IBKRCampus

IBKRWebinars

www.ibkrcampus.com/webinars
www.ibkrcampus.eu/webinars

June 12, 2024

Nasdaq

Short-dated Options and Why They're Misunderstood

Kevin Davitt
Head of Index Options Content
Nasdaq

Sean Feeney
Head of U.S. Options
Nasdaq

Andrew Hiesinger
U.S. Options Product Strategy Specialist
Nasdaq

IBKRCampus
IBKRWebinars

Disclosure:

Options involve risk and are not suitable for all investors. For information on the uses and risks of options, you can obtain a copy of the Options Clearing Corporation risk disclosure document titled Characteristics and Risks of Standardized Options by visiting ibkr.com/occ. Multiple leg strategies, including spreads, will incur multiple transaction costs.

Futures are not suitable for all investors. The amount you may lose may be greater than your initial investment. Before trading futures, please read the CFTC Risk Disclosure. For a copy visit your local Interactive Brokers Website.

Any discussion or mention of an ETF is not to be construed as recommendation, promotion or solicitation. All investors should review and consider associated investment risks, charges and expenses of the investment company or fund prior to investing. Before acting on this material, you should consider whether it is suitable for your particular circumstances and, as necessary, seek professional advice.

Complex or Leveraged Exchange-Traded Products are complicated instruments that should only be used by sophisticated investors who fully understand the terms, investment strategy, and risks associated with the products. Learn more about the risks here.

Security futures involve a high degree of risk and are not suitable for all investors. The amount you may lose may be greater than your initial investment. Before trading security futures, please read the Security Futures Risk Disclosure Statement. For a visit copy your local Interactive Brokers Website.

There is a substantial risk of loss in foreign exchange trading. The settlement date of foreign exchange trades can vary due to time zone differences and bank holidays. When trading across foreign exchange markets, this may necessitate borrowing funds to settle foreign exchange trades. The interest rate on borrowed funds must be considered when computing the cost of trades across multiple markets.

The Order types available through Interactive Brokers Trader Workstation are designed to help you limit your loss and/or lock in a profit. Market conditions and other factors may affect execution. In general, orders guarantee a fill or guarantee a price, but not both. In extreme market conditions, an order may either be executed at a different price than anticipated or may not be filled in the marketplace.

There is a substantial risk of loss in trading futures and options. Past performance is not indicative of future results.

Any stock, options or futures symbols displayed are for illustrative purposes only and are not intended to portray recommendations.

IRS Circular 230 Notice: These statements are provided for information purposes only, are not intended to constitute tax advice which may be relied upon to avoid penalties under any federal, state, local or other tax statutes or regulations, and do not resolve any tax issues in your favor.

Interactive Brokers LLC is a member of NYSE FINRA SIPC

Interactive Brokers Canada Inc - Is a member of the Canadian Investment Regulatory Organization (CIRO) and Member - Canadian Investor Protection Fund

Interactive Brokers (U.K.) Limited is authorised and regulated by the Financial Conduct Authority. FCA Register Entry Number 208159

Interactive Brokers Ireland Limited is regulated by the Central Bank of Ireland. CBI, reference number C423427

Interactive Brokers Australia Pty. Ltd. - ABN 98 166 929 568 is licensed and regulated by the Australian Securities and Investments Commission AFSL: 453554

Interactive Brokers Singapore Pte. Ltd. - Is licensed and regulated by the Monetary Authority of Singapore. MAS, Licence No. CMS100917

Interactive Brokers Hong Kong Limited is regulated by the Hong Kong Securities and Futures Commission, and is a member of the SEHK and the HKFE

Interactive Brokers India Pvt. Ltd. member: NSE, BSE, SEBI. Regn. No. SEBI Registration No. INZ000217730; NSDL: IN-DP-NSDL-301-2008

Interactive Brokers Central Europe Zrt. is licensed and regulated by the Central Bank of Hungary (Magyar Nemzeti Bank) under no. H-EN-III-623/2020

As with all investments, your capital is at risk

www.ibkrcampus.com/webinars
www.ibkrcampus.eu/webinars

Nasdaq

Impact of Non-Standard Expiries in Listed Options

June 12, 2024

Discussion Topics

U.S. Options Industry Growth & Rise in Shorter-Dated Trading

Same-Day Expiring Options History

Institutional vs. Retail Volume Trends in Same-Day Expiring Options

Open Interest Reduction as Expiry Approaches

Realized Volatility Comparison Approaching Market Close

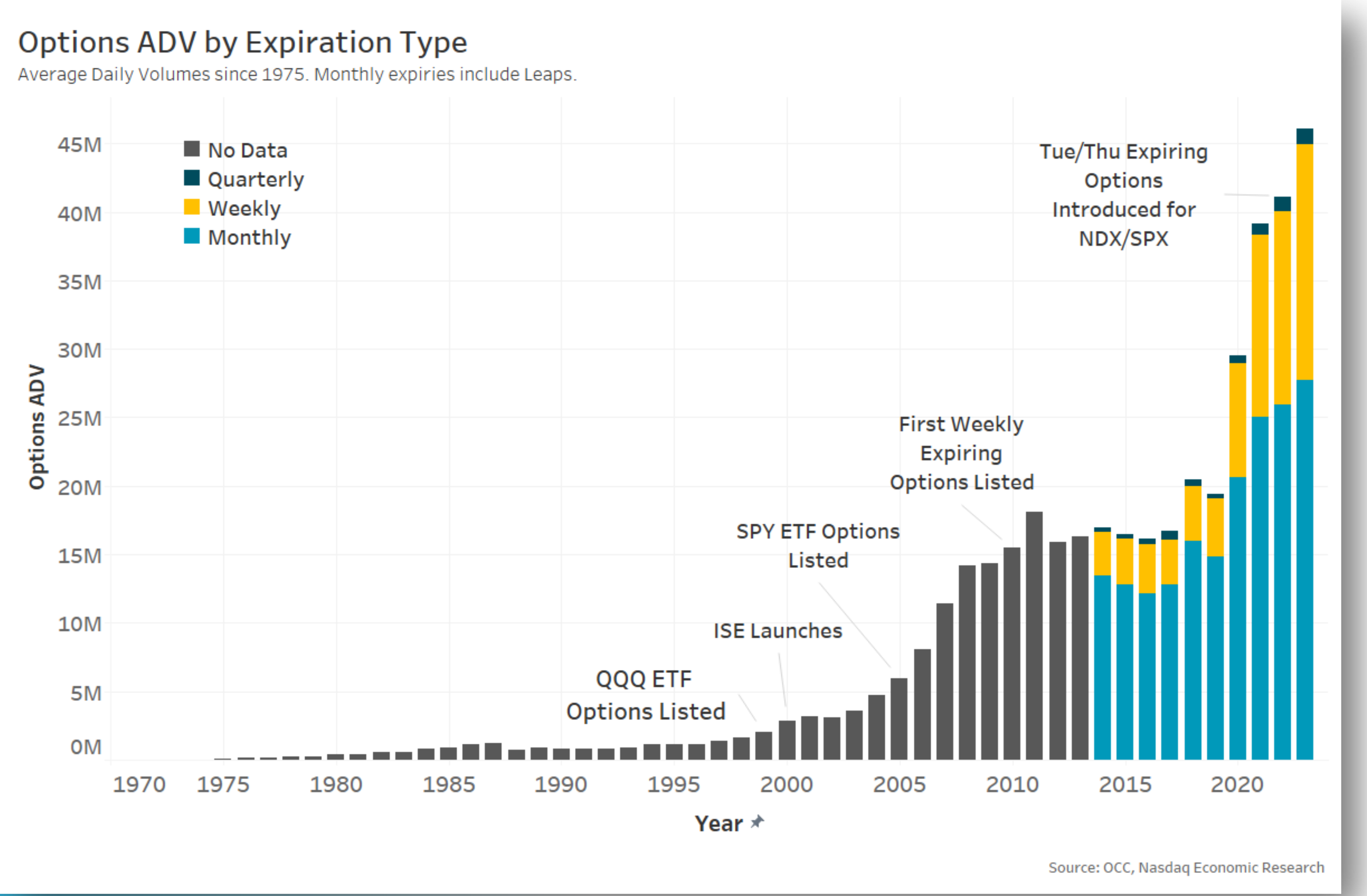
Market Makers -

What's Driving the Growth?

- As additional product has expanded, the industry has grown
- Over 100% volume growth since 2018
- Multiple event causation

Key Points:

- Available product & differences between asset classes
- Options share by underlying / asset class (index)
- Open interest tendencies over the lifecycle of an option



Source: OCC/Nasdaq (Annual ADV 1970 – 2024)*

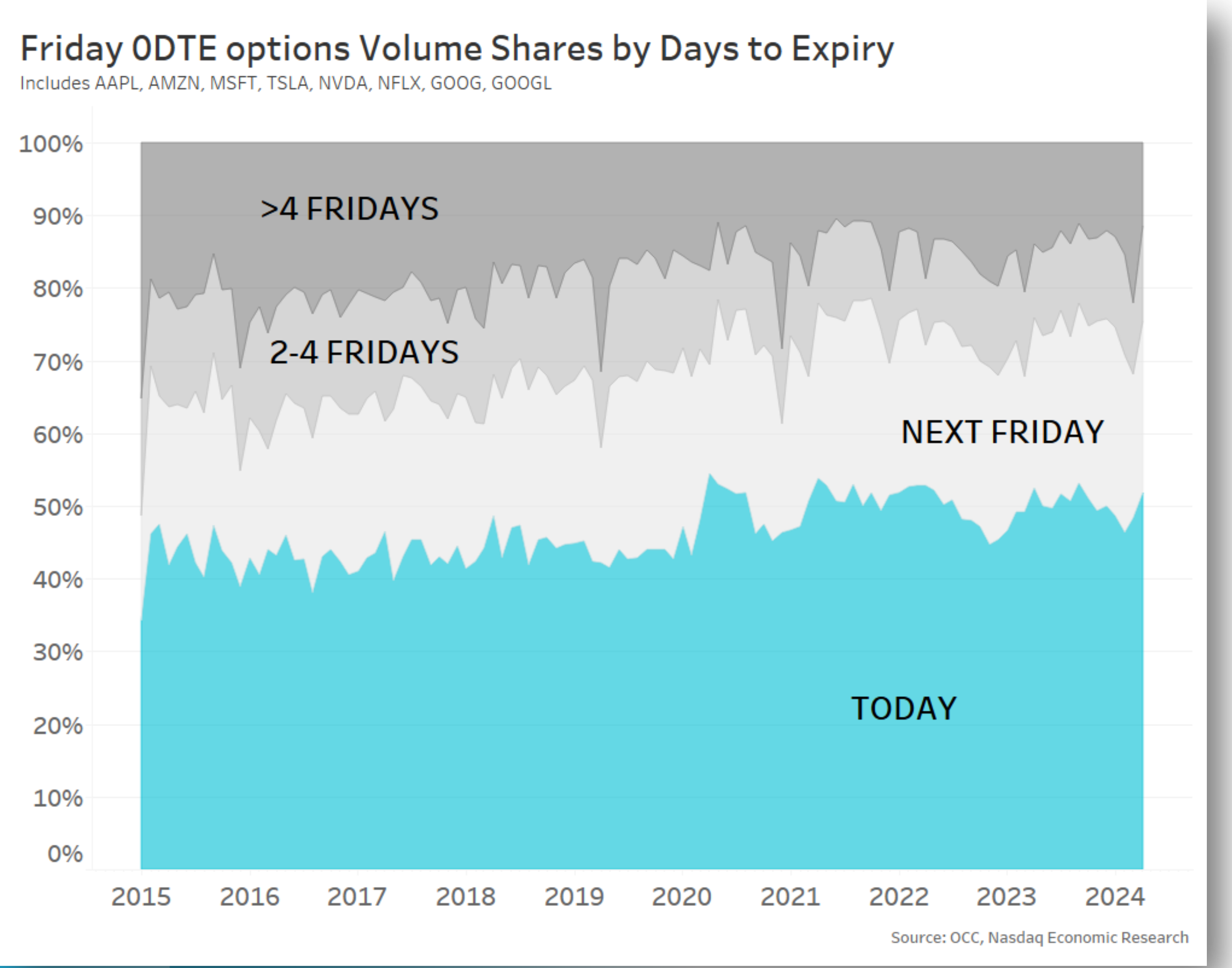
Same-Day Expiring Options

History – Multi-List

AAPL, AMZN, MSFT, TSLA, NVDA, NFLX, GOOG, GOOGL

Key Points:

- Same-day expiring options are not a **product** … they are a point in time
- Exchange listing processes – the differences between option expiry types
- Comparison to February 2018 "Volmageddon" event
    - Retail short vs. long convexity
    - Professional hedging techniques
    - Available hedging product
- The growth in short-dated weekly options volume is a direct result of additional product added to the asset class
- Classically, ~40% of actively traded equity instrument volume on day of expiry is in the expiring series (0-DTE)
- No data to suggest additional systemic risk due to increased trading in short-term instruments

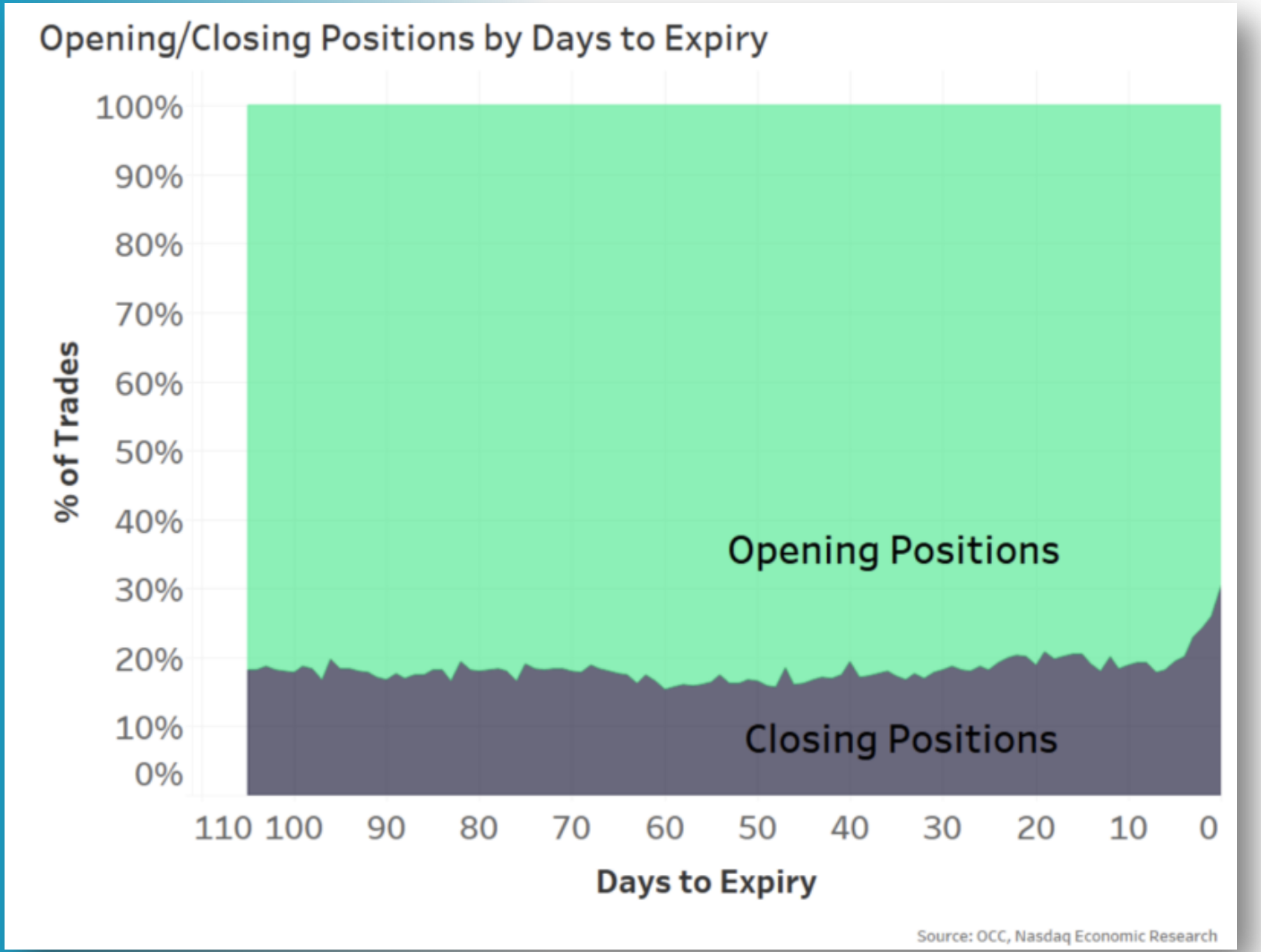


Source: Nasdaq (January 2015 – May 2024)

Proportion of Trading

Opening & Closing Positions by Days To Expiry

- ~50% increase in closing positions in the final week of the option.
- The concentration of volume on the date of expiry is partly caused by investors preferring to close positions rather than deal with administrative costs and hedging risks associated with exercising.
- The closing of these positions contribute to the concentration of ADV on expiry day.

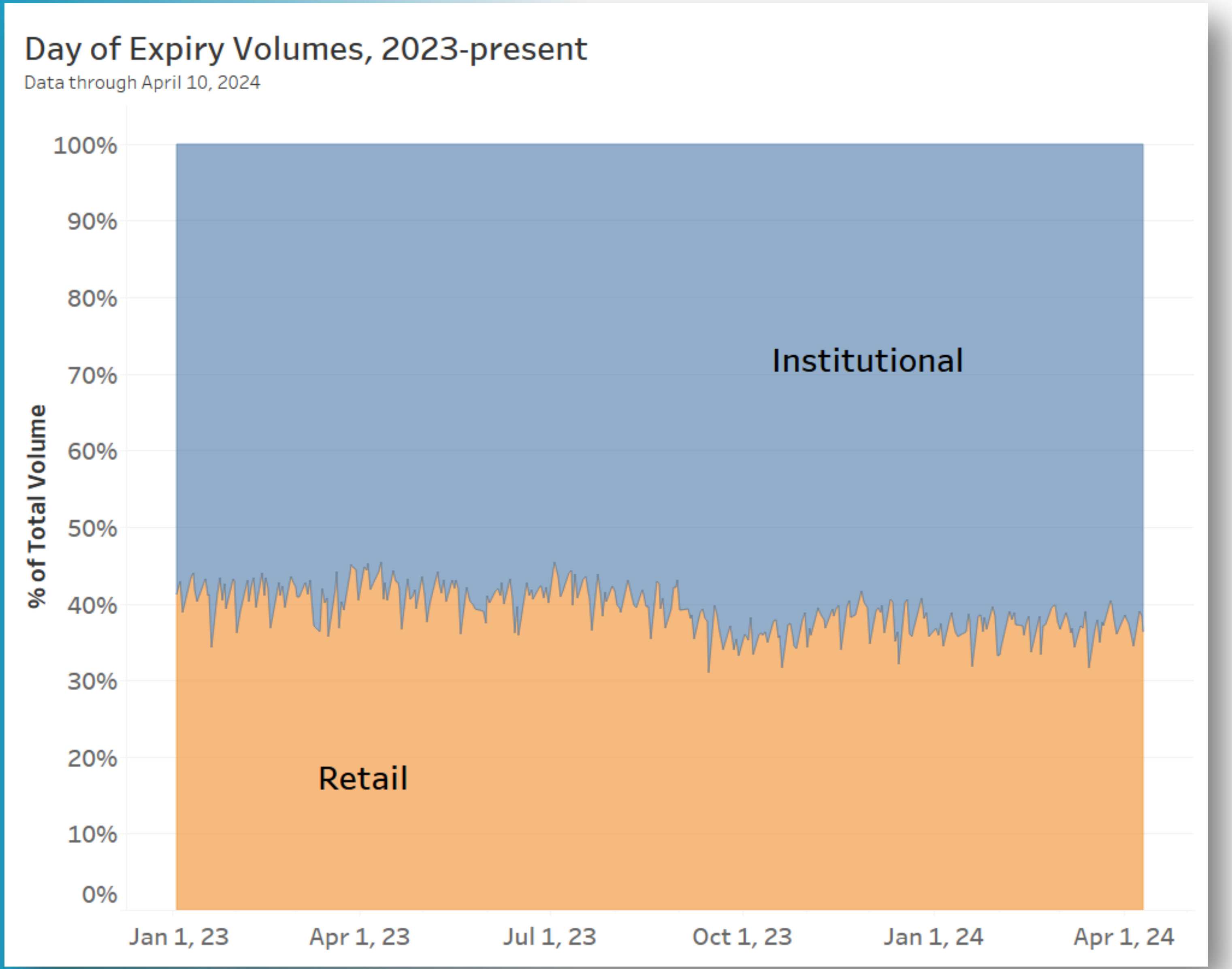


Source: Nasdaq (June 24, 2014 – March 21, 2023)

Institutional vs. Retail Volume

Day of expiry volumes from January 1, 2023 - April 10, 2024, grouped by institutional vs. retail

- Retail is not an outsized percent of the market that is trading on the day of expiry, as shown on the graph
- Traditionally, retail accounts for approximately 40% of options trading across the industry, which is consistent with the day of expiry volumes thus far in 2023
- Retail investors are typically net buyers of options, whereas Institutional investors are typically net sellers of options.



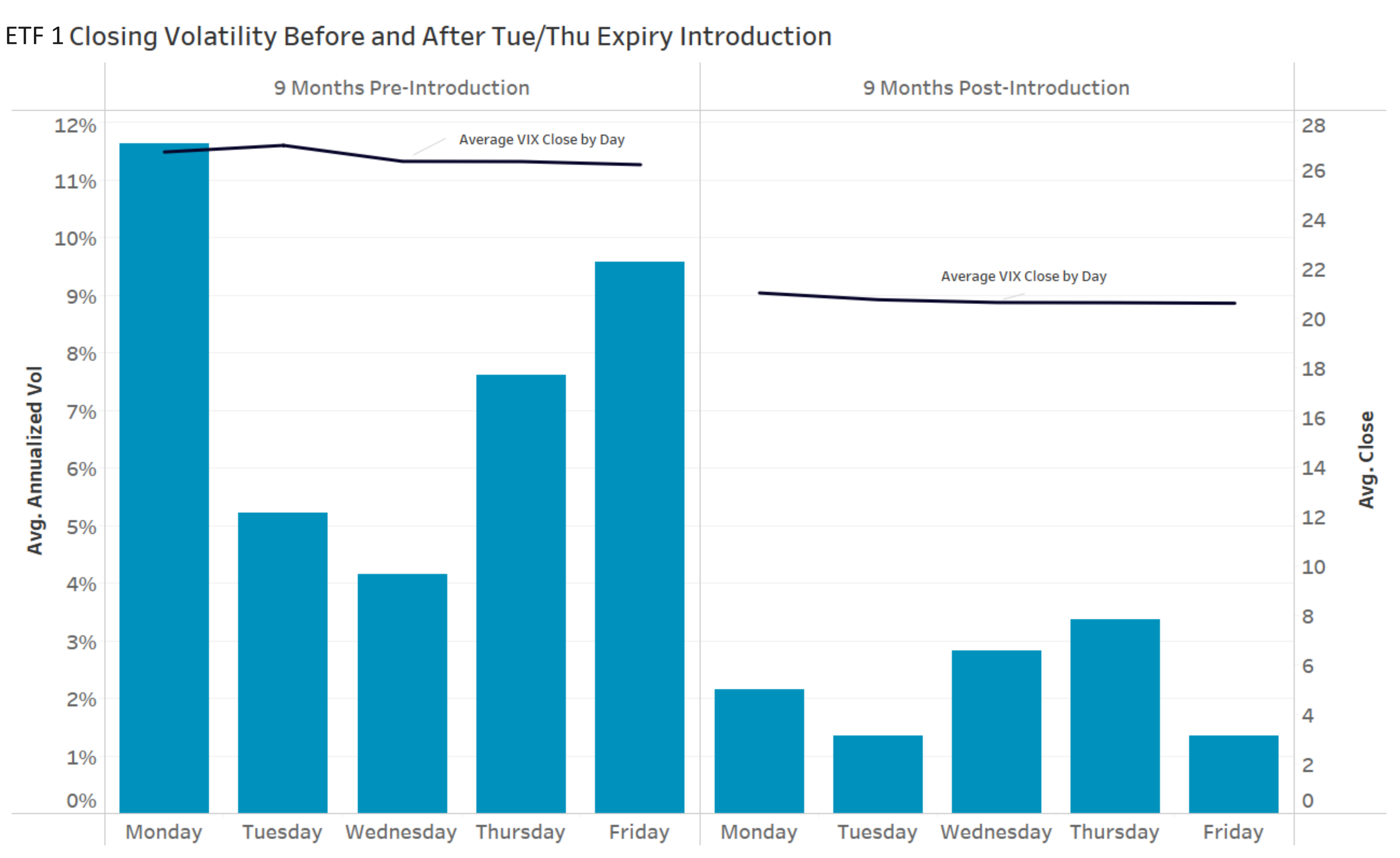
Source: Nasdaq (January 1, 2023 – April 10, 2024)

ETF 1 Closing Volatility

ETF 1 before & after the introduction of Tuesday and Thursday expiries; alternative tenor introduction

- ETF 1 closing volatility is lower since the addition of Tuesday/Thursday expirations
    - VIX is also lower during equivalent comparison period
    - VIX-adjusted volatility of ETF 1 instrument not materially affected by Tue/Thurs additional product, even when considering VIX offset

Tuesday/Thursday ETF 1 (& ETF 2) Expiries (Added on 11/14/2022)



Source: Nasdaq (February 14, 2022 – November 14, 2022) *Data(November 14, 2022 – August 15, 2023)*

Recap

Key Points

- Same-day expiring options (commonly referred to as 0DTE) represent a point in time in which an option is traded on the last day of its expiry cycle
- Trading on the day of expiry has been a common practice for decades
- The data does not suggest that the addition of expiries in a limited number of ETPs:
    - contributes to additional systemic risk, or
    - increases realized volatility

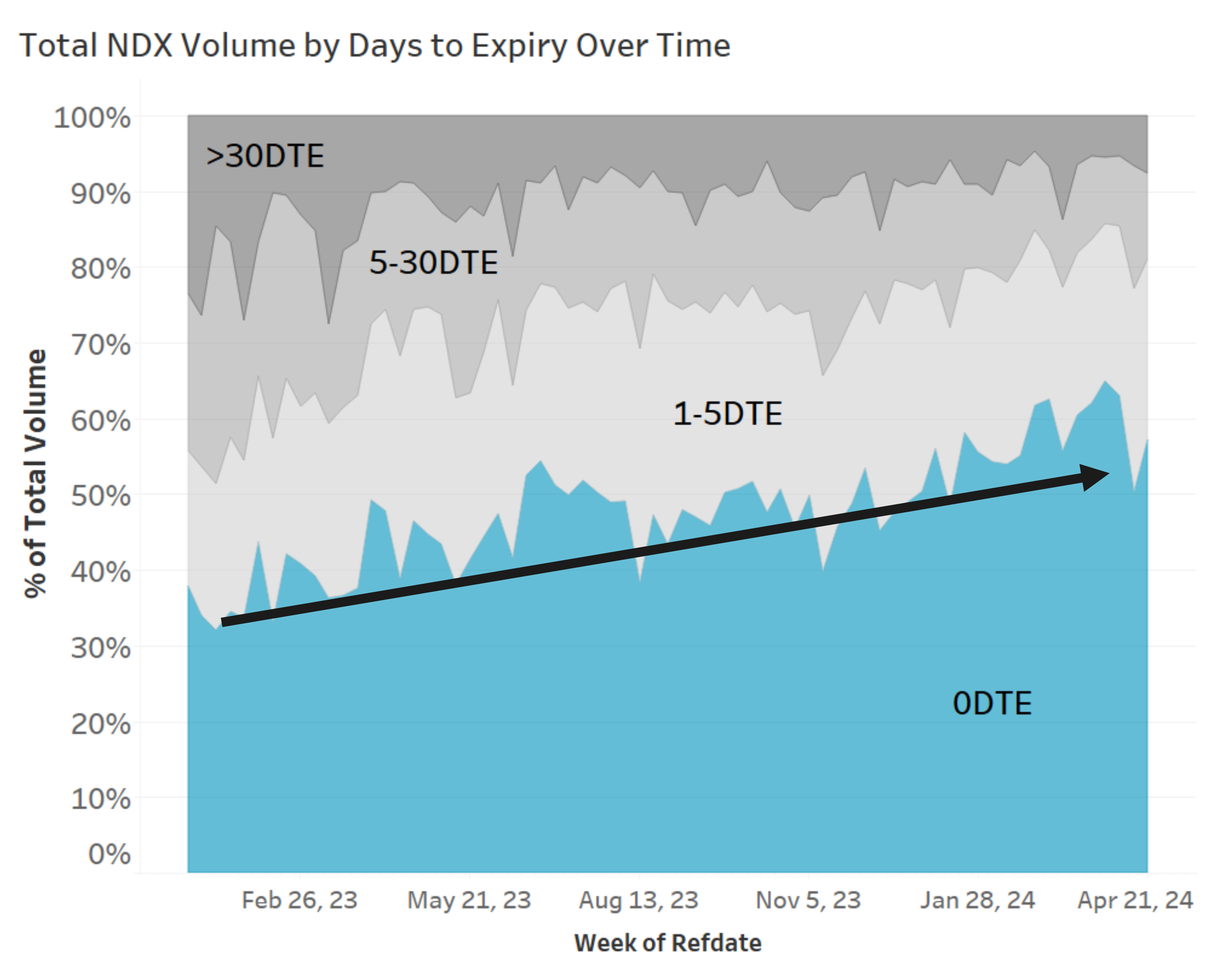
What About?

- Operational concerns?
- Strike & Data proliferation?

Index Example

Use of shorter-dated index options has been growing across the complex, including ETFs designed to track indexes

- Considerations:
  - Ability to gain exposure or manage macro risk at a more granular level
  - Pinpoint potential event risk exposure
  - **Positive expectancy positions benefit from + occurrences**
  - **More occurrences increases probabilities (“delta”) working out as expected**
  - **Is there some point where concentration becomes "too much"?**



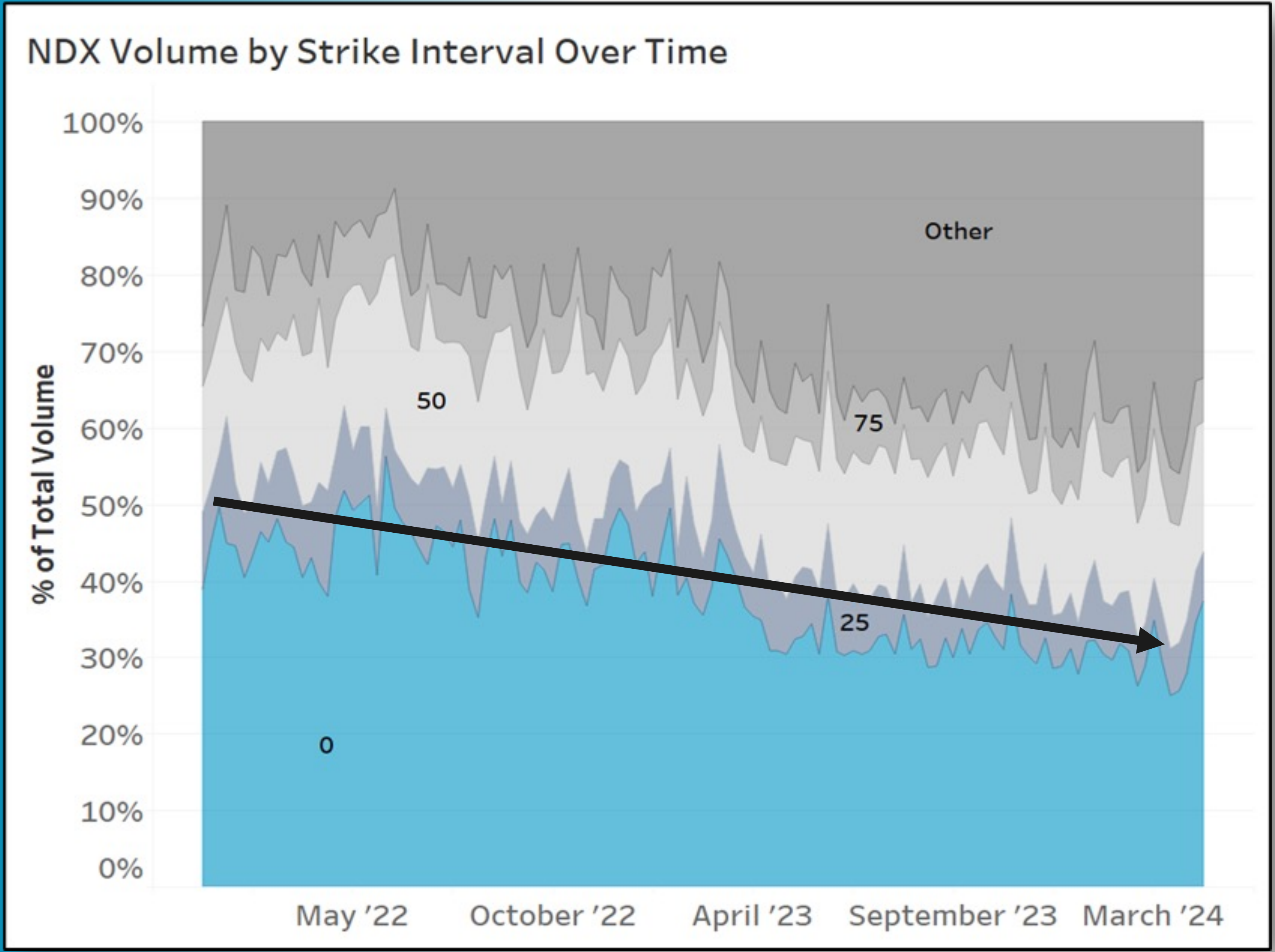
Source: Nasdaq (Jan 2, 2023 – April 21, 2024)

Index Example

End users are choosing more dynamic strikes relative to history –
much of it in shorter dated expiries

Greater flexibility!

- Considerations:
  - Historically, 50% or more of NDX trades executed on a 100 (round number) strike. I.E. 18,500 or 18,600
  - **Introduction of shorter maturities increased use of "other" NDX strikes**
  - **Tailored event risk hedging/exposure**
  - **Nasdaq employs AI assistance in strike listing process.**



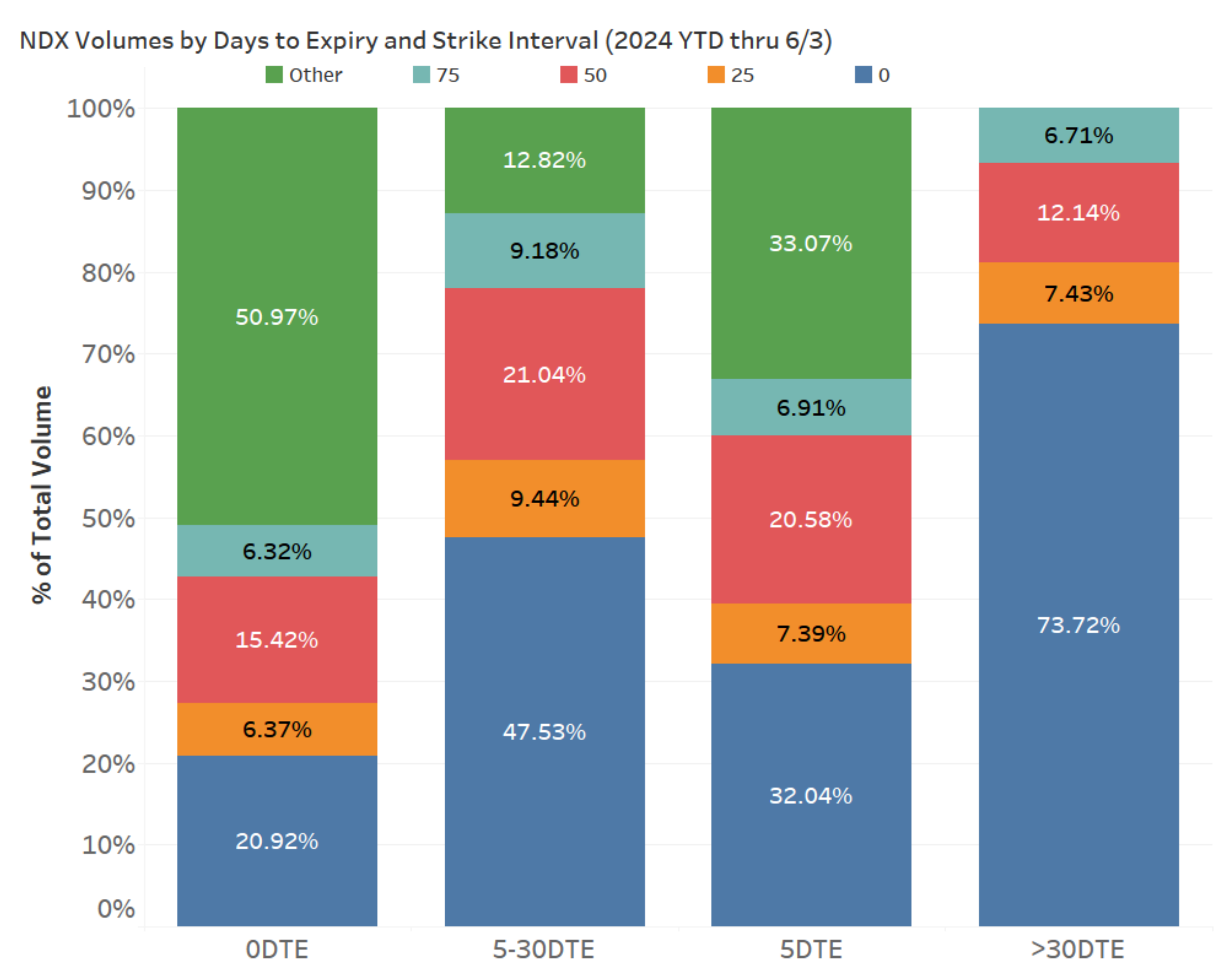
Source: Nasdaq (January 2, 2022 – March 30, 2024)

Index Example

Expansion of previous visual: longer-dated options cluster around 100 strike intervals (still); shorter-dated options volume is more nuanced

Strikes around the ATM may be added as expiry nears.

STRIKE
NDXP(W) Jun05 18,500.00
NDXP(W) Jun05 18,510.00
NDXP(W) Jun05 18,520.00
NDXP(W) Jun05 18,525.00
NDXP(W) Jun05 18,530.00
NDXP(W) Jun05 18,540.00
NDXP(W) Jun05 18,550.00
NDXP(W) Jun05 18,560.00
NDXP(W) Jun05 18,570.00
NDXP(W) Jun05 18,575.00
NDXP(W) Jun05 18,580.00
NDXP(W) Jun05 18,590.00
NDXP(W) Jun05 18,600.00
NDXP(W) Jun05 18,610.00
NDXP(W) Jun05 18,620.00
NDXP(W) Jun05 18,625.00
NDXP(W) Jun05 18,630.00
NDXP(W) Jun05 18,640.00
NDXP(W) Jun05 18,650.00
NDXP(W) Jun05 18,660.00
NDXP(W) Jun05 18,670.00
NDXP(W) Jun05 18,675.00
NDXP(W) Jun05 18,680.00
NDXP(W) Jun05 18,690.00
NDXP(W) Jun05 18,700.00

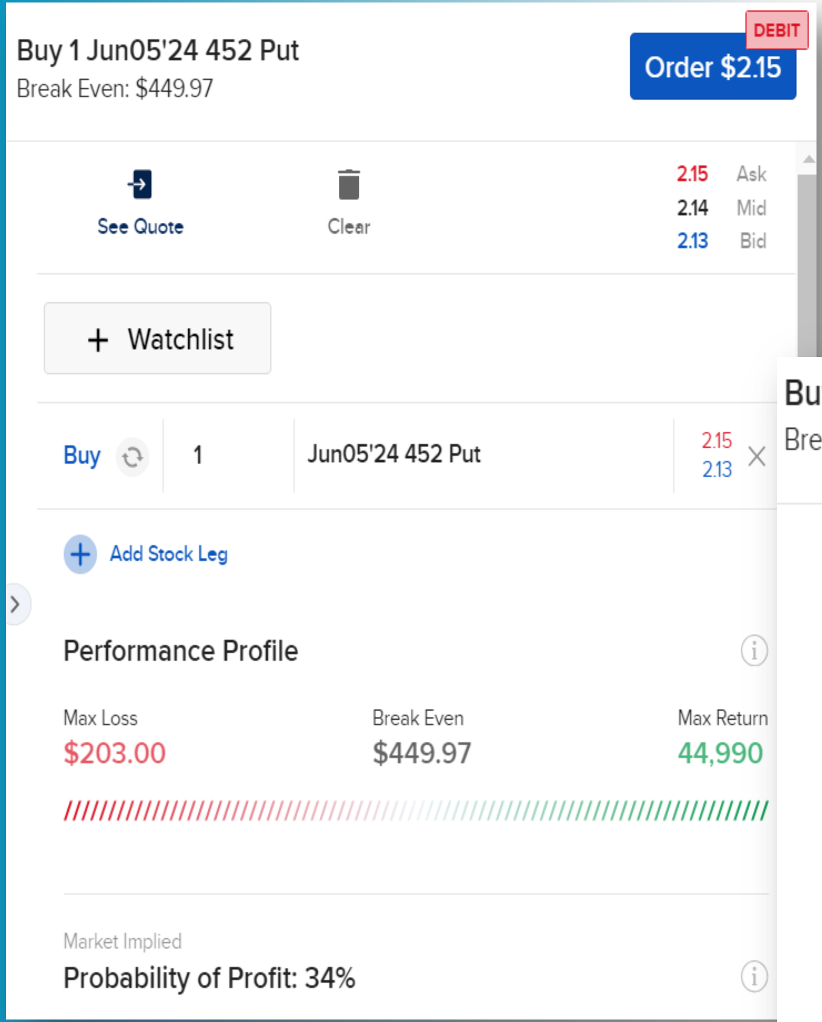


Source: Nasdaq

ETF Example

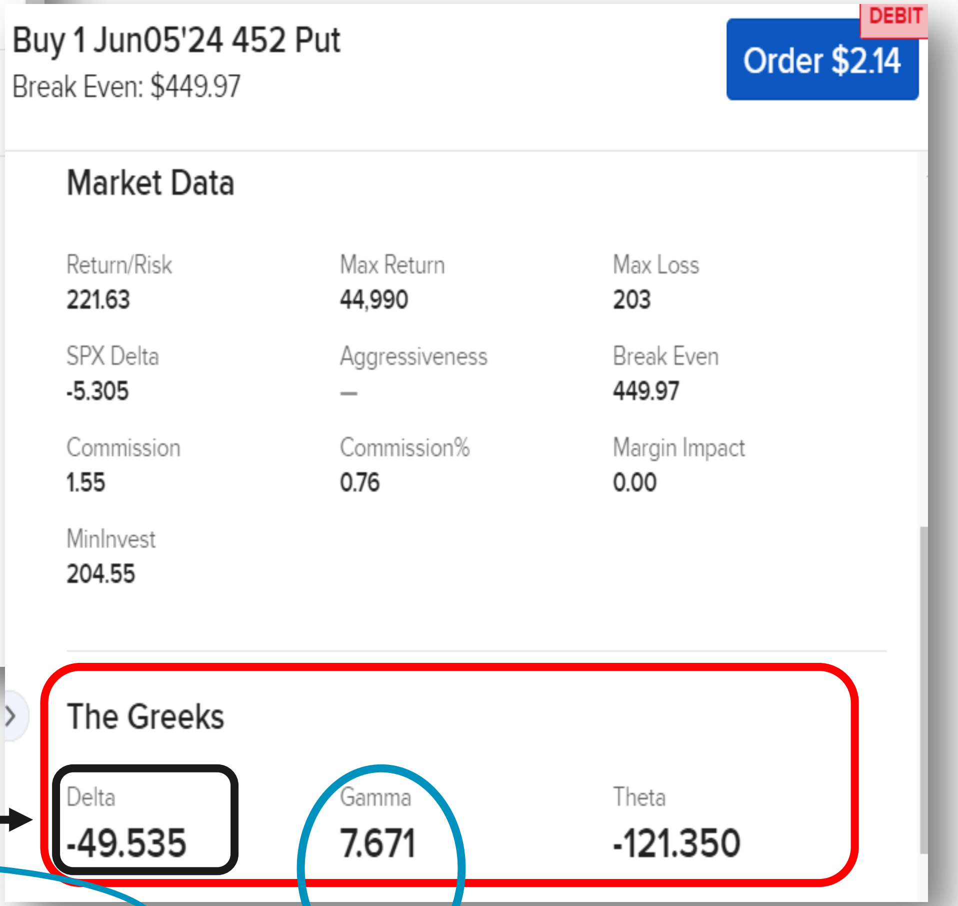
Cheap dollar directional exposure with meaningful leverage; controlling $45k+ of ETF exposure with ~$215; potential to lose $215 quickly

- Considerations:
    - Percent of account at risk in ~24 hours
    - Gamma (ATM options move from ~50 delta to 100 or 0 delta)
    - Would spreading be more efficient?
    - **Need to exit/monetize/realize loss if you can't be short underlying ETF**



Source: IBKR platform

Delta on expiring options will move toward 100 or 0 quickly!

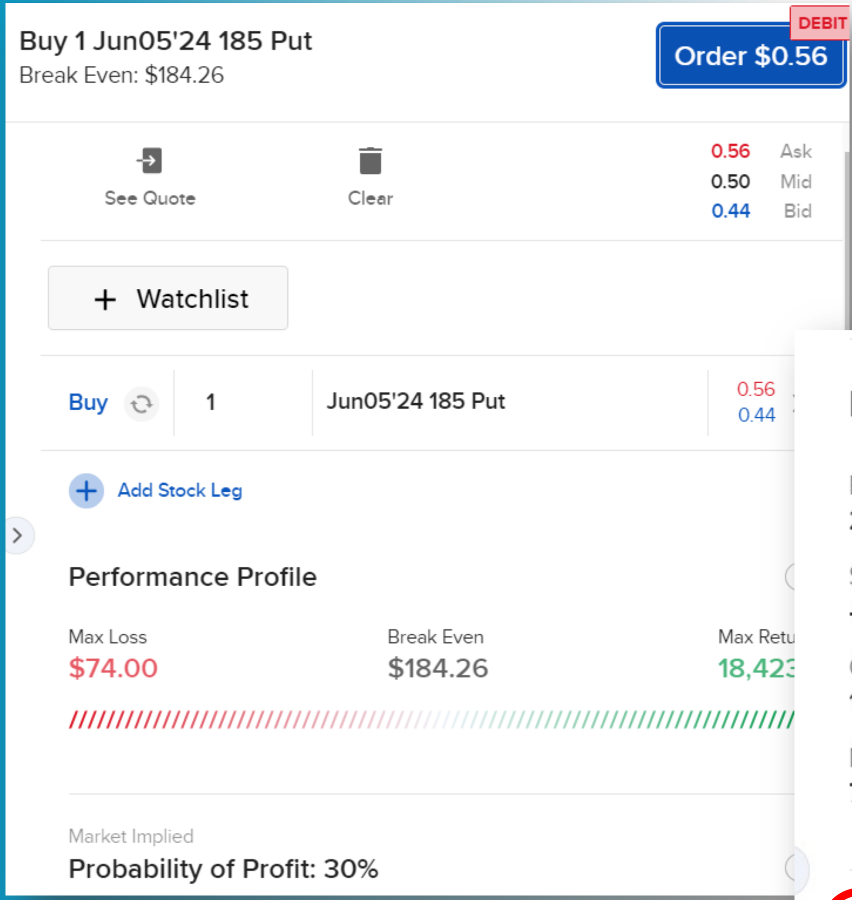


Source: IBKR platform

Index Example

Cheap dollar directional exposure with meaningful leverage; controlling $18.5k+ of ETF exposure with ~$50; potential to lose $50 quickly

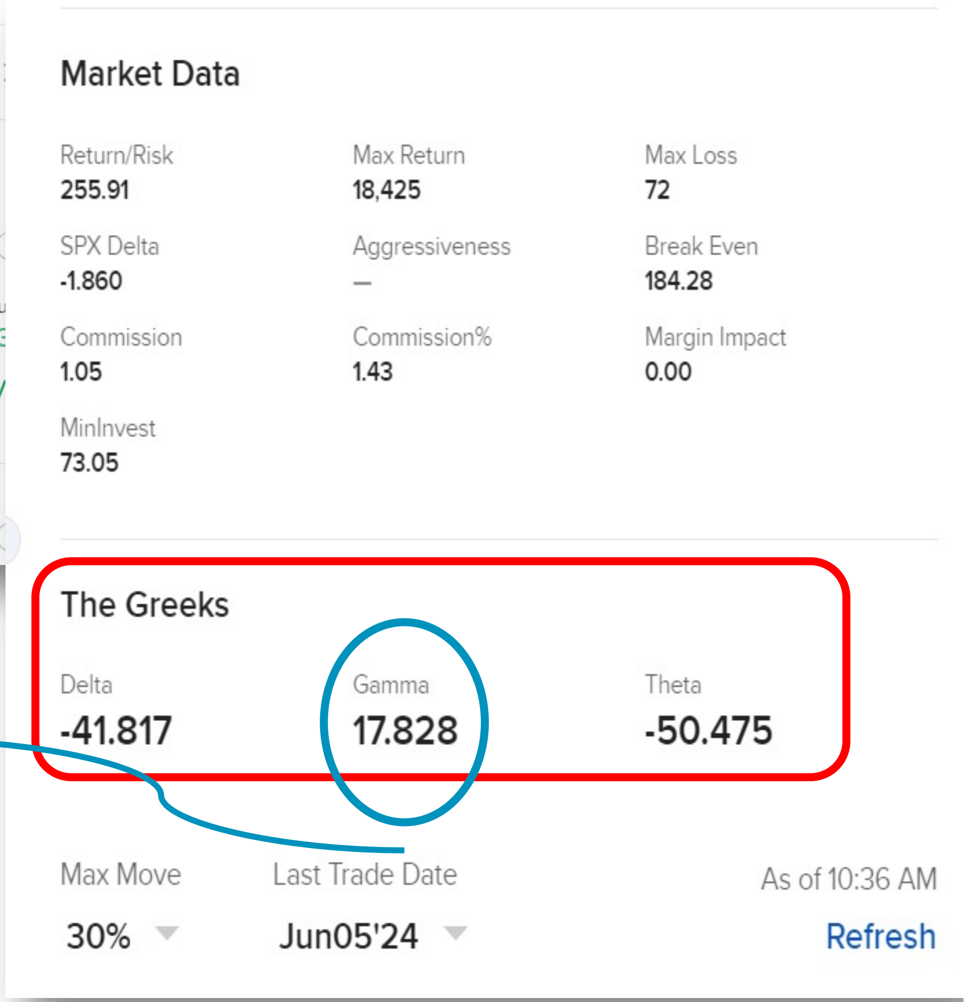
- Considerations:
    - Similar exposure profile tracking same index
    - Gamma (ATM options move from ~50 delta to 100 or 0 delta)
    - **Flexibility with exit/monetization because index options cash settle**
    - **Potential tax benefits**



Source: IBKR platform

Delta on expiring options will move toward 100 or 0 quickly!

Any stock, options or futures symbols displayed are for illustrative purposes only and are not intended to portray recommendations, or an invitation or inducement to trade a particular financial instrument or to engage in an investment activity. There is a substantial risk of loss in trading futures and options. Past performance is not indicative of future results.



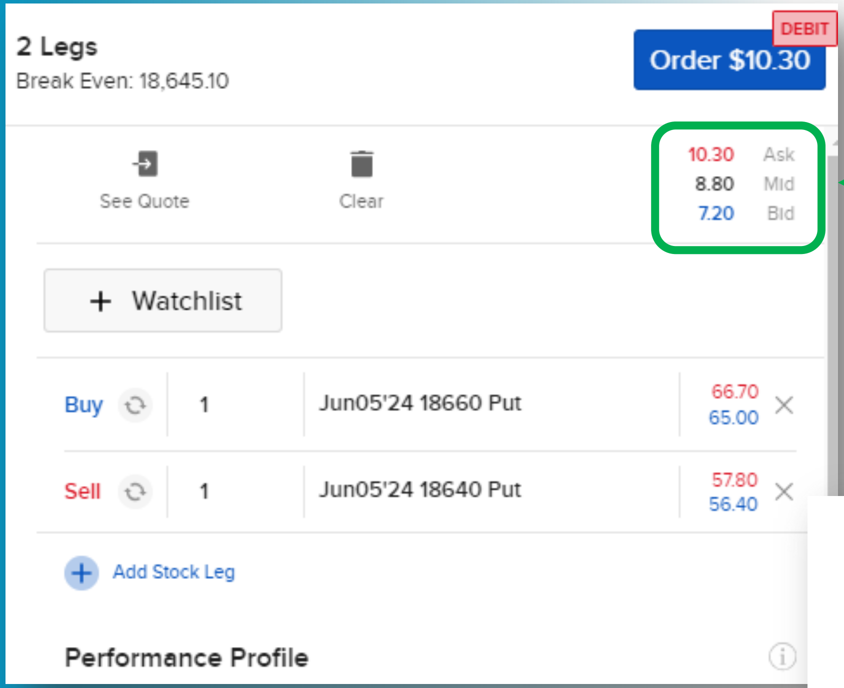
Source: IBKR platform

Index Example

Reduced dollar risk via spreading; NDX average intraday range ~1.1% of spot (18-month lookback); delta/gamma exposure much less volatile

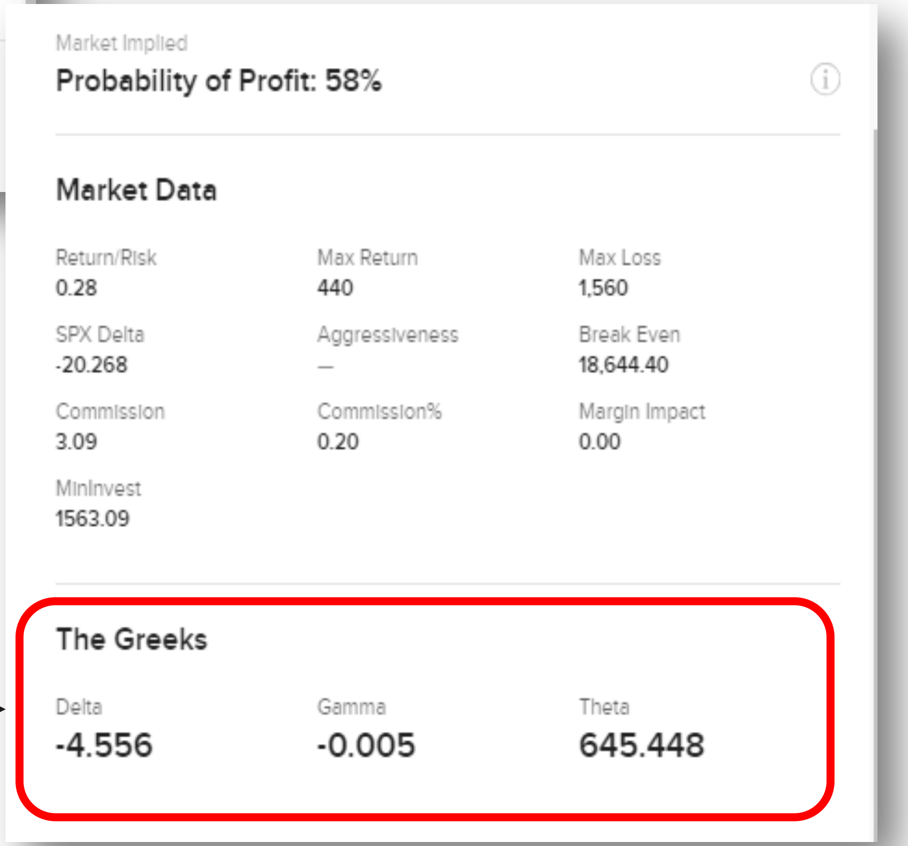
- Considerations:
  - Index options cash settled, so even expiry between strikes need not be rolled
  - Ability to define risk over discrete time frames
  - **More difficult to defend against losing trades as expiration approaches**
  - **Potential tax benefits**

*Tax treatment depends on individual circumstances and is subject to change



Source: IBKR platform

Many index spreads trade near mid point!



Greek exposure minimized!

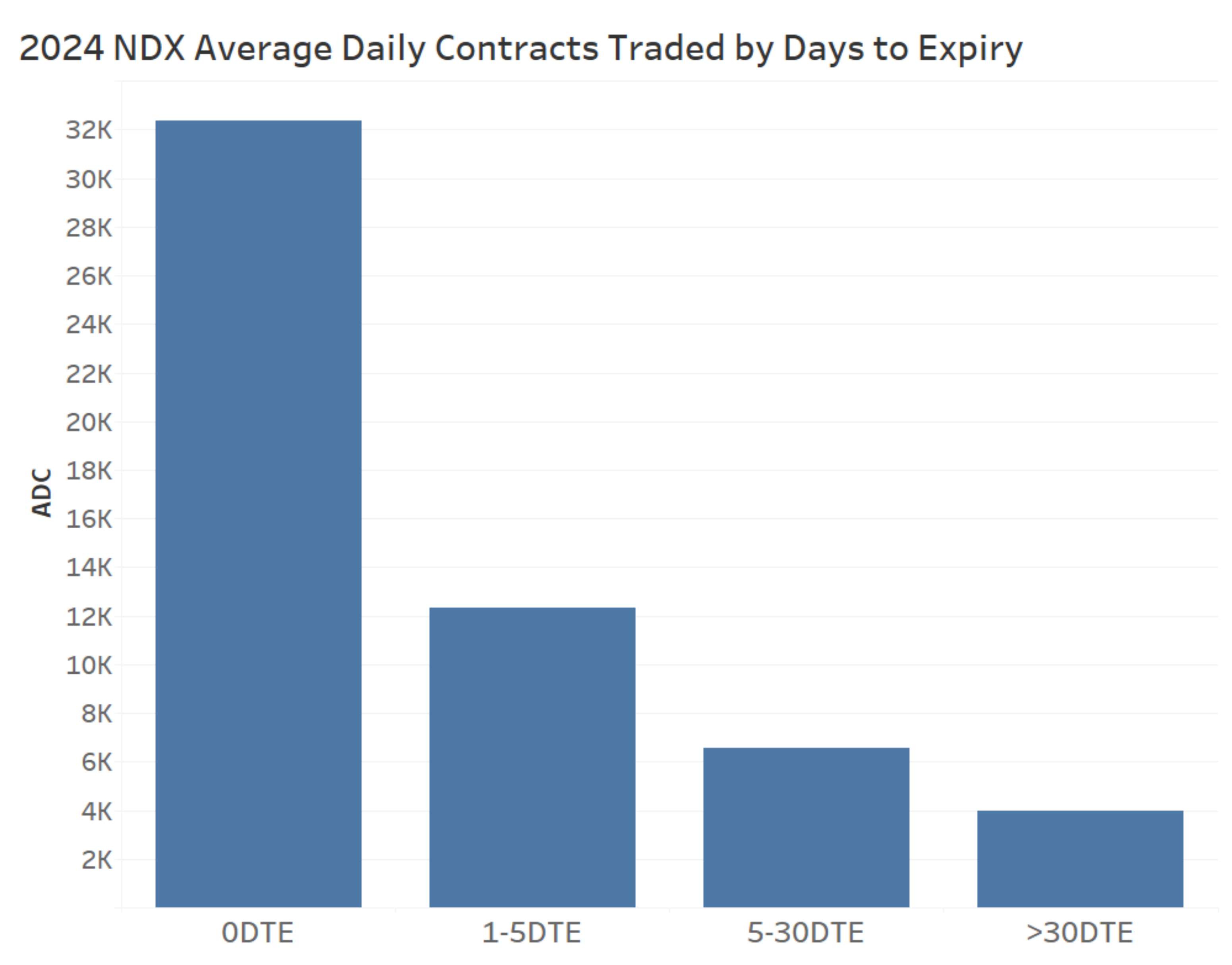
Source: IBKR platform

Index Example

NDX volume has been concentrated in the expiring options; as mentioned, that's been the case throughout time; "0 DTE" is not a product, it's a point in time

- Considerations:
  - Desire to "control" the range of outcomes is natural
  - Choice is valuable in any consumer product
  - **Benefit to overall profile of index liquidity**
  - **Potential tax benefits**

  *Tax treatment depends on individual circumstances and is subject to change.



Source: Nasdaq (January 2, 2024 – May 15, 2024)

Recap

Key Points Expanded

- **WHAT IS 0-DTE? 0-DTE refers to trading an option on the day it expires**
    - 0-DTE options are NOT DAILY OPTIONS. These products are listed and trading for at least 10 trading days prior to expiry, usually 3 weeks before expiry.
    - All securities with options listed on them have had same-day expiry events since July 31, 1973.
- **The data does not suggest that any apparent outsized risk is introduced to the market by the addition of available product.**
    - Retail investors tend to be net BUYERS of options while institutions are net SELLERS = Balanced market dynamic.
    - The increased liquidity in shorter dated options is expected to enhance investors' experience.
    - Market Makers employ prudent risk management practices, as shown by increased liquidity in shorter dated instruments.
    - Comparisons to the “Volmageddon” event of 2018 are entirely without merit.
    - Volatility is a natural phenomenon of markets and should NOT be attributed to same-day expiring options.
- **Retail use of short-term options product is not outsized. Retail is traditionally >40% of market volume**
    - Traders use options in a variety of strategies involving hedging, yield generation, speculation, and to position portfolios to their liking.
    - Traders should understand the benefits and risks of using options under ALL circumstances & a myriad of educational tools are available for free online.