

IBKRCampus

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November 15, 2023

Nasdaq

The Growth of Passive Index Exposure – Now Available with Option Overlays

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Nasdaq

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Passive Index Exposure - Now Available with Option Overlays

Interactive Brokers Webinar
November 15, 2023

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Nasdaq

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Index

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Options

For the sake of simplicity, the examples included do not take into consideration commissions and other transaction fees, tax considerations, or margin requirements, which are factors that may significantly affect the economic consequences of a given strategy. An investor should review transaction costs, margin requirements and tax considerations with a broker and tax advisor before entering into any options strategy.

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Passive vs. Active Investing

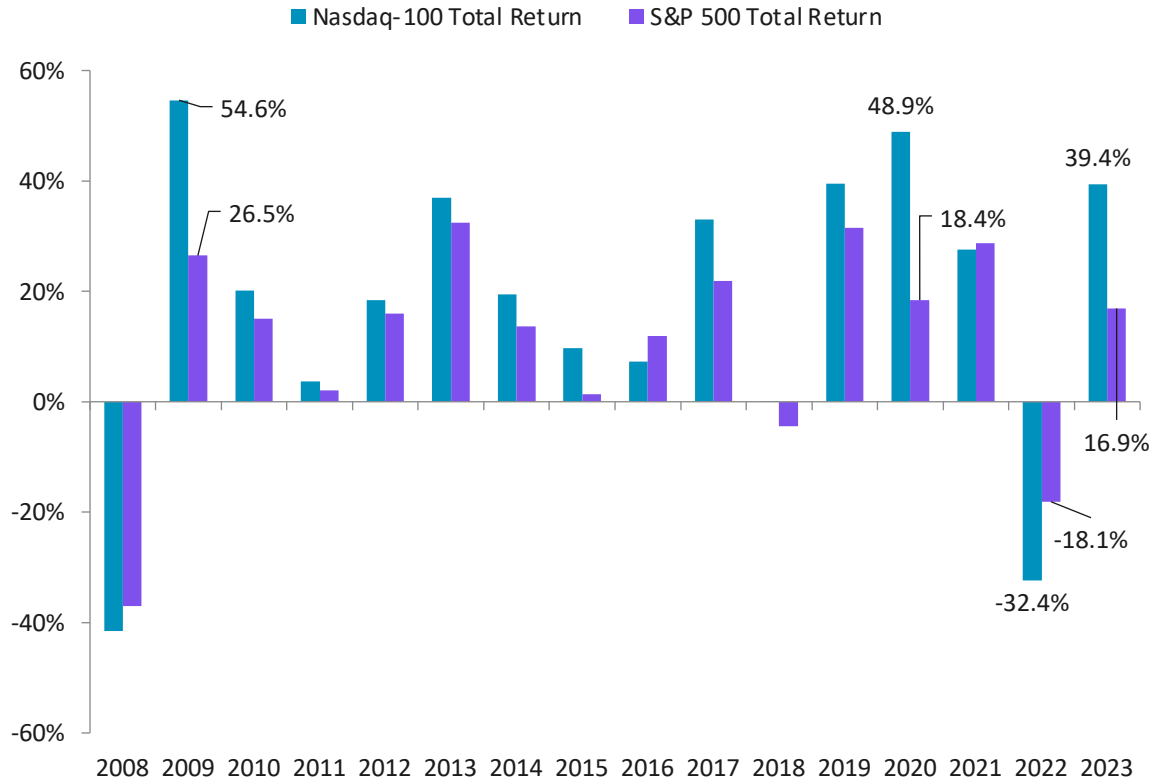
- Passive
 - Buy and hold with minimal portfolio turnover.
 - Includes mutual funds, ETFs, etc. (typically) designed to track broad market performance
 - Jack Bogle (Vanguard) – brought to the broader public
 - “The Case for Unmanaged Investment Company”
 - Massive growth over the past 2+ decades
 - Low-cost v. many alternatives + years of outperformance
- Active
 - Buying and selling investments typically with an emphasis on shorter time horizons.
 - Aim to outperform “average” market returns
 - “Managed” (portfolio manager) seeking opportunistic trades
 - Often includes significant portfolio turnover
 - More targeted exposure possible which appeals to some market participants
 - Typically comes at a cost (higher fees)

Passive Index Exposure (Available with Options Embedded)

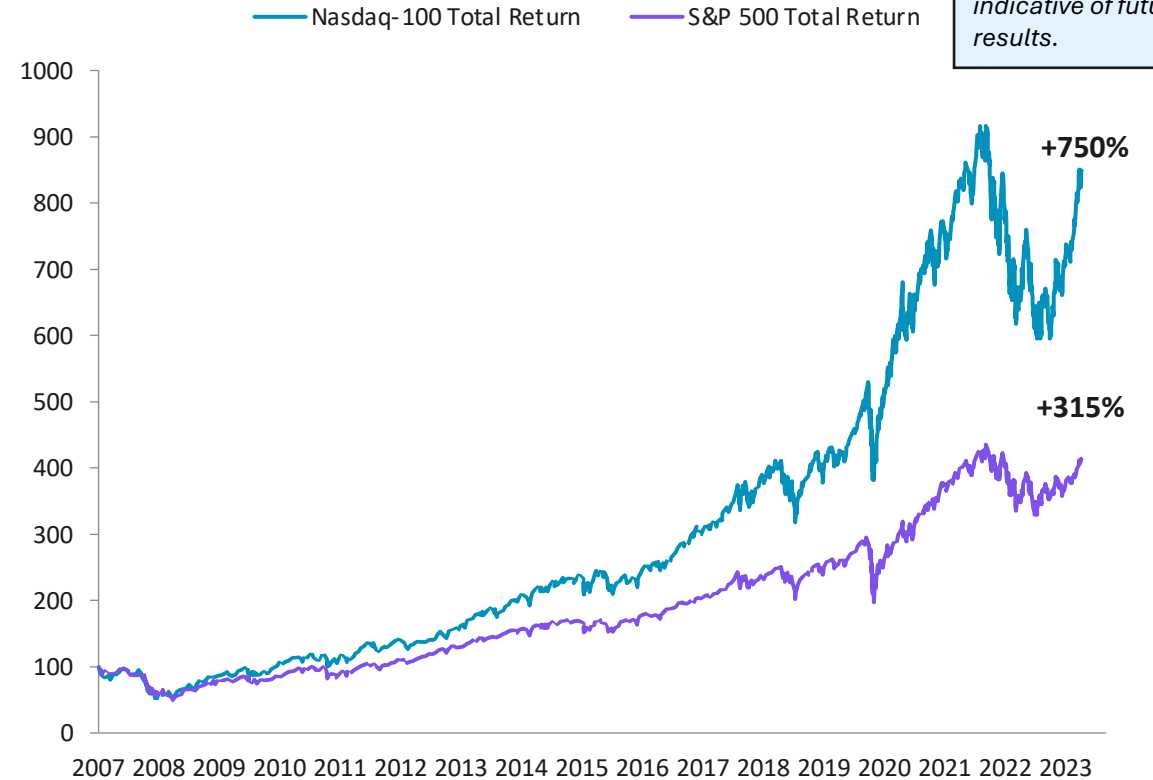
Nasdaq-100 Index (NDX[®]): Performance vs. S&P 500

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INDEX ANNUAL TOTAL RETURNS



INDEX PERFORMANCE SINCE DECEMBER 31, 2007

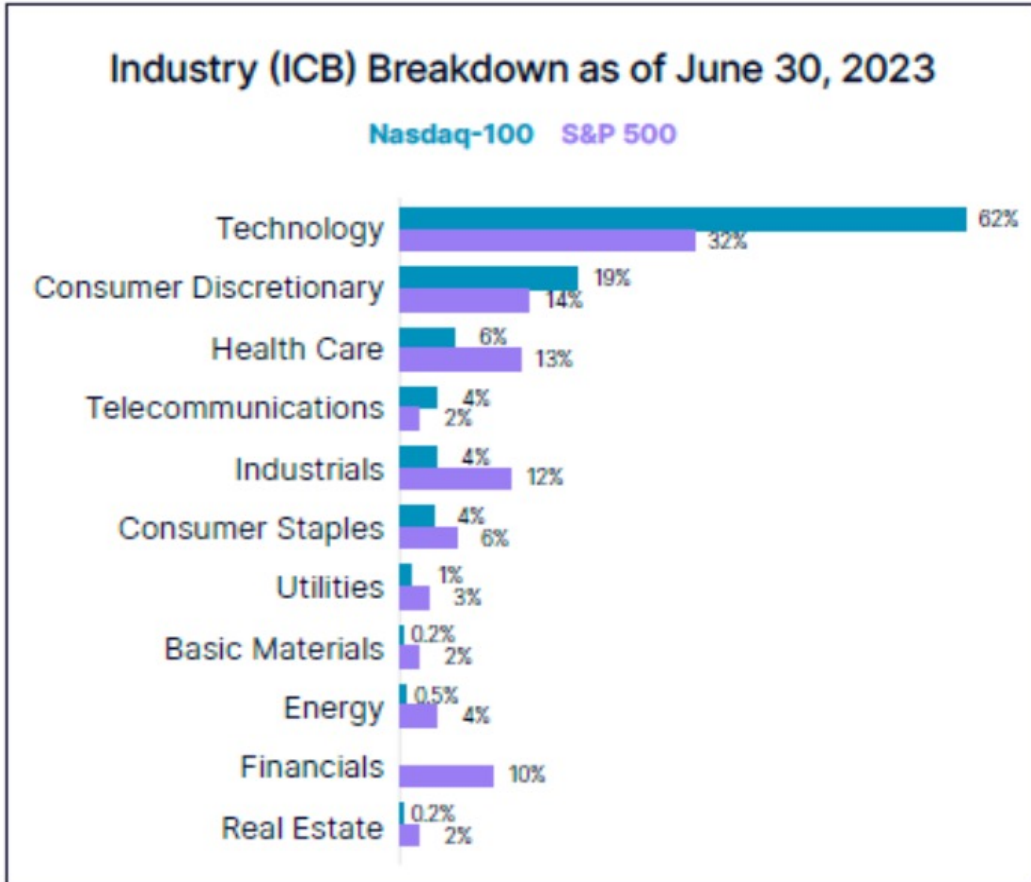
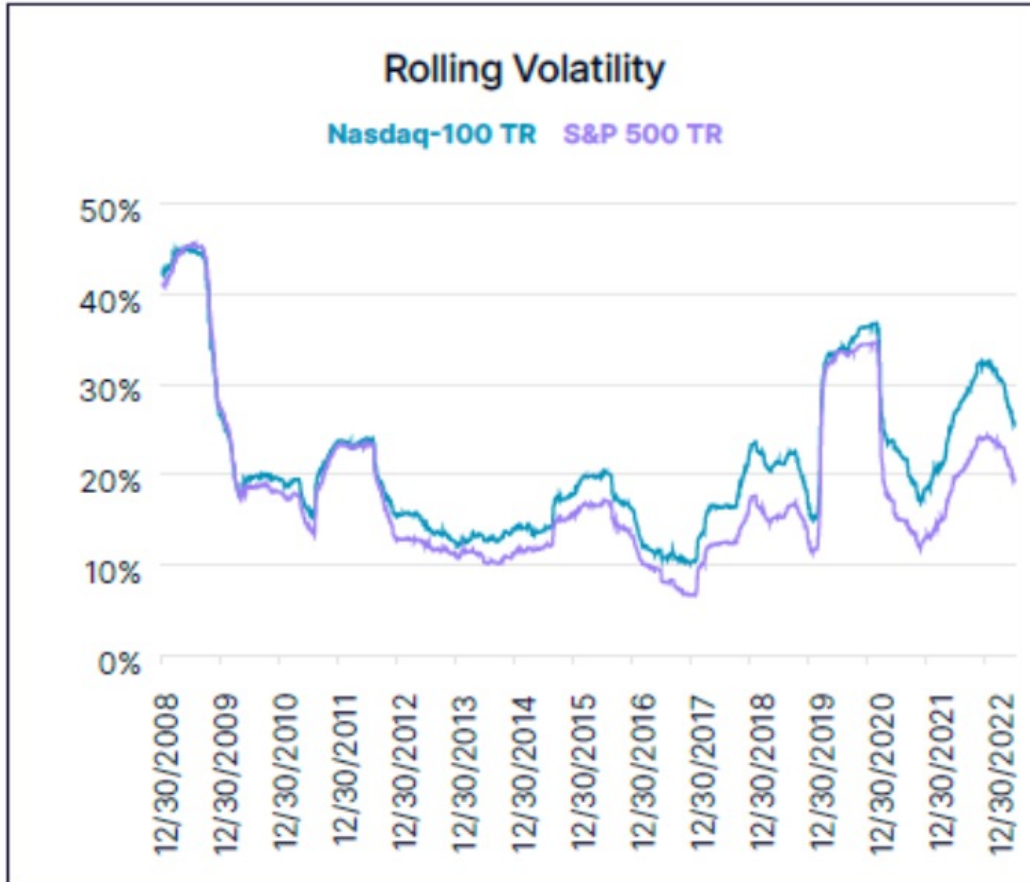


- NDX has outperformed SPX in 11 of the past 15 calendar years, including by more than 30% in 2020; underperformance in 2022 was ~14%, largely offset by outperformance of ~22.5% in 1H'23.

- Cumulative total returns through June 30, 2023, were 750% for Nasdaq-100 Total Return (**14.8% annualized**) – more than doubling the returns of 315% for S&P 500 Total Return (**9.6% annualized**).

Nasdaq-100 Index vs. S&P 500 Sectors

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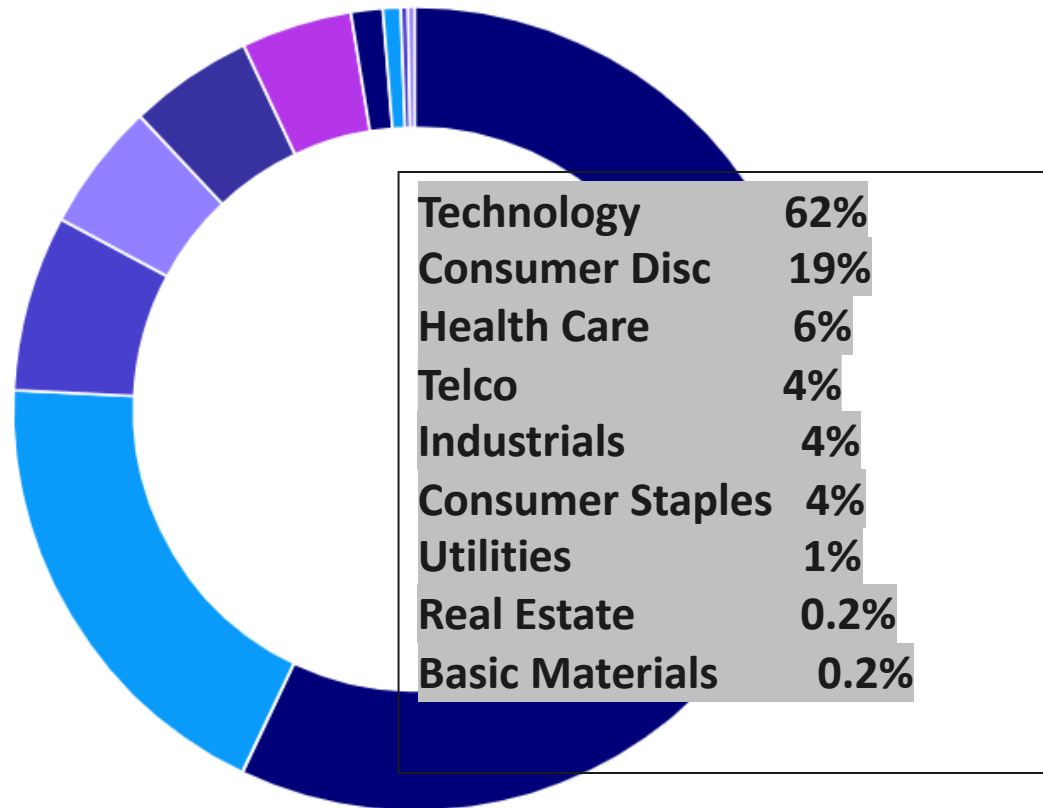
- NDX has on average, slightly higher rolling volatility over a long-time horizon. Generally, during a “crisis” (2008/2020) correlations increase, and index volatility is very similar.

- NDX much higher weight in Technology. Higher in Consumer Discretionary. NO Financials. No “pure” energy. Much lower in Health Care and Industrials. Slightly lower Staples and Telco.

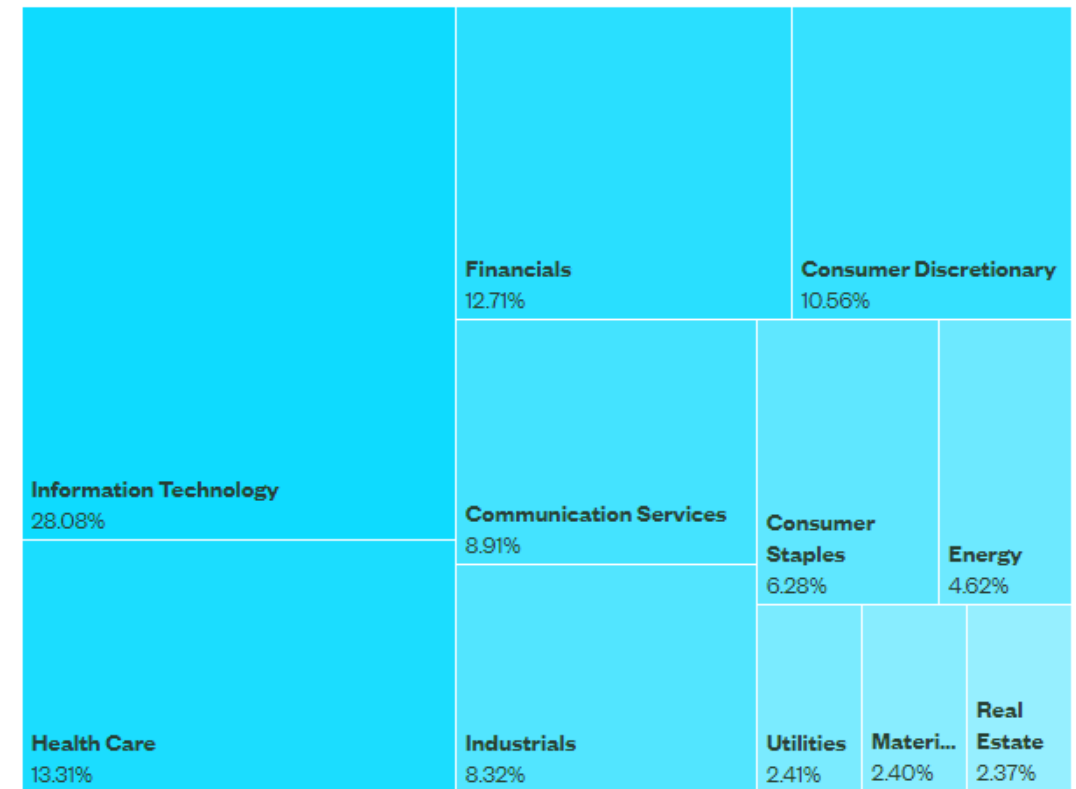
Passive Index Exposure (Available with Options Embedded)

21st Century Benchmark

NASDAQ-100 SECTOR WEIGHTS



S&P 500 SECTOR WEIGHTS



Source: Nasdaq & Dow Jones S&P (as of October 2023)

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Index Research Tools

Indexes, tracking products and embedded optionality



Nasdaq Index Research Team

Index Creation & Solutions

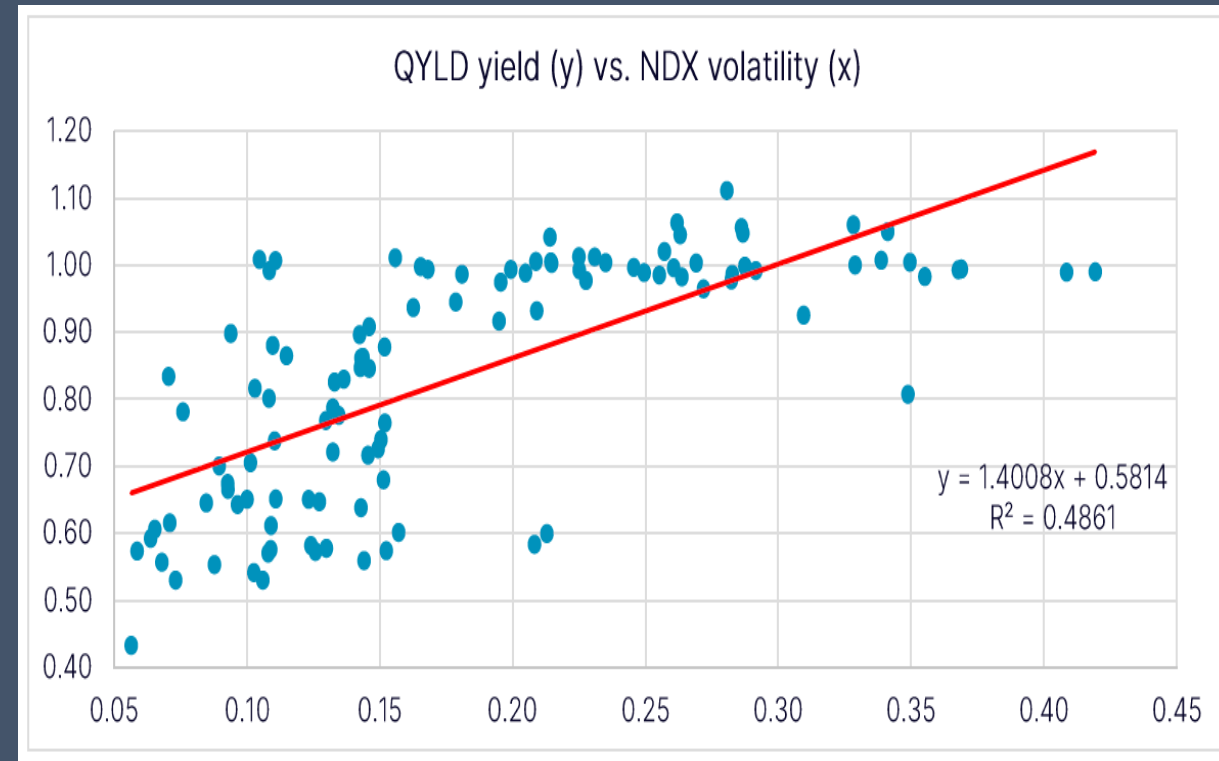
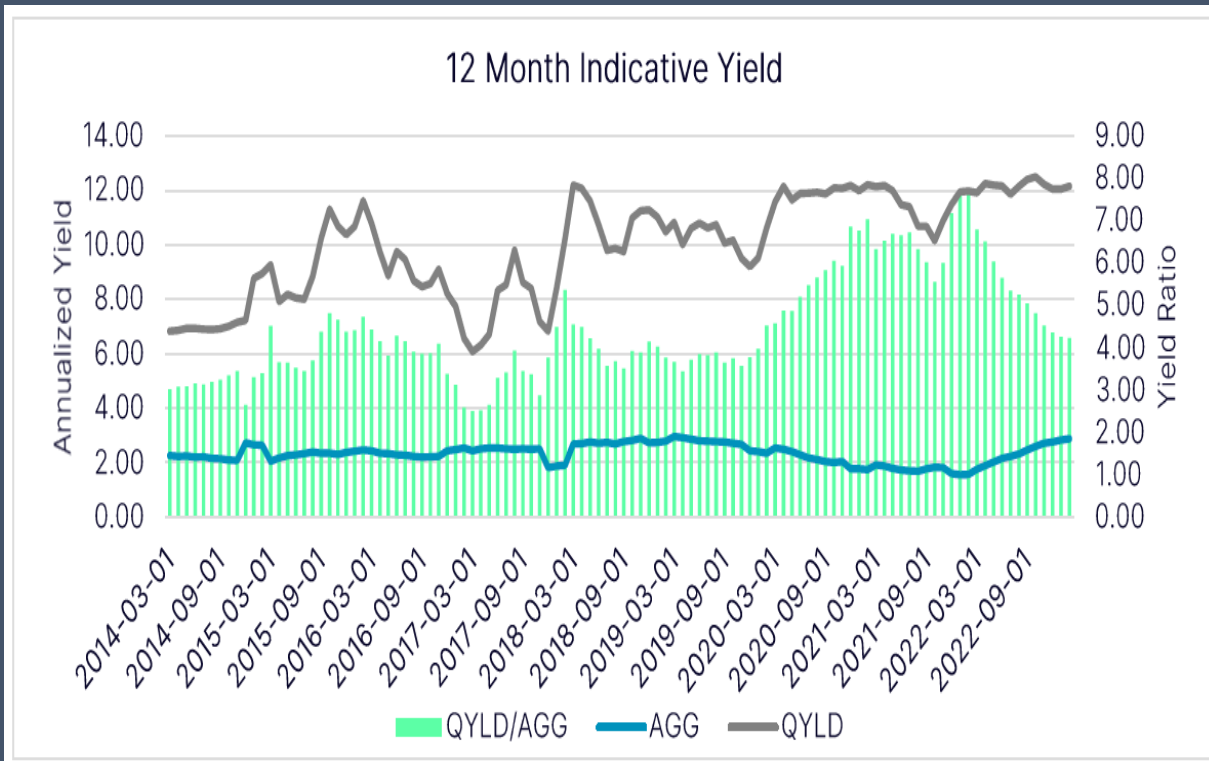
Our rules-based, objective methodology teamed with our award-winning technology set us apart from other index providers. We pride ourselves on high-touch customer service and work with investors worldwide to create indexes that best fit their investment objectives. Whether you are an institution, fund manager, advisor or private investor, Nasdaq indexes are benchmarks that can help influence and track your investment strategies.

Nasdaq-100 Buy Write

Indexes, tracking products and embedded optionality

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Options in Practice – BXNT™ Nasdaq Investment Intelligence



Source: Nasdaq Investment Intelligence



Nasdaq-100 Buy Write

Indexes, tracking products and embedded optionality

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- From index to tradeable product
 - Example:
 - The fund buys the stocks in the Nasdaq-100 Index and “writes” or “sells” corresponding call options on the same index
 - Number of holdings: 102 in proper weighting
 - & notionally appropriate short at-the-money (ATM) put with 1M maturity
 - Systematically rolls on 3rd Friday expiration

Net Assets (%)	Ticker	Name
11.45	AAPL	APPLE INC
10.82	MSFT	MICROSOFT CORP
5.89	AMZN	AMAZON.COM INC
4.62	NVDA	NVIDIA CORP
4.02	META	META PLATFORMS INC
3.19	AVGO	BROADCOM INC
3.16	GOOGL	ALPHABET INC-CL A
3.12	GOOG	ALPHABET INC-CL C
2.84	TSLA	TESLA INC
2.26	ADBE	ADOBE INC

Upside Cap Details				
Option Positions ?	Notional Exposure ?	Strike ?	Upside Before Cap ?	Expiration Date ?
Short NASDAQ Call Option	-\$8,001,801,350	14600	0.00%	11/17/2023

Source: Global X ETFs



Nasdaq-100[®] Examples

Indexes, Tracking Products, & Embedded Optionality

Options-based Strategies

Investors may be looking to preserve upside exposure to NDX's stellar track record of growth and at the same time incorporate much-needed downside protection. A few passively and actively managed products may be used to hedge on the downside.

██████████ offers five different Nasdaq-100 options-based index tracking ETFs.

- ██████████ is the most widely adopted of the five ETFs, with \$6.71 billion in assets as of September 20, 2022. It also has the longest track record having launched in December 2013. ██████████ tracks the CBOE Nasdaq-100 Buy/Write Index™, which holds Nasdaq-100 stocks and writes (sells) options simultaneously, generating option premium income that ends up in investors' accounts as a generous distribution yield. While not explicitly a downside protection strategy, ██████████ functions as a more conservative income-generation vehicle, where more stable cash flows compensate for the diminished upside that investors receive from any price appreciation in NDX. The upside is capped directly because of the call options that the fund sells in the market.
- ██████████ follows a covered call or buy-write strategy. The fund buys the stocks in the NDX and writes (sells) corresponding call options on about 50% of the index. ██████████ seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of the CBOE Nasdaq-100 Half BuyWrite V2 Index™.
- ██████████ employs a protective net-credit collar strategy for investors seeking the income characteristics of a covered call fund, while mitigating the risks of a major market selloff with a protective put. ██████████ seeks to achieve this outcome by owning the stocks in the NDX, while buying 5% out-of-the-money put options on NDX and selling at-the-money call options on the same index. ██████████ seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of the Nasdaq-100 Monthly Net Credit Collar 95-100 Index™ (NQRMII™).
- ██████████ employs a collar strategy for investors seeking range-bound equity returns. ██████████ seeks to achieve this outcome by owning the stocks in the NDX, while buying 5% out-of-the-money put options on NDX and selling 10% out-of-the-money call options on the same index. The ETF's goal is to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of the Nasdaq-100 Quarterly Collar 95-110 Index™ (NQCLRI™).
- ██████████ employs a protective put strategy for investors seeking to buffer against market selloffs. ██████████ seeks to achieve this outcome by owning the stocks in the Nasdaq 100 Index, coupled with buying 10% out-of-the-money put options on the NDX. The goal of the ETF is to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of the Nasdaq-100 Quarterly Protective Put 90 Index™ (NQTRI™).

A few other ETF sponsors have issued ETFs that incorporate options strategies.

The ██████████ is an actively managed fund that utilizes an options collar; however, it is in conjunction with actual investment in the NDX. ██████████ resets monthly and approximates what would be considered closest to a "truly hedged" ongoing investment in the NDX. By writing calls, some upside is limited, but the downside protection from puts is paid for upfront. Since it is actively managed, it will generate an income yield for investors if the manager does not fully convert the proceeds from selling call options during a given monthly period into new puts.

The ██████████ is an actively managed portfolio that provides exposure to and resembles the NDX. The investment philosophy is to select securities of innovative large-cap companies that will likely outperform the NDX and will likely generate a modest amount of alpha based on a proprietary fundamental framework. At the same time, it avoids selecting stocks that have greater left tail risk or extreme downside performance periods. Investors receive the dividend associated with the long portfolio as well as the income generated from selling out-of-the-money options on the NDX. In addition, they may get some upside benefit when the market moves higher. The fund's goal is to achieve a diversified source of return and consistent monthly distributable income, although the return is not guaranteed.

██████████ – that use FLEX Options to employ a target outcome strategy, which seeks to produce pre-determined investment outcomes based upon the performance of an underlying security or index. The fund seeks to provide returns that match the price return of the Invesco ██████████ Trust up to a predetermined upside cap as well as a buffer against a certain amount of underlying ETF losses.

██████████ seeks to provide capital appreciation by tracking the large-cap U.S. growth stocks in the NDX. At the same time, it aims to boost performance during extreme market moves up or down via a systematic options overlay, which helps to create convexity in the fund. Convex investment strategies are expected to be highly correlated with the benchmark in typical market environments but diverge to the positive in extreme markets. Further, convex strategies are expected to lag during quiet markets.

The ██████████ seeks to provide capital appreciation by tracking the NDX. A modest option overlay budget is then deployed into a series of options positions that help create downside convexity in the fund.

██████████ is an active, rules-driven fund that seeks long-term growth of capital with downside mitigation. The ██████████ seeks long-term growth of capital in addition to monthly income with downside mitigation. Both ETFs seek to reduce equity exposure in bearish market environments while remaining invested during bullish market environments.

The funds' advisor utilizes a proprietary method called the ██████████ Model to manage the funds. The ██████████ signal determines exposure to the Nasdaq-100 Index, long duration treasury bonds or treasury bills based on market trends and volatility. The ETF vehicle allows for tax efficient pivots between equities and bonds.

With ██████████ an options overlay seeks to generate monthly income and potentially enhance returns. The fund may sell call options on the NDX on up to 100% of the value of the equity securities held by the fund to generate premium from such options. At the same time, it may reinvest a portion of the premium to buy call options on the same reference asset(s).



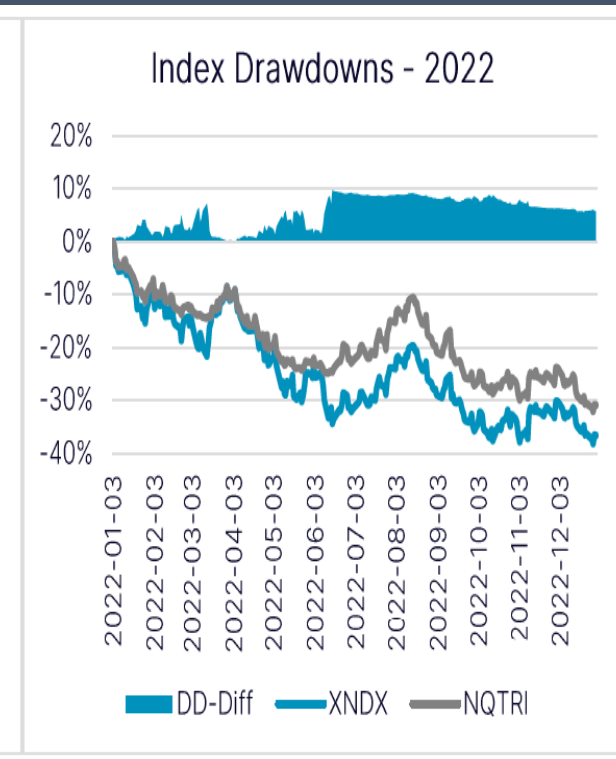
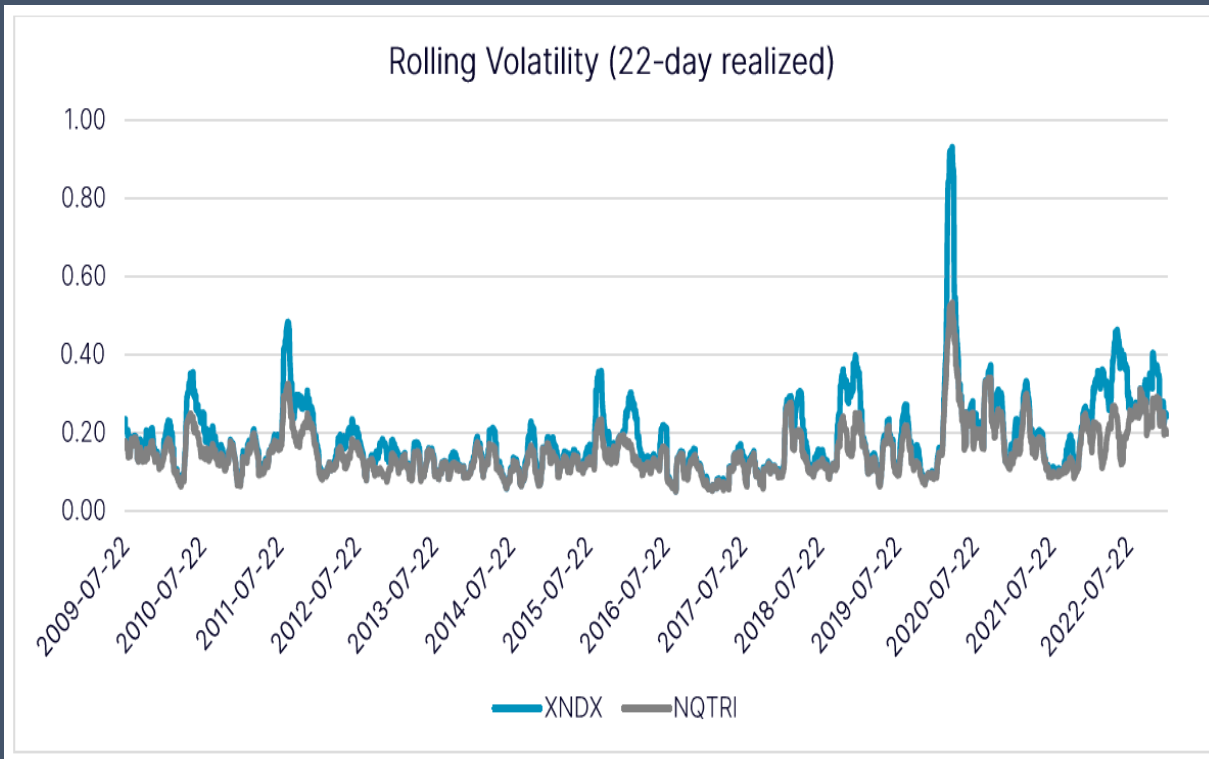
Source: Nasdaq

Index Research Tools

Indexes, tracking products and embedded optionality

Options in Practice – NQTRI™ Nasdaq Investment Intelligence

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Source: Nasdaq Investment Intelligence

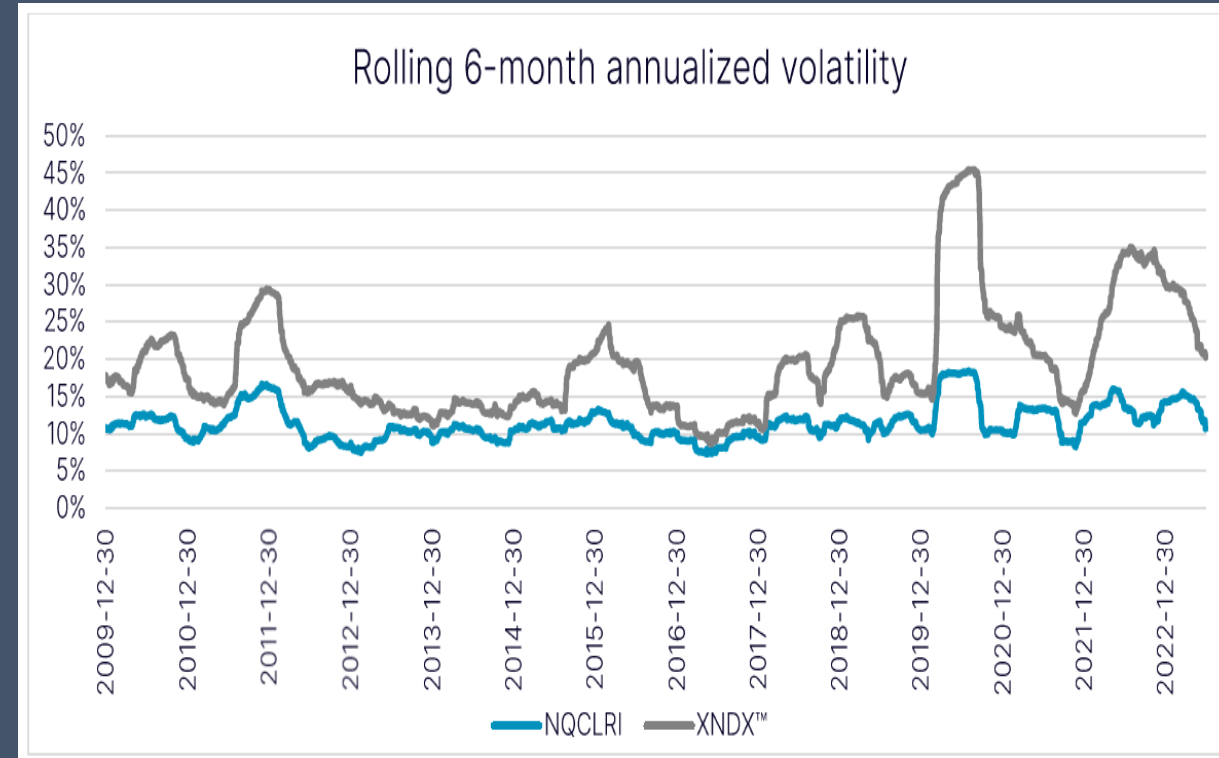
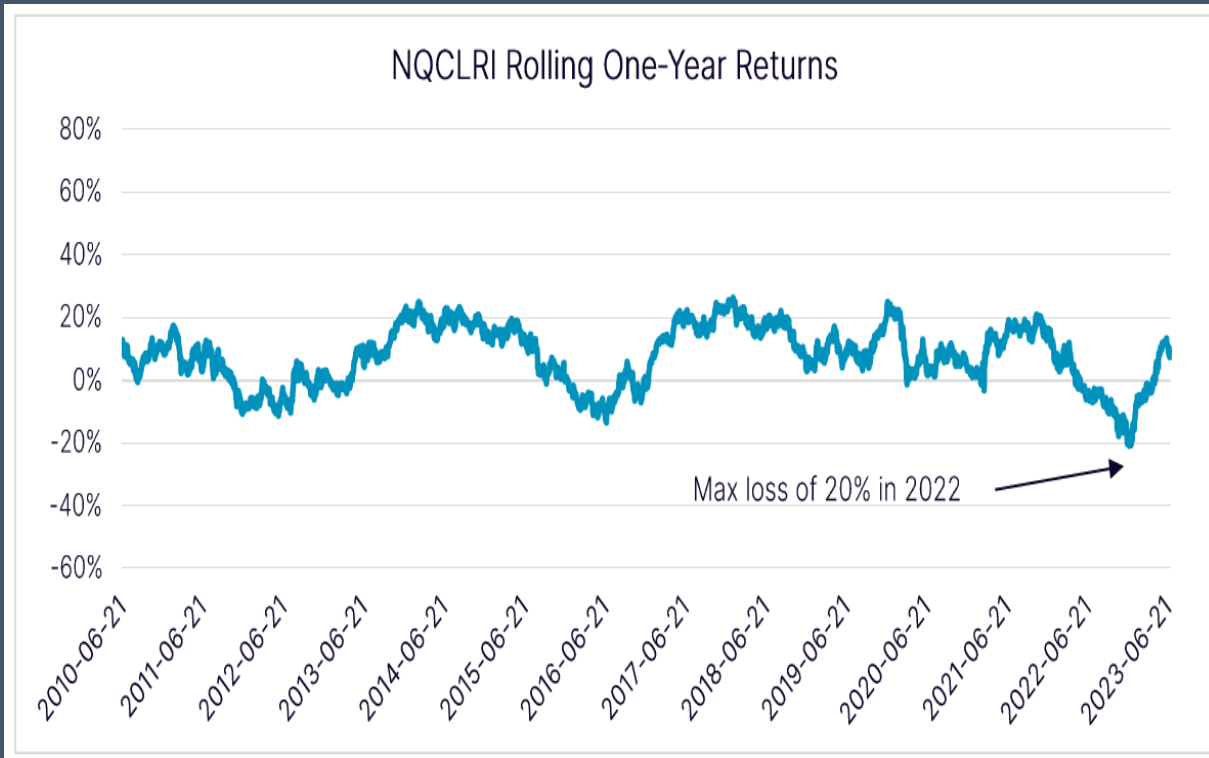


Index Research Tools

Indexes, tracking products and embedded optionality

Options in Practice – NQCLRI™ Nasdaq Investment Intelligence

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Source: Nasdaq Investment Intelligence



Index Research Tools

Indexes, tracking products and embedded optionality

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Nasdaq-100 Volatility Control™ Indexes

Index Name	Ticker	Return*	Volatility	Sharp Ratio
Nasdaq-100 Volatility Control 5% Index™	XNDX5E™	4.40%	4.92%	0.90
Nasdaq-100 Volatility Control 7% Index™	XNDX7E™	6.15%	6.89%	0.89
Nasdaq-100 Volatility Control 10% Index™	XNDX10E™	8.68%	9.85%	0.88
Nasdaq-100 Volatility Control 12% Index™	XNDX12E™	9.99%	11.73%	0.85
Nasdaq-100 Total Return®	XNDX®	13.73%	22.15%	0.56

Simulated Historical Performance:
Back tested returns using historical data through June 30, 2023

Index Name	YTD	1Y	3Y	5Y	10Y
Nasdaq-100 Volatility Control 5% Index™	9.70%	9.00%	5.08%	5.14%	5.91%
Nasdaq-100 Volatility Control 7% Index™	13.79%	12.74%	7.10%	7.20%	8.30%
Nasdaq-100 Volatility Control 10% Index™	19.95%	18.24%	10.17%	10.27%	12.03%
Nasdaq-100 Volatility Control 12% Index™	23.68%	21.24%	11.87%	11.87%	13.89%

Source: Nasdaq Investment Intelligence



Index Research Tools

Indexes, tracking products and embedded optionality

- What's fueled the growth?
 - Accessibility and tax efficiency
 - More investors looking for passive long exposure combined with optionality
 - Theoretical desire for “defined outcomes” with limited ability to manage the nuance
 - Far greater understanding of option benefits (particularly post 2020)
 - Incentives better aligned for asset gathering community and their clients
- What's fueled the growth? (cont.)
 - Accessibility and tax efficiency
 - Investors can access ETFs (securities) more readily than they can options directly
 - ETFs arguably a tax advantaged structure – defer the capital gains*
 - Essentially structured products – democratized
 - Participation with protection is inherently powerful
 - Outgrowth of new variations for subsets of investors

** Speak to a tax professional*



Questions for You

Indexes, tracking products and embedded optionality

- Is exposure with constraints interesting to you?
 - Have you used an options-based ETF?
 - Do you understand “point-to-point” performance?
 - Underlying will not move 1:1 with reference asset because of optionality
 - Convergence expected at maturity
 - Purchase point impacts performance because buffers established at launch
- Why and when to consider
 - Typically, a means to de-risk equity allocation
 - Reduced downside vol with a buffer product
 - Maintain a level of equity upside exposure (capped)
 - Potentially reengage cash with a degree of protection

** Speak to a tax professional*



Index Research Tools

Indexes, tracking products and embedded optionality

If Portfolio Declines	Return Required to Break Even	If you had a 10% Buffer	If you had a 20% Buffer
5%	5.25%	0.0%	0.0%
10%	11.11%	0.0%	0.0%
15%	17.65%	5.26%	0.0%
20%	25%	11.11%	0.0%
25%	33.33%	17.65%	5.26%
30%	42.86%	25%	11.11%
40%	66.67%	42.26%	25%
50%	100%	66.67%	42.86%

Source: Nasdaq & Volos

