BEGINNER'S GUIDE TO 0DTE

August 2024

Intro to 0DTE

What is 0DTE?

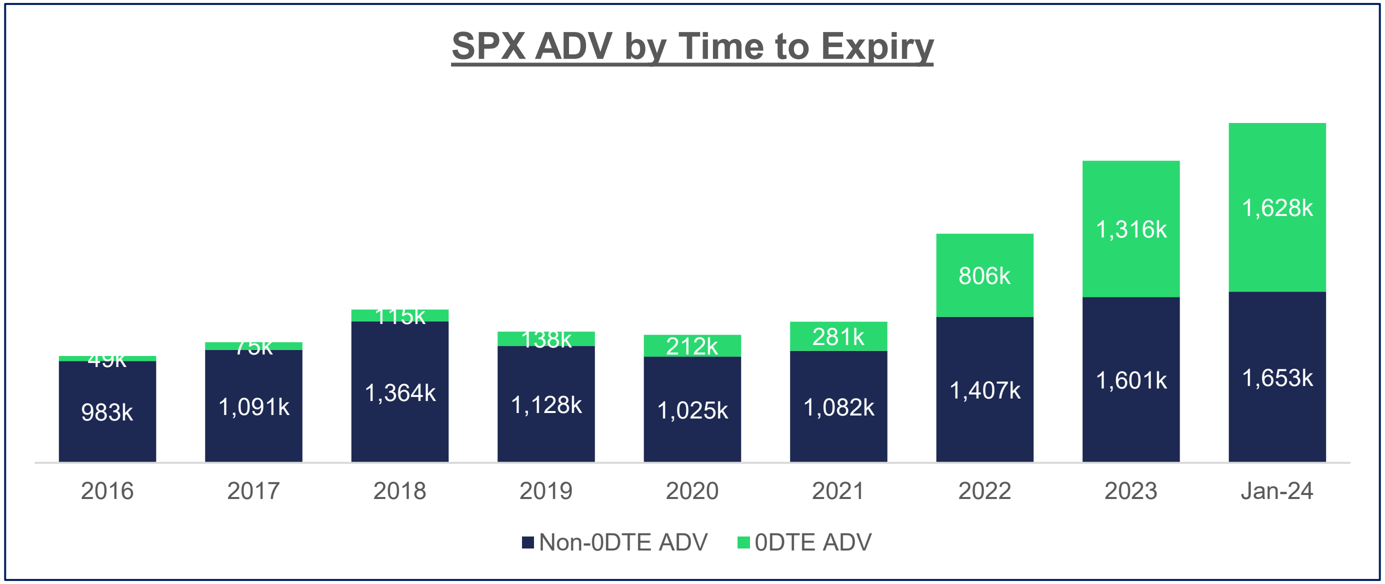
- 0DTE describes market participants trading options on the day of expiration
- Clearing up misconceptions → 0DTE options are not new products and no 0DTE options are launched with a same day expiration. Series are listed weeks or often much longer in advance.
- 0DTE trading can occur in any symbol with listed options but is most associated with the most liquid index and ETF options

What has changed?

- Increase in symbols offering M, T, W, Th expirations in addition to standard Fridays
    - SPX: M, W options listed in 2016; T, Th options listed in 2Q2022
    - SPY: W in 2016; M in 2018; T, Th in 4Q2022
    - XSP: Added T, Th to round out weekly calendar in 4Q2022
    - RUT: Added T, Th to round out weekly calendar in 1Q2024
    - IWM and QQQ now also offer expirations every day of the week

0DTE – Rapid growth

- SPX 0DTE volume has grown 60% annually from 2016 to 2023 and is on pace to hit another record in 2024.
- SPX non-0DTE volume has grown at 7% annually.
- 45% of total SPX volume in 2023 was 0DTE.
- 20% of *total* U.S. listed options volume in 2023 was 0DTE (even though most underlyings still only have an expiry once per week).



Why are 0DTE strategies popular?

Outcomes Known Quickly: 0DTE allows users to take very short-term positions and hedges on the market. The outcome of the trade is known the same day, and less capital is needed than equivalent strikes with further dated expiries.

Liquidity & Lower Premiums: 0TE options tend to be highly liquid with higher trading volumes and very tight bid-ask spreads. With potential lower premiums, they can be less expensive to trade short-term volatility. But short-term options, particularly 0DTE options, can come with risks due to potential intraday volatility and limited time to expiration.

Trading Tactically: With 0DTE options available every trading day, you have more flexibility in your trading strategy – take advantage of short-term price movements, react quickly to news events and adjust your position based on market conditions.

- >95% of opening SPX 0DTE trades have capped risk

Risks

1) Amplified Greeks
2) Increased leverage with less time to expiry
3) Little time to adjust
4) Exercise/assignment on physically settled contracts (ETF & single stock) *
5) Contra exercise risks after market close (ETF & single stock) *

* Cash-settled index option contracts mitigate issues around share delivery

Cash vs Physical settlement

Example: Both XSP® index and SPY ETF close at 476.68 on Jan 12th

Index Options Example (XSP)

- Customer long 1 XSP Jan12 475 Call
- Position settles to cash
  - 1 contract x $1.68 x 100 = $168 credit to account
- No residual position

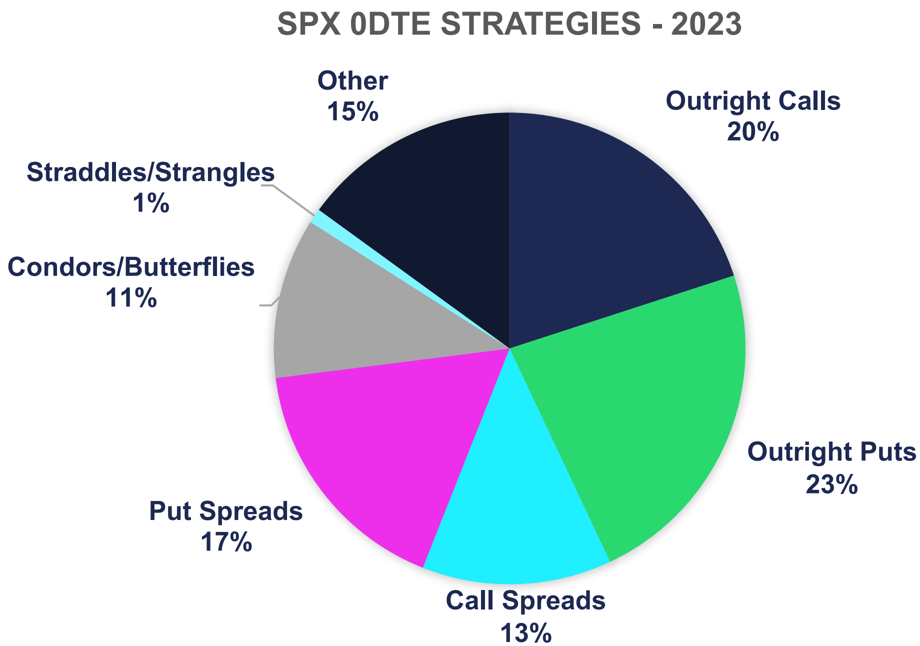
ETF Options Example (SPY)

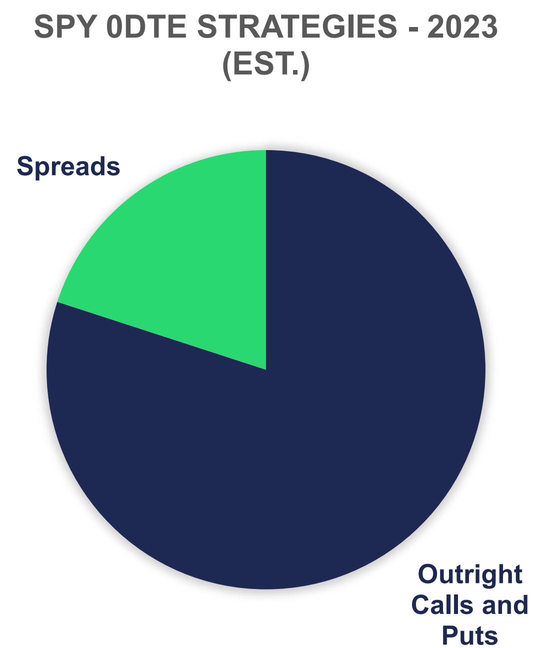
- Customer long 1 SPY Jan12 475 Call
- Customer exercises call option
  - Pays $475 for 100 shares = $47,500 cash outlay
- Long 100 share residual position on next trading day

POTENTIAL MARKET GAP RISK

Common 0DTE strategies

- Strategies vary by product
- SPX 0DTE volumes nearly split evenly between single leg and complex
  - Near balanced customer activity and prevalence of spreads → Net MM positioning fairly balanced
- SPY 0DTE volumes tend to be more outright single leg
- SPX: Credit spreads (verticals & iron condors) tend to be more popular than debit spreads





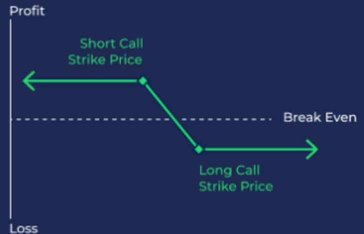
Source: Cboe C1 data, customer origin - 2023

Common 0DTE strategies (cont)

CALL SPREAD

Example:
Sell 1 call short
Buy 1 call at any prices beyond the short call

Profit & Loss:
The trade would become profitable if SPX moves down or stay the same, or moves below the price of the short strike. Maximum profit for a call spread is the premium received. The trade would become unprofitable if SPX moves beyond the difference or width of the strikes. Maximum loss is the width of the strikes minus the premium received.



PUT SPREAD

Example:
Sell 1 put short
Buy 1 put any ay price further out-of-the money (OTM) from the short put

Profit & Loss:
The trade would become profitable if SPX rallies and the put spread decreases in value. The trade would become unprofitable if SPX falls, resulting in the put spread increasing in value. Maximum profit for the put spread is the premium received. Maximum loss is the width of the strikes minus the premium received.

IRON CONDOR

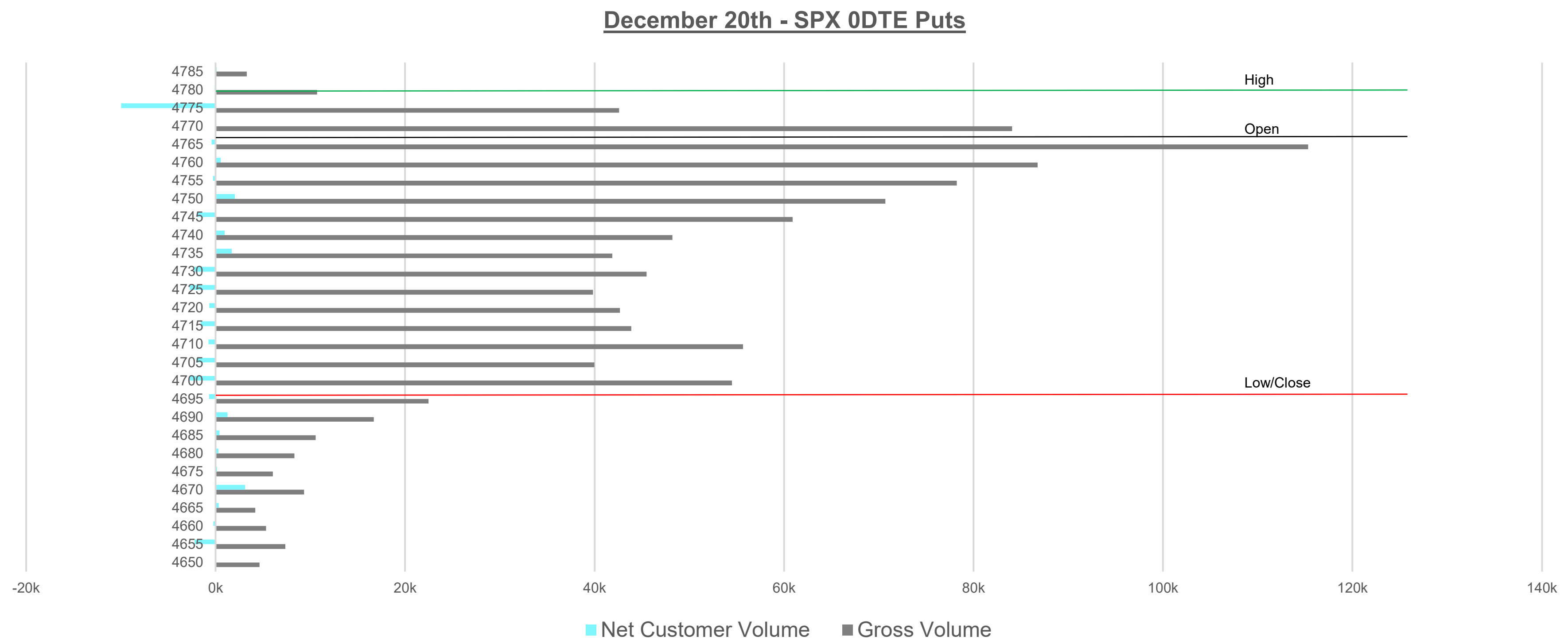
Overview:
You may buy an iron condor if you think that SPX will trade out of a specific range at expiry. If you sell an iron condor, you may think that SPX will trade within a specific range.

Example:
If you sell a 5-wide iron condor, the max loss will be $500 minus the credit received.

Profit & Loss:
The maximum loss in selling an iron condor is the (spread width of the call spread or put spread) – premium collected at trade entry. The maximum loss in buying an iron condor is the premium paid to enter the trade.

Dec. 20th Case Study – Customer Behavior

- On December 20th, the market fell 1.47% (close to close), with an intraday move of 1.71% following lower rate cut expectations by the Fed.
  - 4.2MM SPX contracts traded (6th highest ever) with 1.9MM of those being 0DTE.
- 1.1MM SPX 0DTE puts traded, on a net basis customers were short only 17k puts (1.6% net short).
  - The largest imbalance was customers being net short 10k of the 4775 puts – leaving MMs net long gamma at that strike.



Source: Cboe C1 open-close data - 2023

Cboe Index Options

Cboe Index Options available through moomoo with > 1 Expiration per Week

Cboe SPX
S&P 500 Index

Cboe XSP
Mini S&P 500 Index
(1/10th SPX)

Cboe VIX
Cboe Volatility Index

Cboe RUT
Russell 2000 Index

Benefits of Index Options

Cash Settlement
Trading account credited or debited in cash, not in ETF shares.

60/40 Tax Treatment
Capital gains may benefit from 60/40 tax treatment.*

European Exercise
No risk of early exercise or assignment since contracts may only be exercised at expiration.

Certainty of Settlement
Cash settled European style options offer no contra-exercise eliminating potential gap risk for writers.

Extended Access
Ability to open positions until market close without worry of assignment risk.

*Under section 1256 of the Tax Code, profit and loss on transactions in certain exchange-traded options, including SPX and XSP Options, are entitled to be taxed at a rate equal to 60% long-term and 40% short-term capital gain or loss, provided that the investor involved, and the strategy employed satisfy the criteria of the Tax Code. Investors should consult with their tax advisors to determine how the profit and loss on any particular option strategy will be taxed.

Resources

Find a broker

The Rise of SPX & 0DTE Options

Debunking Options Myths

The Evolution of Same Day Options Trading

Short-Term vs. Long-Term: Why Retail Traders Flock to 0DTE

SPX and XSP comparison calculator

SPX factsheet

XSP factsheet

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