Short Call Management Study

The short call option strategy is used by bearish traders with a high tolerance for risk, as the strategy has unlimited loss potential (in theory).

In this video, we'll examine over 10 years of 16-delta short call management data from 41,600 trades in the S&P 500 (ETF).

Which strategies were the most profitable?

Which were the least profitable?

How did implied volatility impact profitability?

Study Methodology

Underlying: S&P 500 ETF (SPY)

Time Frame: January 2007 to May 2017 (Most Recent Standard Expiration)

Entry Dates: Every Trading Day

Expiration Cycle: Standard Expiration Closest to 45 Days to Expiration (resulted in trades between 30-60 days to expiration)

Trade: Sell the 16-Delta Call Option

Number of Contracts: 1

16 Different Management Combinations

Profit or Expiration: 25% Profit, 50% Profit, 75% Profit or Expiration

Profit or -100% Loss: 25% Profit, 50% Profit, 75% Profit or -100% Loss

Profit or -200% Loss: 25% Profit, 50% Profit, 75% Profit or -200% Loss

Profit or -300% Loss: 25% Profit, 50% Profit, 75% Profit or -300% Loss

Example: 25% Profit or -100% Loss

Entry Credit: $1.00
Profit Target: $0.25 ($1.00 x 25%). Buy back call when it trades $0.75.
Loss Limit: $1.00 ($1.00 x 100%). Buy back call when it trades $2.00

Metrics We'll Analyze

Win Rates: The percentage of trades that were profitable.

Win Rate – Breakeven Win Rate: The difference between the success rate and what the strategy required to break even (based on average profits and losses).

Average P/L: The average profitability of each trade.

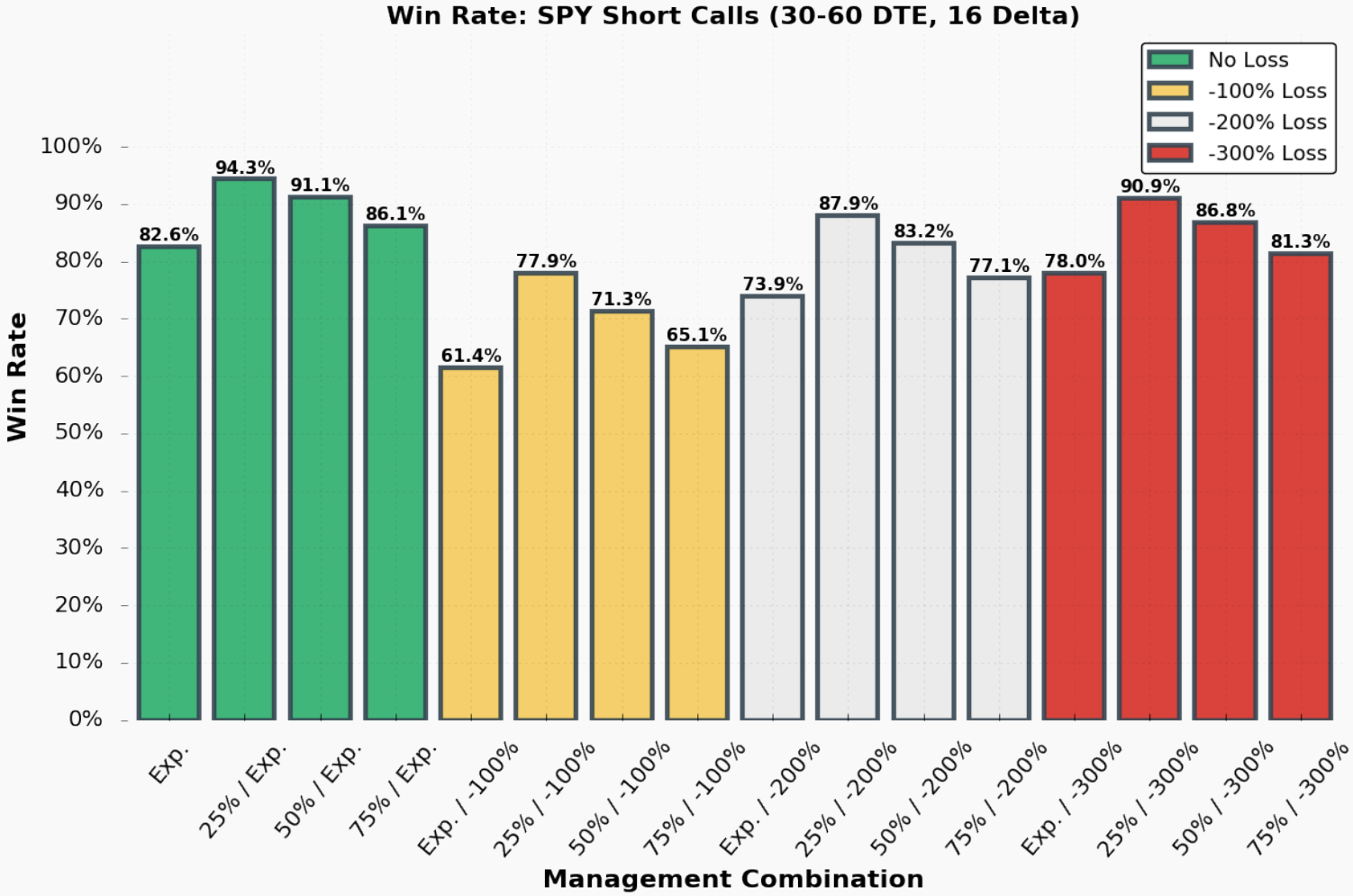
10th Percentile P/L: The P/L that 90% of trades exceeded (a probabilistic way of analyzing the worst drawdowns).

45-Day Adjusted P/L: Not all trades were held for the same amount of time. We standardized the average P/L of each trade to a 45-day period.

Win Rates

Win Rates: 16-Delta Short Call

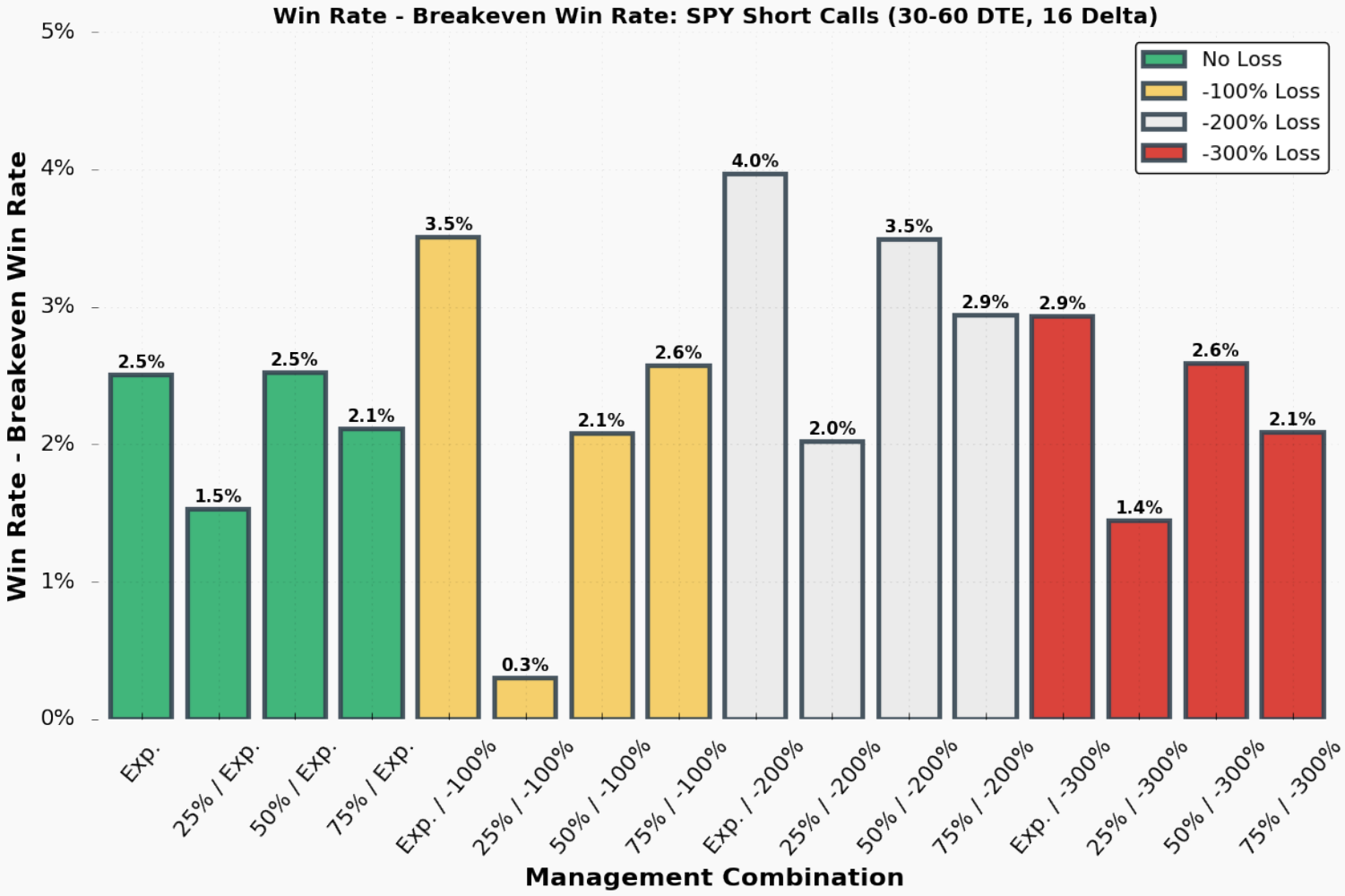
As expected, closing profitable trades early boosted the success rate, while taking losses reduced the success rate.



Win Rates - Breakeven Win Rates

Win Rate – Breakeven Win Rate: 16-Delta Short Call

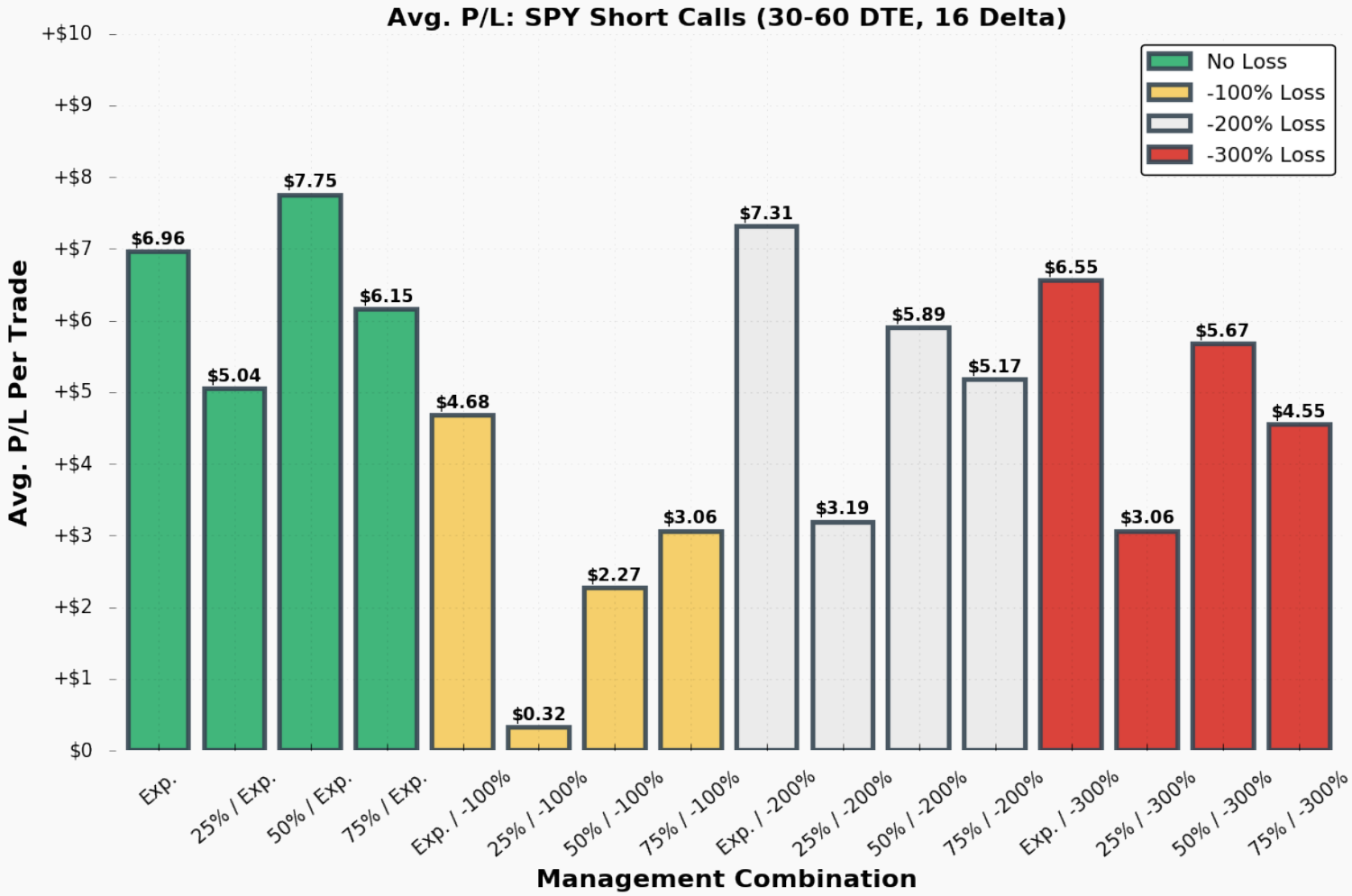
Interestingly, all strategies had a very slim margin between the success rates and the win rates required to break even.



Average P/L Per Trade

Average P/L: 16-Delta Short Call

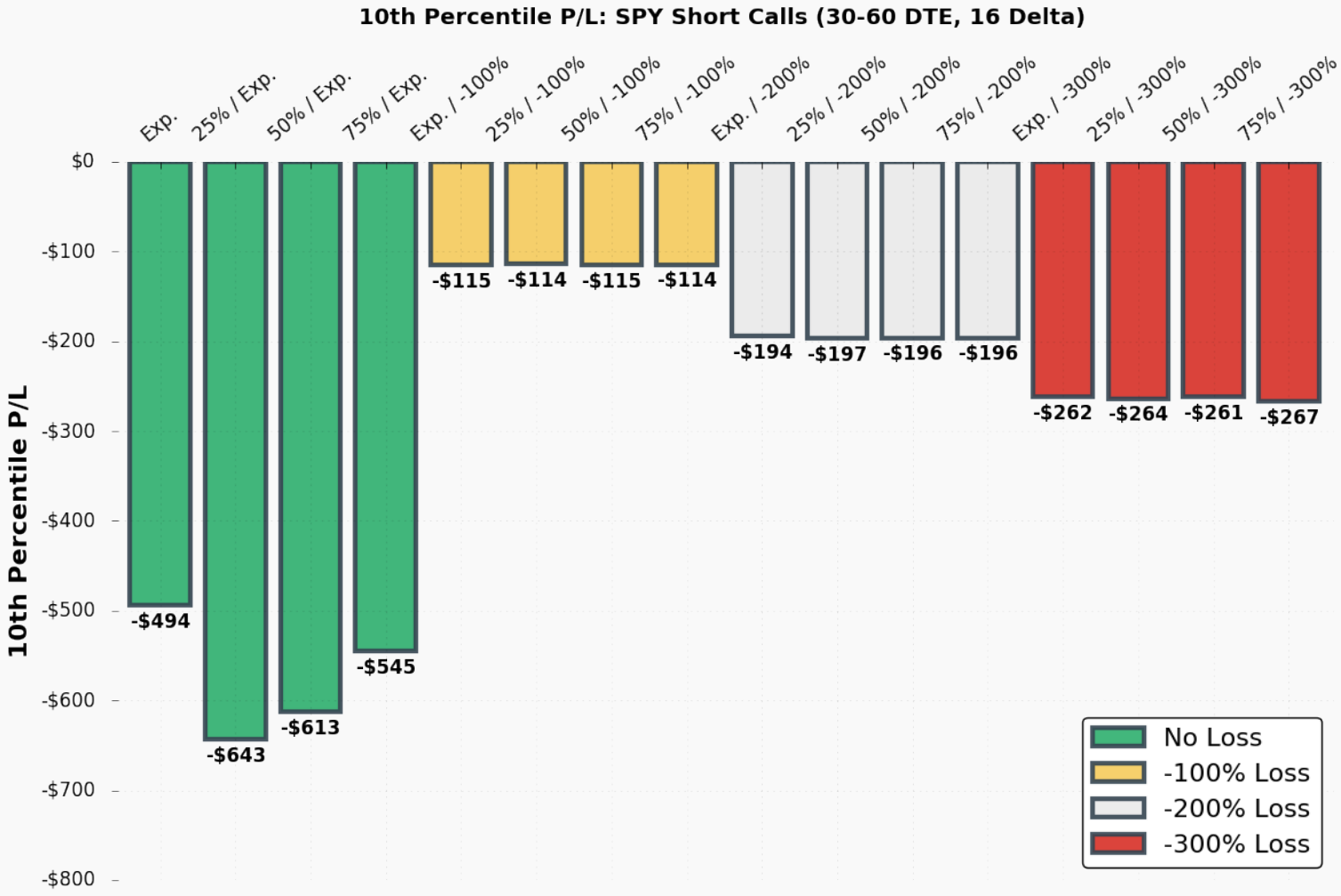
As the Win Rate – Breakeven Win Rate suggests, the earlier profit-taking approaches had the lowest average profitability on a per-trade basis:



10^{th} Percentile P/L

10th Percentile P/L: 16-Delta Short Call

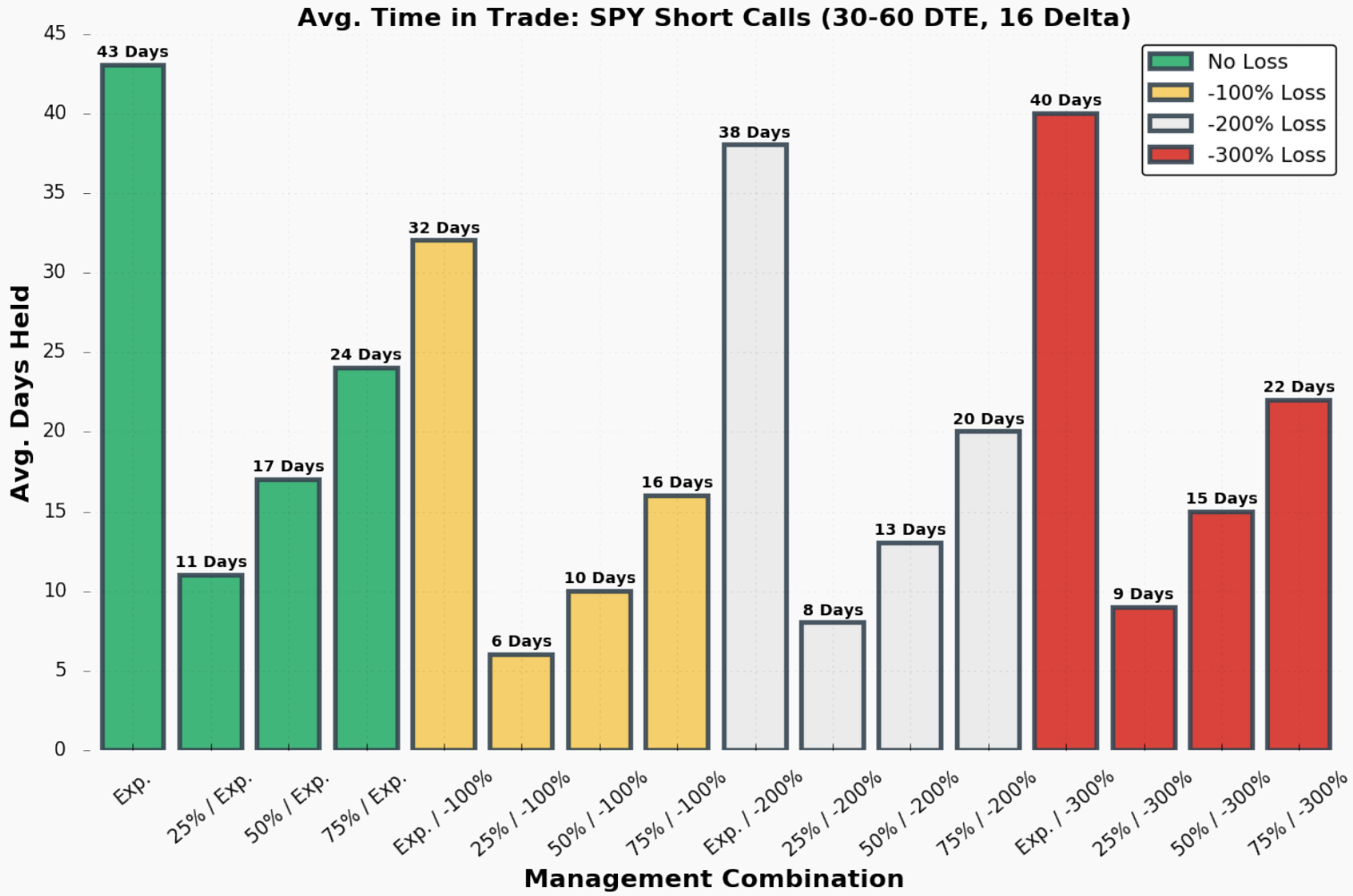
Taking losses reduced the worst-case drawdowns of the short call positions, as expected.



Average Time in Trade & 45-Day Adjusted P/L

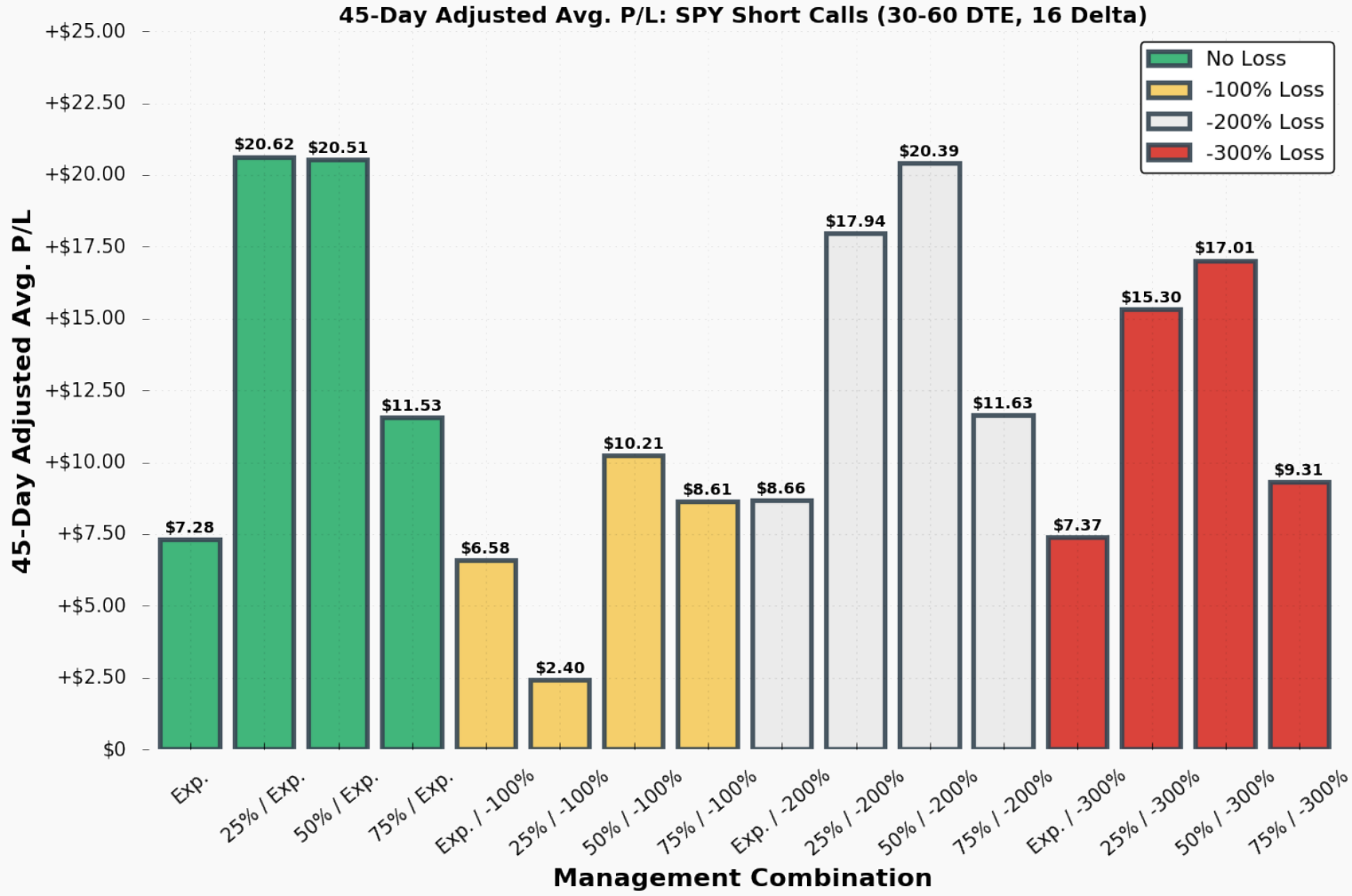
Average Time in Trade: 16-Delta Short Call

By closing trades earlier, each position is held for less time, on average:



Average 45-Day P/L: 16-Delta Short Call

Taking profits and losses earlier generates more trades in the same period of time, which increases the 45-day P/L estimations when taking profits early:



***45-Day Adjusted P/L** = Avg. P/L x (45 / Avg. Days in Trade)*

Short Call Performance by VIX Level

How did each short callmanagement approach perform in various implied volatility environments?

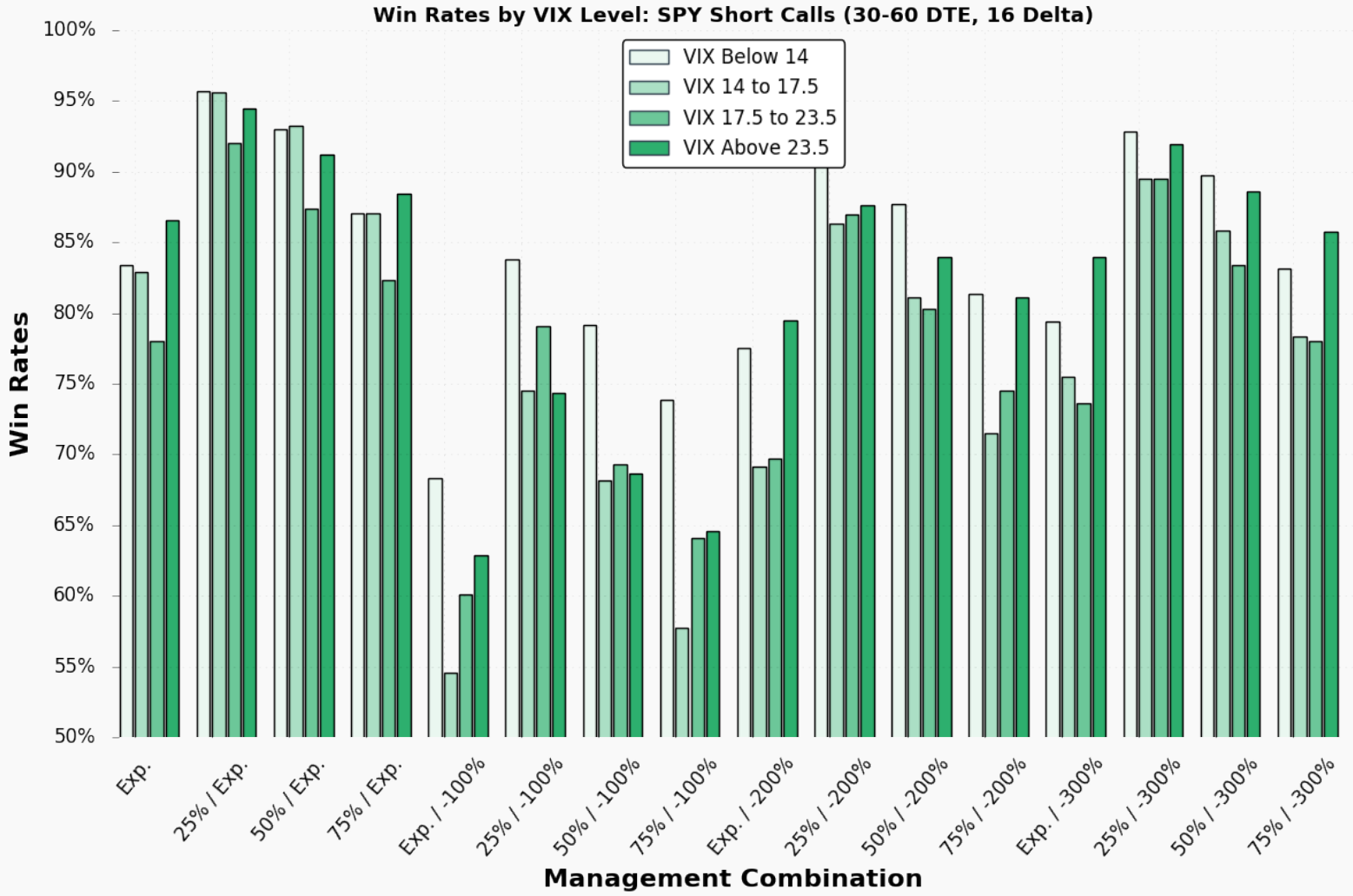
We evenly divided all of the occurrences into four VIX buckets based on the VIX level at the time of trade entry:

1. VIX Below 14
2. VIX Between 14 and 17.5
3. VIX Between 17.5 and 23.5
4. VIX Above 23.5

Win Rates by VIX Level

Win Rates by VIX: 16-Delta Short Calls

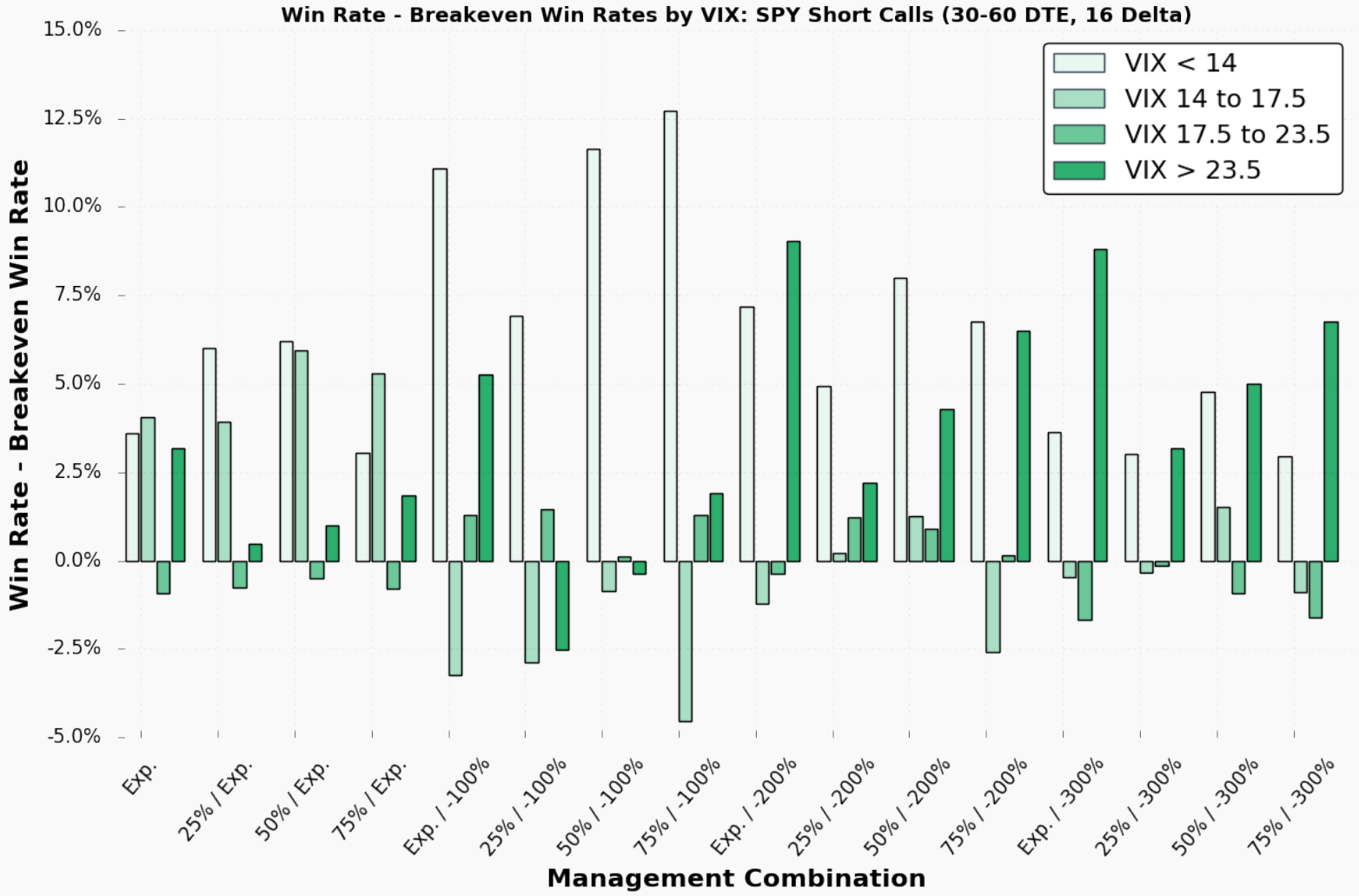
Each approach was relatively consistent across VIX environments:



Win Rates - Breakeven Win Rates by VIX Level

Win Rates - Breakeven Win Rates by VIX Level

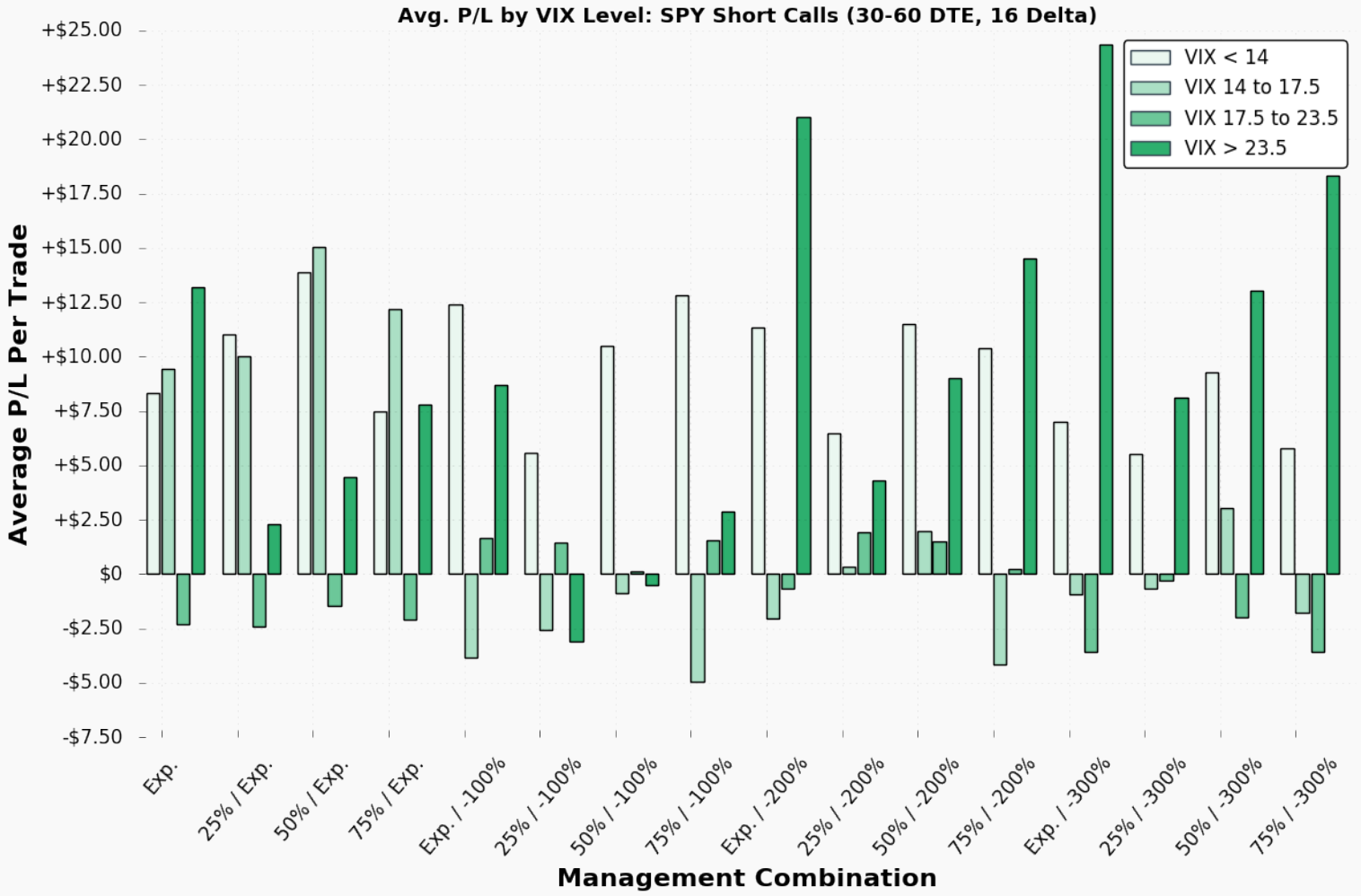
When analyzing the success rates relative to breakeven success rates, some short call approaches did not perform well:



Average P/L by VIX Level

Average P/L: 16-Delta Short Calls

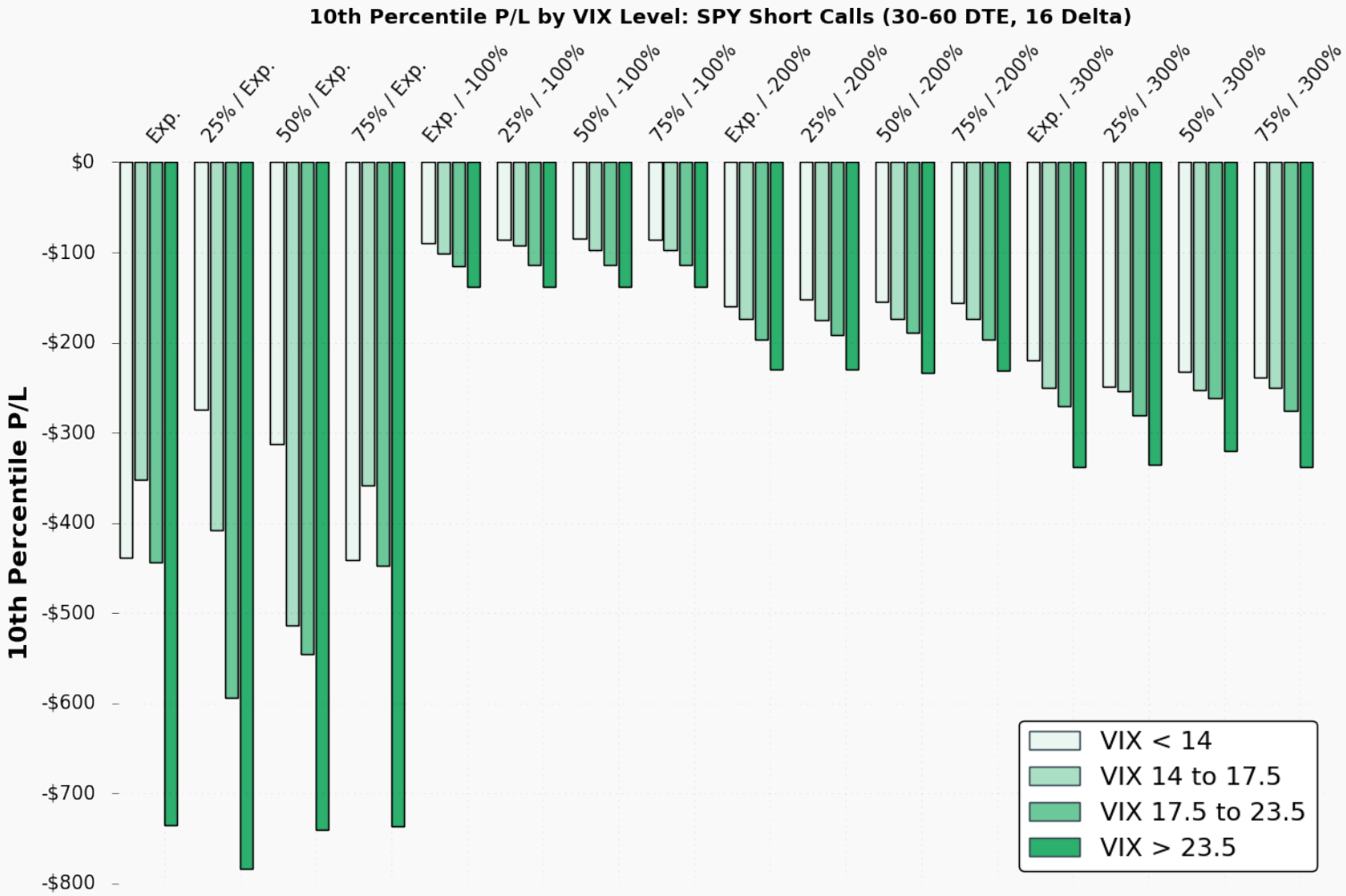
When filtered by VIX environment, the short call approaches with generous stop-losses and high profit targets performed the best with high VIX entries:



Worst Drawdowns by VIX Level

10th Percentile P/L: 16-Delta Short Calls

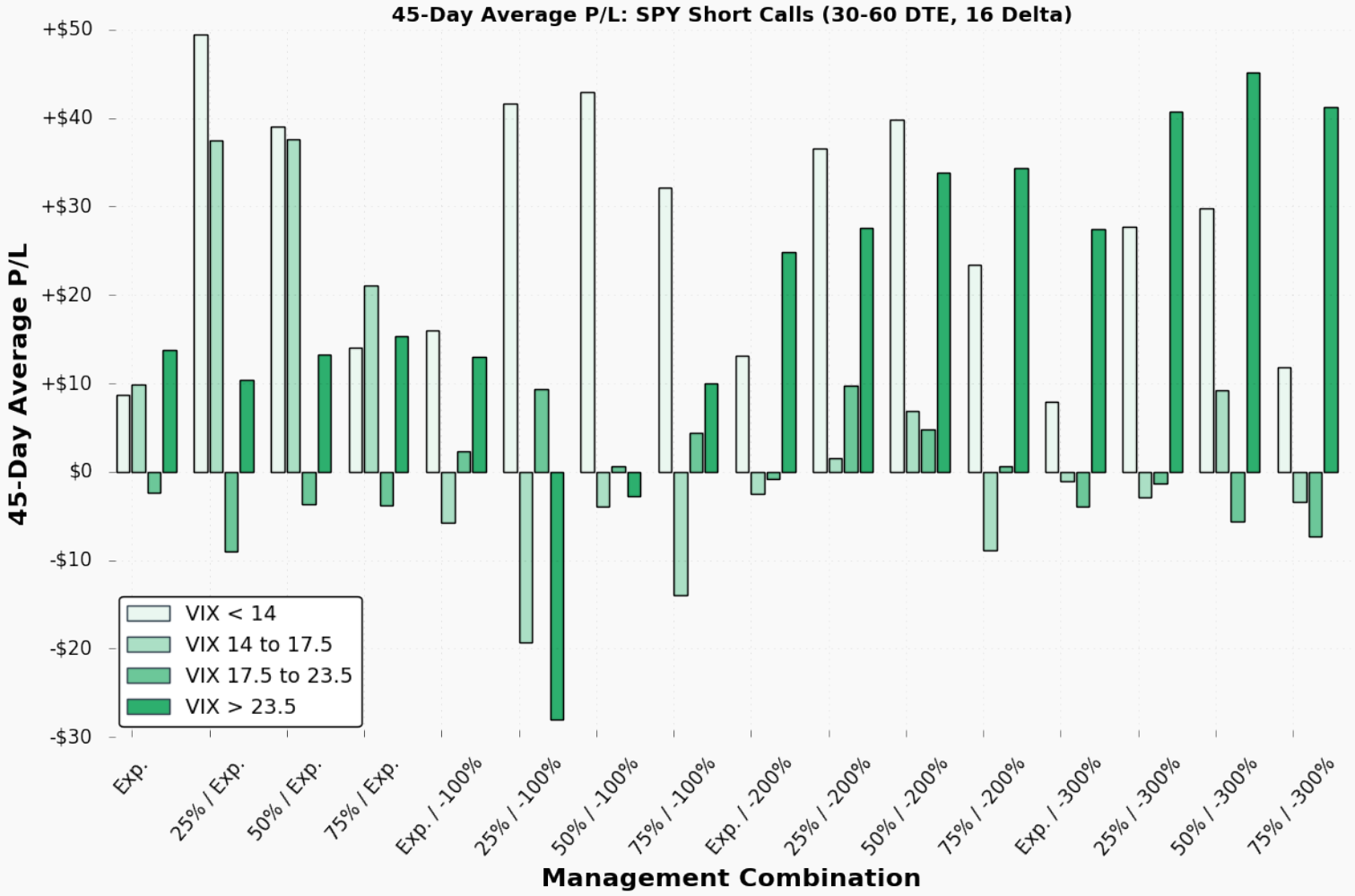
Consistent with the short put findings, short calls entered in high VIX environments have historically experienced the largest drawdowns:



45-Day Adjusted P/L by VIX Level

45-Day Average P/L: 16-Delta Short Calls

The 25% profit target approaches typically performed best in the low VIX environments. Stop-loss approaches performed the best in high VIX environments:



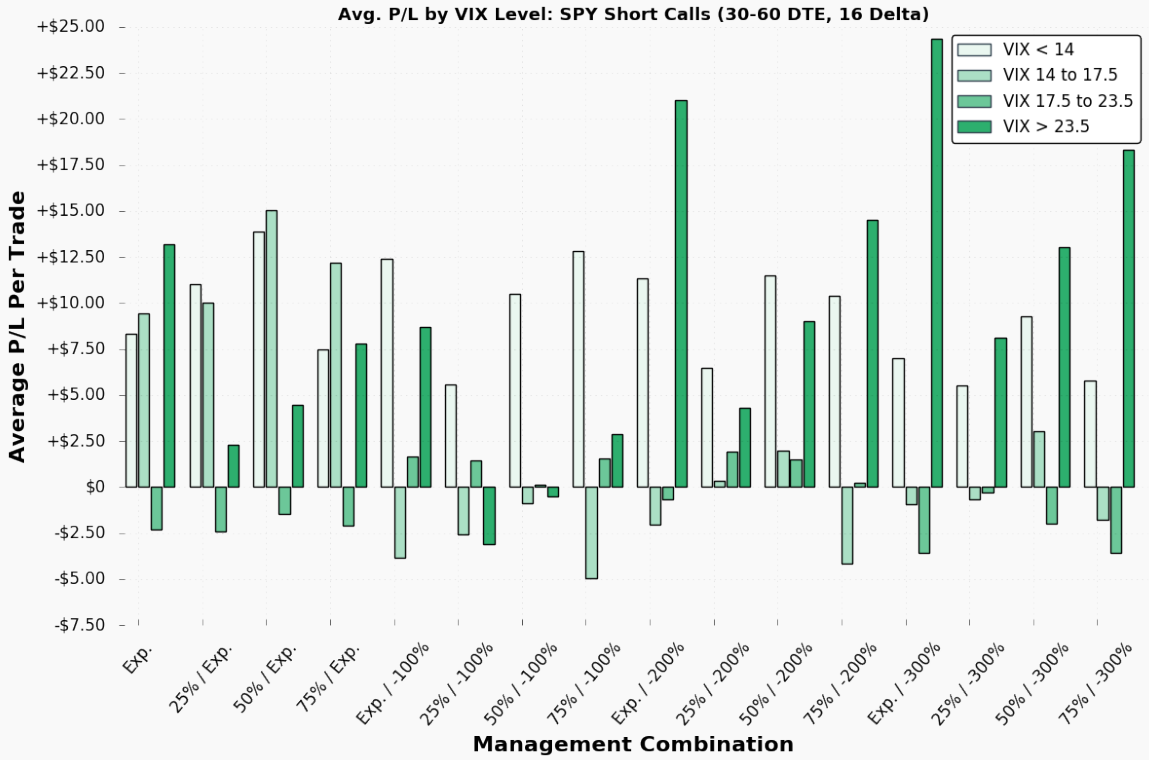
***45-Day Adjusted P/L** = Avg. P/L x (45 / Avg. Days in Trade)*

The KEY Findings

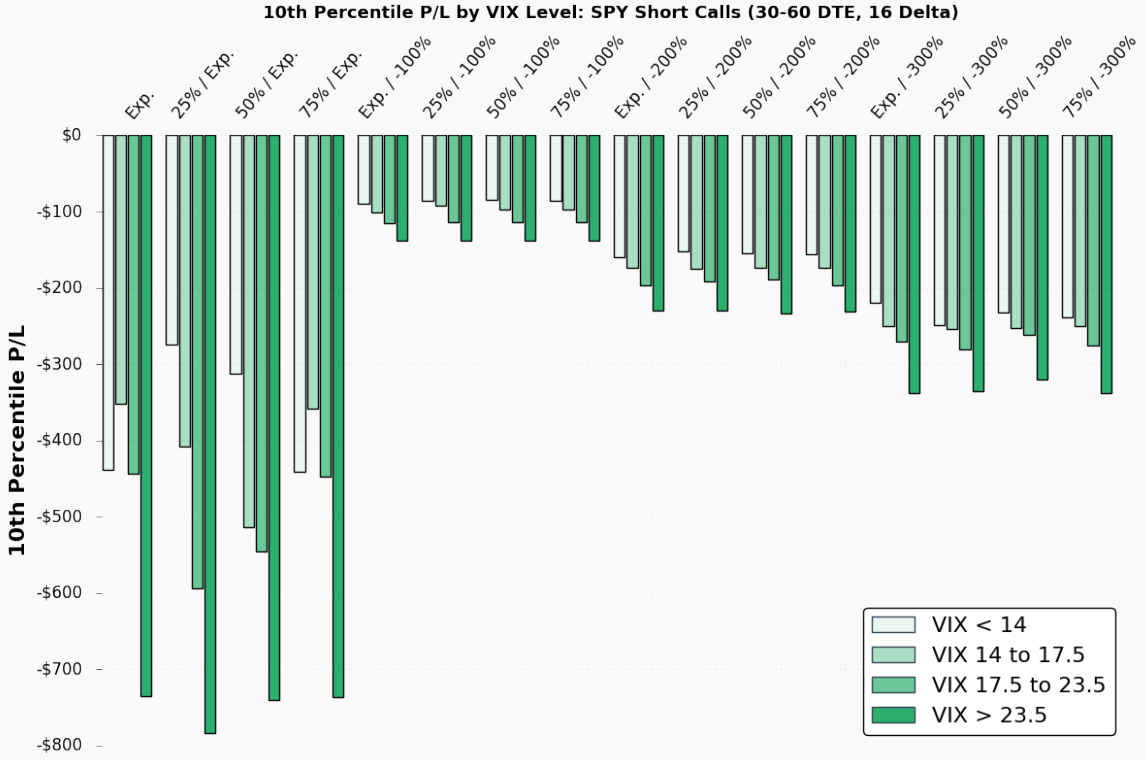
Key Findings: 16-Delta Short Calls

Historically, the 16-delta short call strategy has performed best in high VIX environments when paired with a high profit target (50-100%) and a generous stop-loss (-200% or -300%). Additionally, the worst drawdowns have historically occurred in the high VIX environments, which explains why using a stop-loss has added value.

Avg. P/L by VIX



Worst Drawdowns by VIX



Disclaimer

The risk of loss in trading securities, options, futures and forex can be substantial. Options involve risk and are not suitable for all investors. Consider all relevant risk factors, including their own personal financial situation, before trading. Past results of any individual or trading system published by projectoption are not indicative of future returns. Any earnings or income statements or examples shown through projectoption are only estimates of what might be possible now or in the future. There can be no assurance as to any particular financial outcome based on the use of projectoption. The information contained on this site is provided for general education and information purposes and therefore should not be considered complete, precise, or current. Some of the matters discussed are subject to detailed rules, regulations, and statutory provisions which should be referred to for additional detail and are subject to changes that may not be reflected in the website. projectoption assumes no responsibility for any errors or omissions in the website. projectoption will not be held liable for losses resulting from information or advice presented in this website (or third party); the use of such information is entirely at the risk of the user. projectoption assume no responsibility or liability for your trading and investment results whatsoever and under any circumstances. You agree that projectoption.com is not responsible for your earnings, the success or failure of your personal or business decisions, the increase or decrease of your finances or income level, or any other result of any kind that you may have as a result of information presented to you through projectoption.com. No statement or example used within projectoption.com should be construed as a recommendation to buy or sell a security or to provide investment advice. The inclusion of advertisements on projectoption should not be construed as an endorsement or an indication of the value of any product, service, or website. By accessing, viewing, or using this site in any way, you agree to be bound by the above conditions and disclaimers found on this site.

The examples and demonstrations in this presentation are for educational purposes only, and do not serve as recommendations to buy or sell securities.