

Long

Neutral

Short

# Short-dated Equity Vol Term Structure vs Economic Events



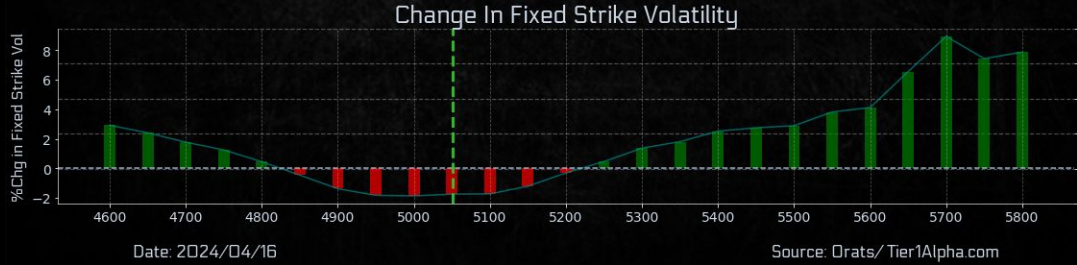
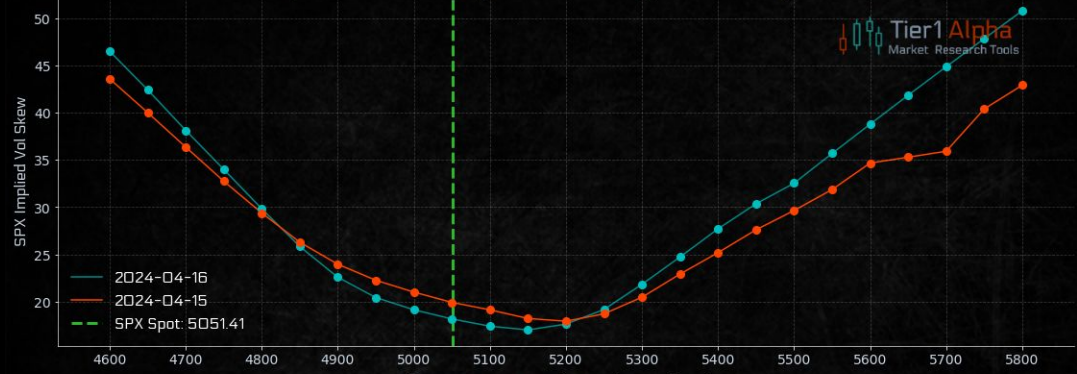
Date: 2024/04/16

Source: Intrinio/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
2024-04-17	Mortgage Rate	--	7.01	low	19.78	19.74	19.76	+/- 1.02%	1.06	2.03
2024-04-17	Mortgage Applications	--	0.1	low	19.78	19.74	19.76	+/- 1.02%	1.06	2.03
2024-04-17	MBA Mortgage Refinance Index	--	498.3	low	19.78	19.74	19.76	+/- 1.02%	1.06	2.03
2024-04-17	MBA Purchase Index	--	138.7	low	19.78	19.74	19.76	+/- 1.02%	1.06	2.03
2024-04-18	Continuing Jobless Claims	--	1817.0	low	20.65	19.13	19.89	+/- 1.47%	1.98	2.66
2024-04-18	Initial Jobless Claims	214.0	211.0	medium	20.65	19.13	19.89	+/- 1.47%	1.98	2.66
2024-04-18	Philly Fed Employment	--	-9.6	low	20.65	19.13	19.89	+/- 1.47%	1.98	2.66
2024-04-18	Philly Fed New Orders	--	5.4	low	20.65	19.13	19.89	+/- 1.47%	1.98	2.66
2024-04-18	Philly Fed Prices Paid	--	3.7	low	20.65	19.13	19.89	+/- 1.47%	1.98	2.66

## 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	38.12	1.77	20.79	-0.78	19.96	-0.68
4750.0	33.99	1.25	19.95	-0.79	19.29	-0.69
4800.0	29.82	0.45	19.12	-0.8	18.62	-0.7
4850.0	25.82	-0.46	18.34	-0.78	17.98	-0.68
4900.0	22.57	-1.38	17.58	-0.76	17.35	-0.68
4950.0	20.42	-1.83	16.83	-0.73	16.75	-0.66
5000.0	19.13	-1.87	16.11	-0.68	16.16	-0.64
5050.0	18.16	-1.75	15.42	-0.62	15.59	-0.62
5100.0	17.39	-1.73	14.77	-0.54	15.08	-0.57
5150.0	17.0	-1.21	14.18	-0.47	14.57	-0.55
5200.0	17.61	-0.31	13.66	-0.39	14.1	-0.51
5250.0	19.16	0.46	13.29	-0.26	13.68	-0.46
5300.0	21.83	1.37	13.05	-0.14	13.3	-0.43
5350.0	24.72	1.81	12.96	0.0	12.96	-0.41
5400.0	27.7	2.52	13.09	0.12	12.69	-0.37
5450.0	30.35	2.75	13.26	0.11	12.47	-0.33
5500.0	32.53	2.89	13.63	0.18	12.32	-0.3
5550.0	35.68	3.82	14.11	0.29	12.22	-0.27
5600.0	38.78	4.12	14.64	0.24	12.24	-0.22
5650.0	41.84	6.56	15.19	0.19	12.31	-0.12
5700.0	44.86	8.95	15.88	0.45	12.47	-0.07

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

Tier1 Alpha  
Market Research Tools

## Strikes In Play

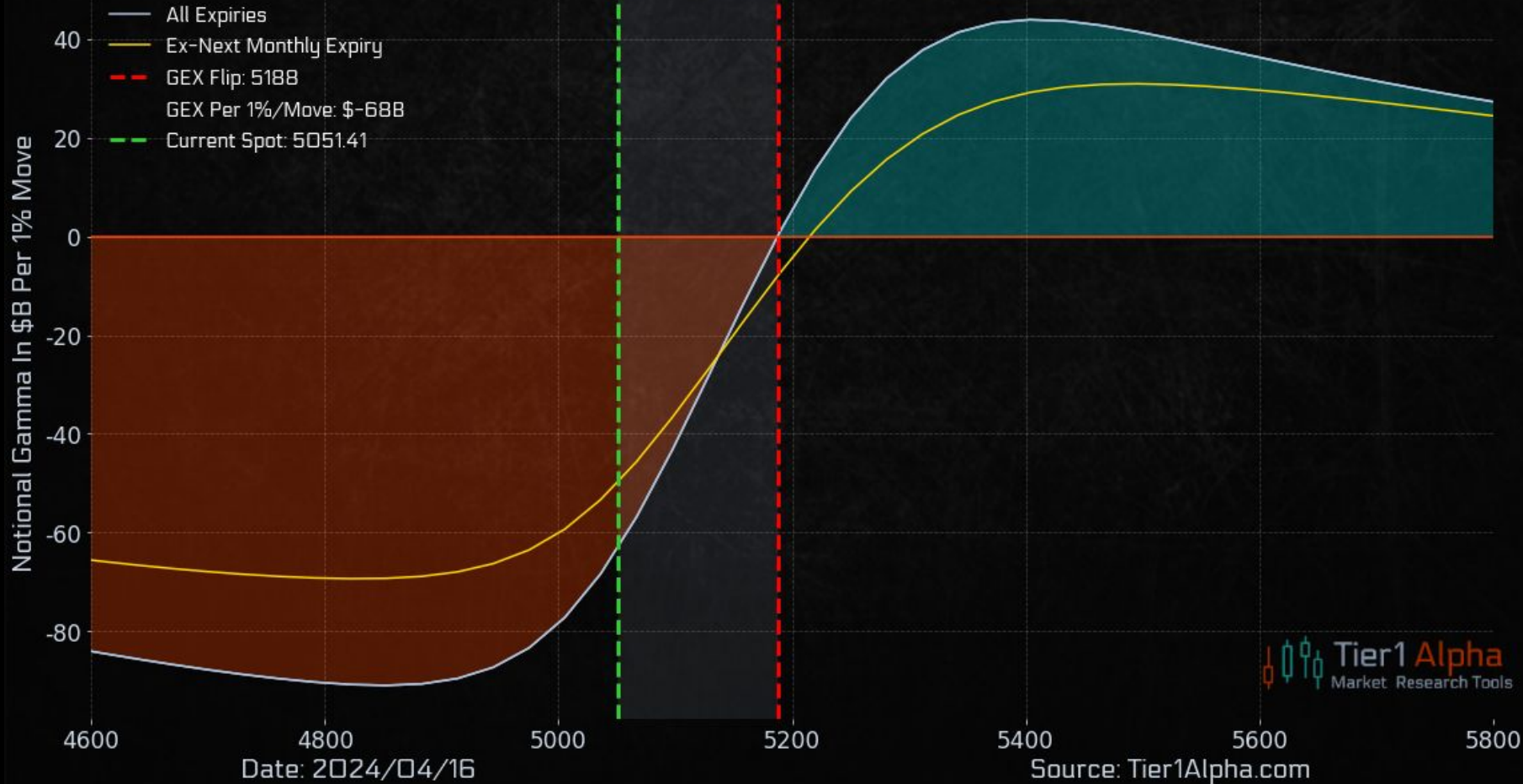
5050.0  
5075.0  
5100.0  
5125.0  
5150.0



Date: 2024/04/16

Source: Intrinio/ Tier1Alpha.com

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





# SPX Total Gamma Exposure By Strike -- Weighted Expirations



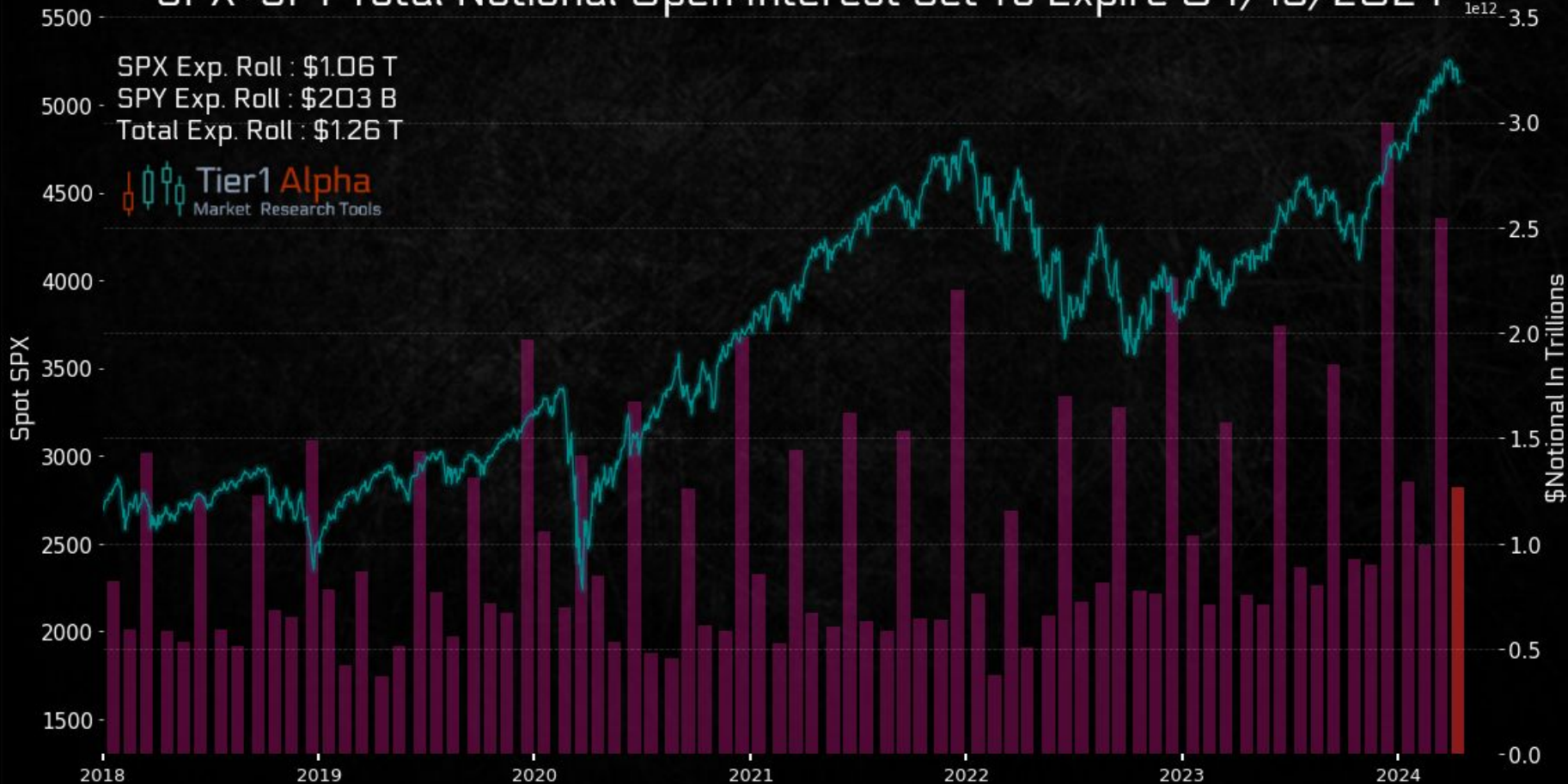
Date: 2024/04/16

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

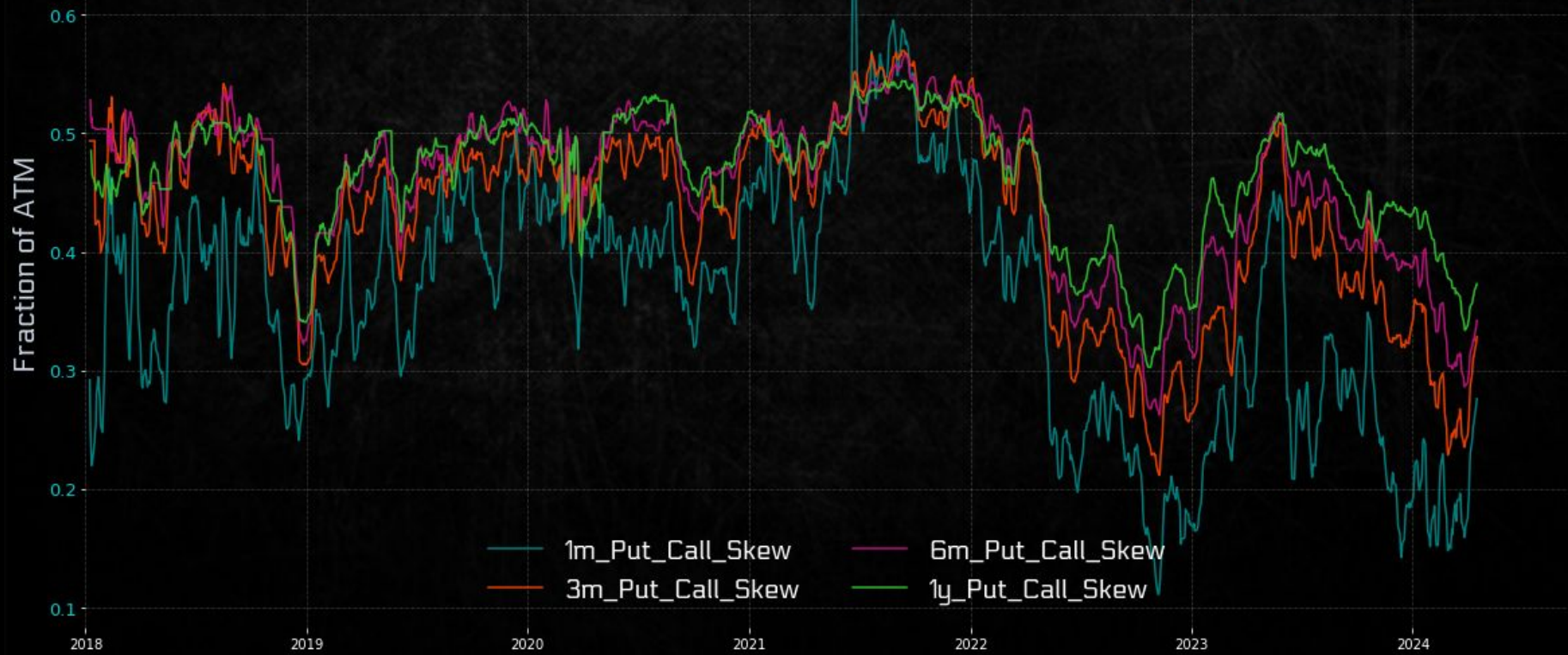
 Tier1 Alpha  
Market Research Tools



Date: 2024/04/15

Source: Orats/ Tier1Alpha.com

# 25-Delta Put vs 25-Delta Call Implied Volatility Skew, Constant Maturity, Normalized



Date: 2024/04/16

Source: Tier1Alpha.com

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



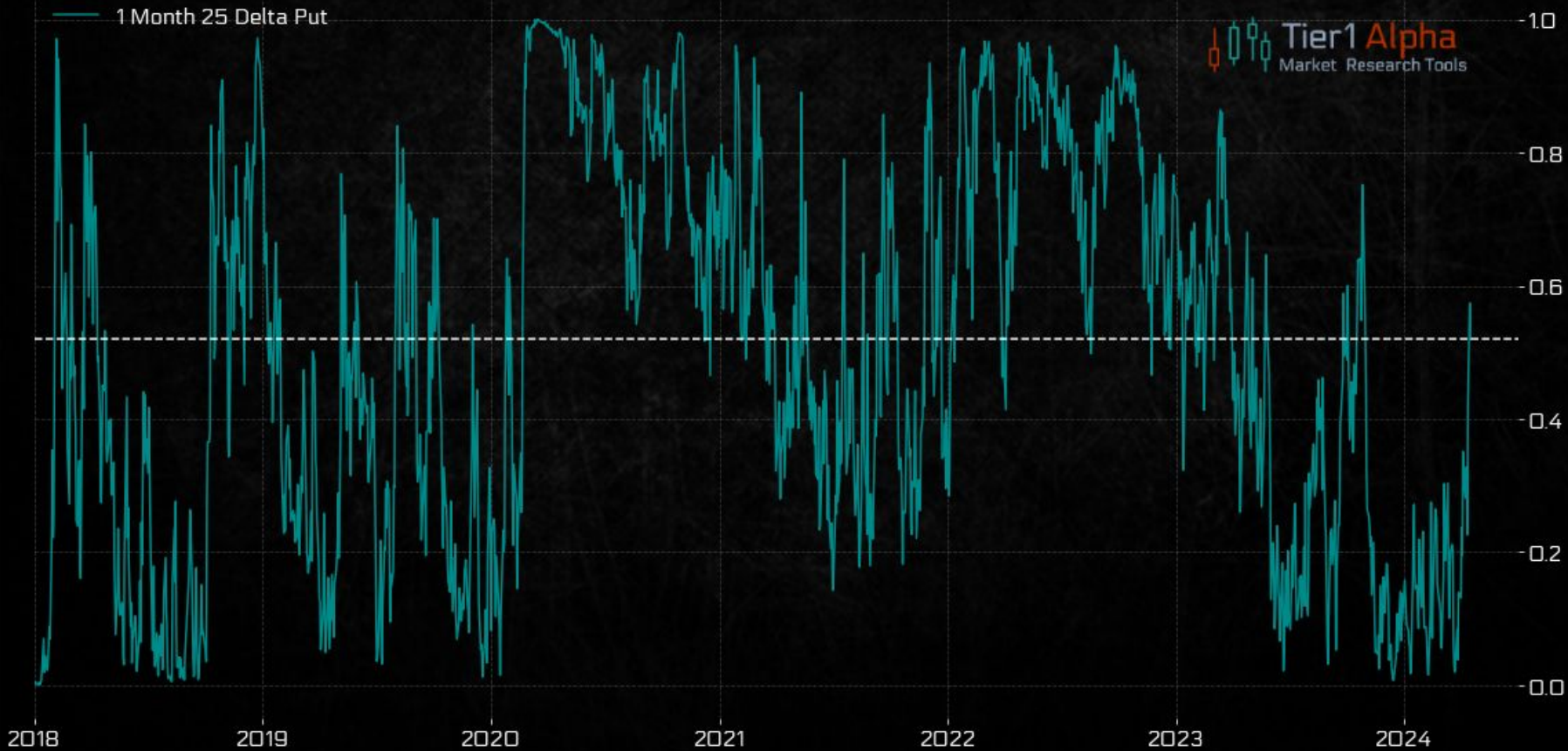
SPX+SPXW ODTE Put/Call Ratio Volume 5d Avg.



Date: 2024/04/16

Source: Intrinio/ Tier1Alpha.com

# Rolling Cost of 1 Month 25 Delta Put Options Percentile Rank



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



Date: 2024/04/16

Source: Intrinio/ Tier1Alpha.com

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

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Market Research Tools

## Strikes In Play

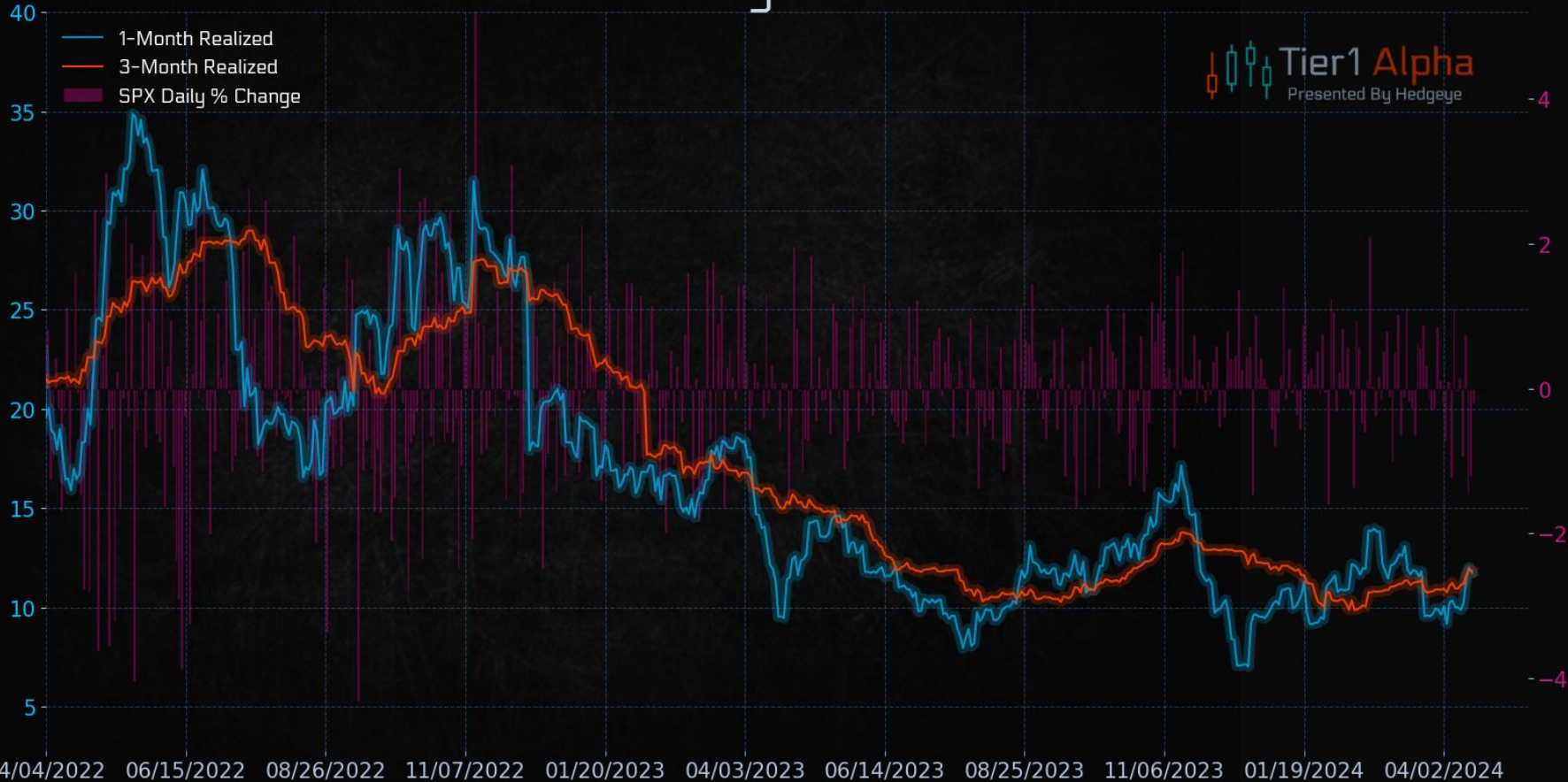
1950.0  
1980.0  
1995.0  
2000.0  
2040.0



Date: 2024/04/16

Source: Intrinio/ Tier1Alpha.com

# SPX Realized Volatility -- 1 Month vs 3 Month



Tier1 Alpha  
Presented By Hedgeye

Date: 2024/04/16

Source: Tier1Alpha.com



# Vol Control Implied Notional Flows

Tier1Alpha  
Presented By Hedgeye



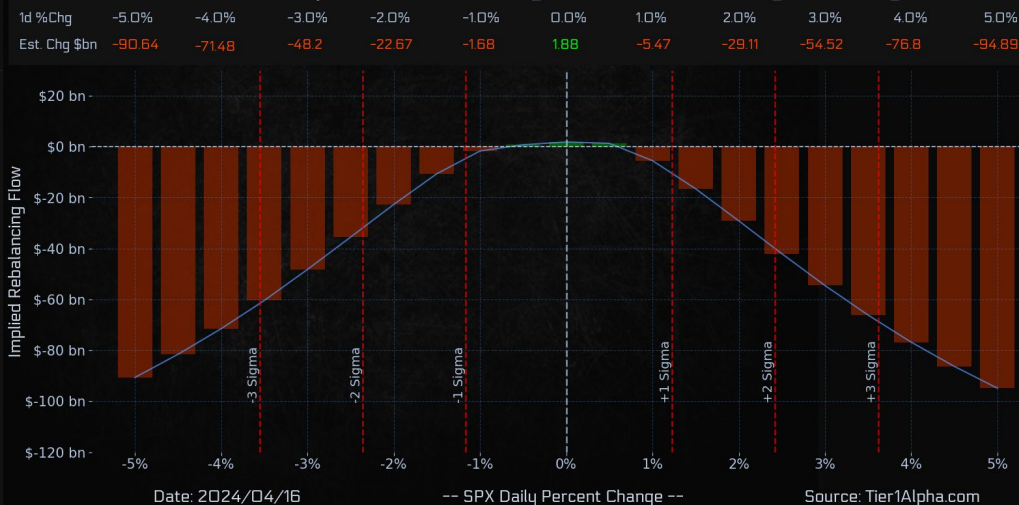
Date: 2024/04/16

Source: Tier1Alpha.com

### SPX Realized Vol Data In Sample for 2024-04-17

Dropoff	1m Dates	1m Drop %	3m Dates	3m Drop %
T+1	2024-03-19	0.6%	2024-01-18	0.9%
T+2	2024-03-20	0.9%	2024-01-19	1.2%
T+3	2024-03-21	0.3%	2024-01-22	0.2%
T+4	2024-03-22	-0.1%	2024-01-23	0.3%
T+5	2024-03-25	-0.3%	2024-01-24	0.1%
T+6	2024-03-26	-0.3%	2024-01-25	0.5%
T+7	2024-03-27	0.9%	2024-01-26	-0.1%
T+8	2024-03-28	0.1%	2024-01-29	0.8%
T+9	2024-04-01	-0.2%	2024-01-30	-0.1%
T+10	2024-04-02	-0.7%	2024-01-31	-1.6%

### Vol Control Implied Rebalancing Flow vs SPX Daily %Change



# CTA Equity Implied Notional Flows



Date: 2024/04/16

\*Not Investment Advice

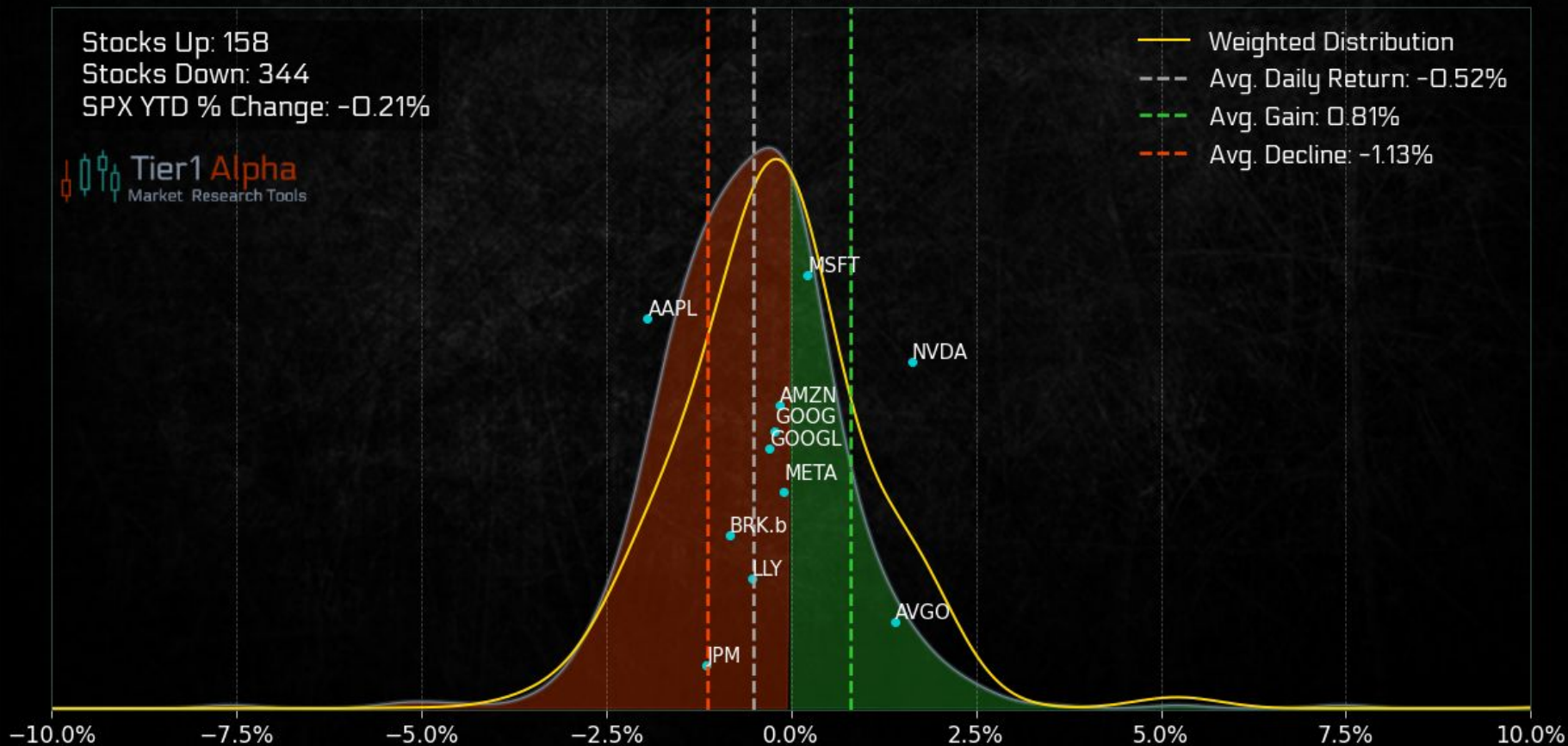
Source: Tier1Alpha.com

# S&P 500 MBAD Indicator for 2024/04/16

Stocks Up: 158  
Stocks Down: 344  
SPX YTD % Change: -0.21%



- Weighted Distribution
- - - Avg. Daily Return: -0.52%
- - - Avg. Gain: 0.81%
- - - Avg. Decline: -1.13%

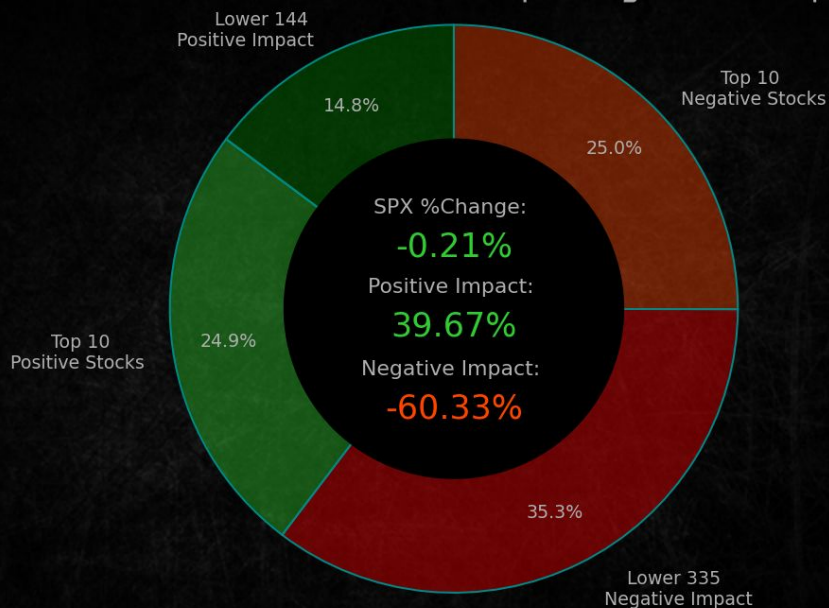


Date: 2024/04/16

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

Source: IEX Cloud/ Tier1Alpha.com

## SPX Constituents Relative Impact By Market Cap



Date: 2024/04/16

Source: Tier1Alpha.com

## SPX Constituents Relative Impact By Market Cap

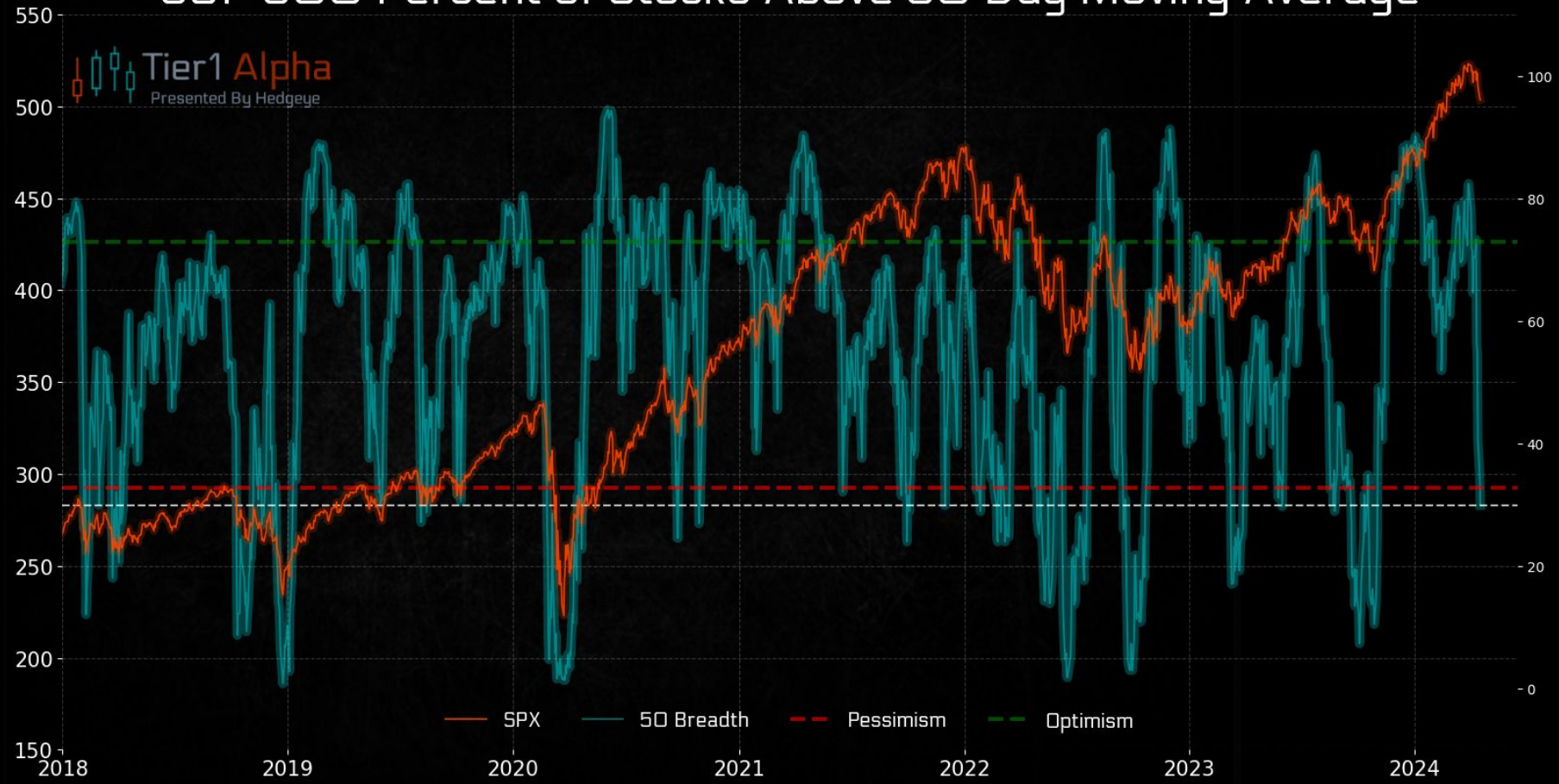
### Largest Positive Impact

### Largest Negative Impact

Top Contributor	Daily %Return	Positive Impact	% Weight	Top Detractor	Daily %Return.1	Negative Impact	% Weight.1
NVDA	1.6%	8.8%	5.07%	AAPL	-1.9%	-11.4%	5.61%
UNH	5.2%	5.7%	1.03%	TSLA	-2.7%	-3.1%	1.1%
AVGO	1.4%	2.0%	1.35%	BAC	-3.5%	-2.2%	0.59%
MSFT	0.2%	1.7%	7.17%	JNJ	-2.1%	-1.9%	0.86%
AMD	2.0%	1.4%	0.67%	JPM	-1.1%	-1.6%	1.31%
SMCI	10.6%	1.3%	0.12%	BRK.B	-0.8%	-1.5%	1.74%
CRM	1.7%	1.2%	0.67%	XOM	-0.8%	-0.9%	1.06%
NFLX	1.7%	1.1%	0.6%	HD	-0.9%	-0.8%	0.83%
GE	2.0%	0.9%	0.43%	LLY	-0.5%	-0.8%	1.38%
AMAT	1.8%	0.8%	0.39%	C	-2.6%	-0.8%	0.27%

# S&P 500 Percent of Stocks Above 50 Day Moving Average

Tier1 Alpha  
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SPX 50 Breadth Pessimism Optimism

Date: 2024/04/16

Source: IEX Cloud/ Tier1Alpha.com



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