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Nasdaq

(Dude) Where Did My Volatility Go?

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Nasdaq

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Dude – Where Did My Vol Go?
Where is the opportunity with many
volatility measures at/near multi-year
lows?

Interactive Brokers Webinar

February 22, 2024

Kevin Davitt

*Nasdaq – Head of Index Options
Content*

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NDX Options Vols

5-Year VXN History

VXN 5Y Avg: 25.70

VXN 4Y Avg: 27.54

VXN 3Y Avg: 25.31

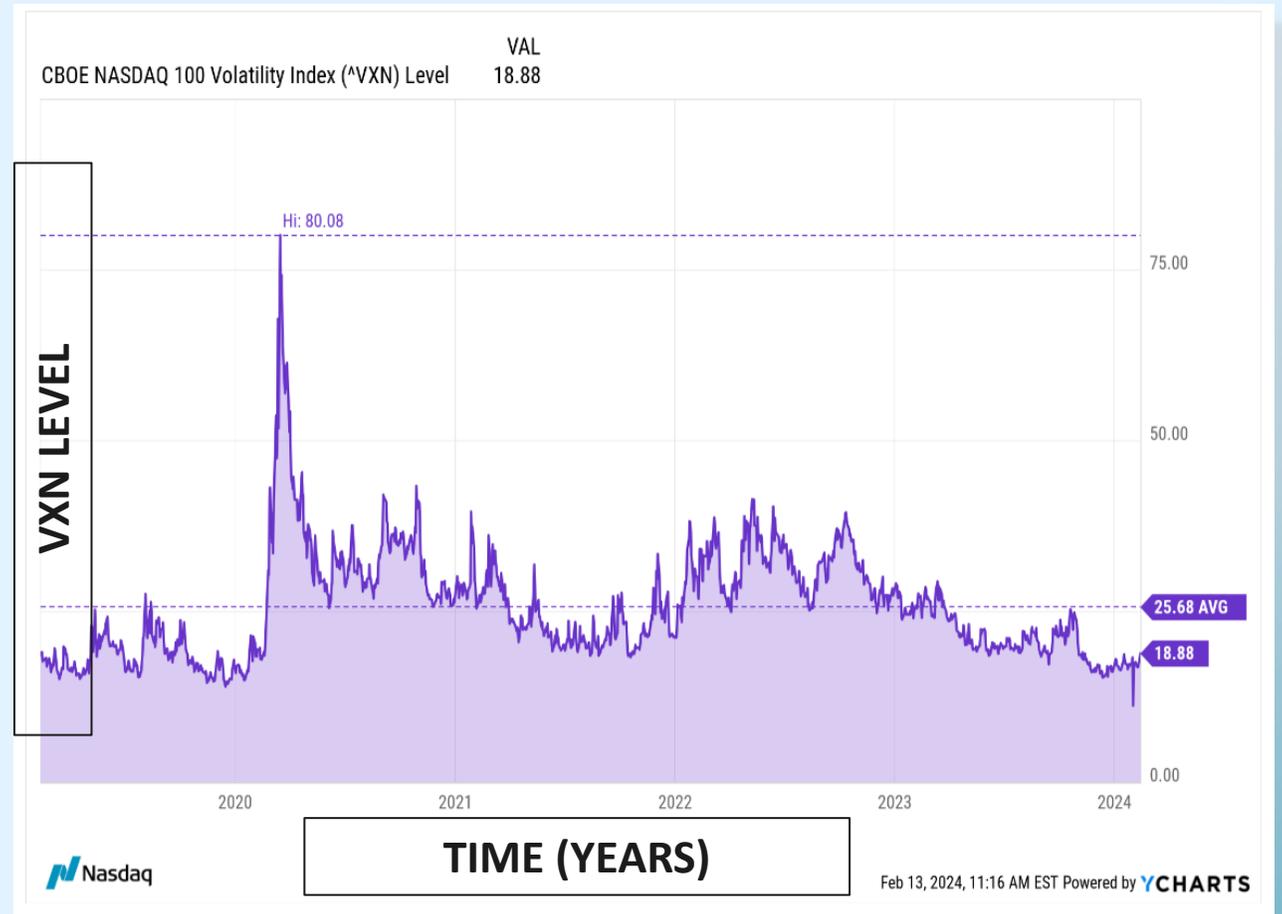
VXN 2Y Avg: 25.92

VXN 1Y Avg: 20.60

Mid 2017: VXN ~10.35 (lows)

Over past 52 weeks, avg. close-over-close NDX change is only 83 basis points.

In calendar year 2024, the average is only 77 basis points.



Source: YCharts



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NDX Options Vols

Historical Corollary?

2016 – 2017 (2Y) NDX average daily close-over-close range ~58 basis points.

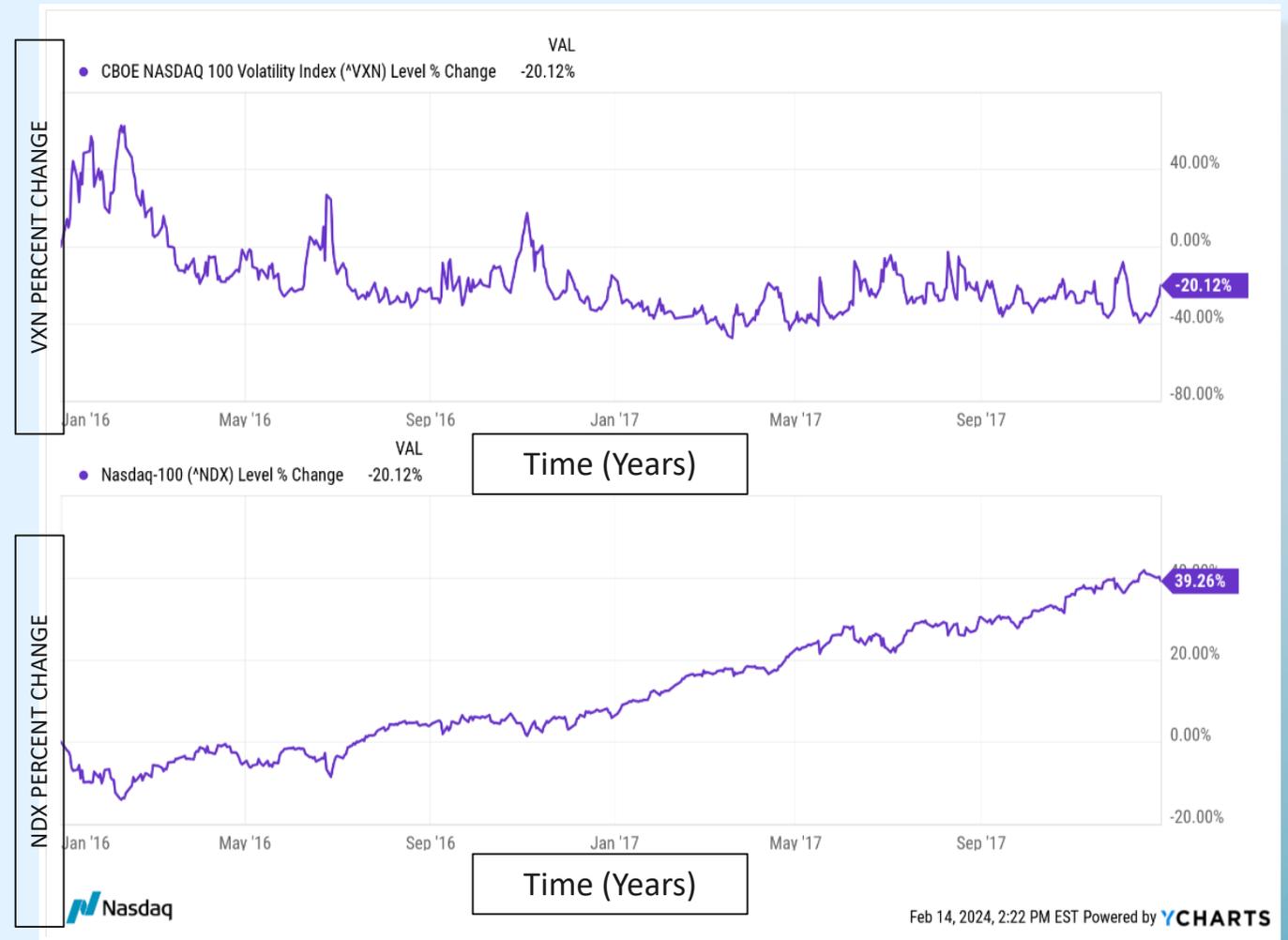
2017 NDX average close-over-close move ~46 basis points.

Are we in “2017-like” environment?

In capital markets, volatility has heteroskedastic tendencies.

Translation: low/high vol tends to beget low/high vol.

Volatility mean reverts, but clusters on both ends.



Source: YCharts



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NDX Options Vols

NDX 3M Vol Measures

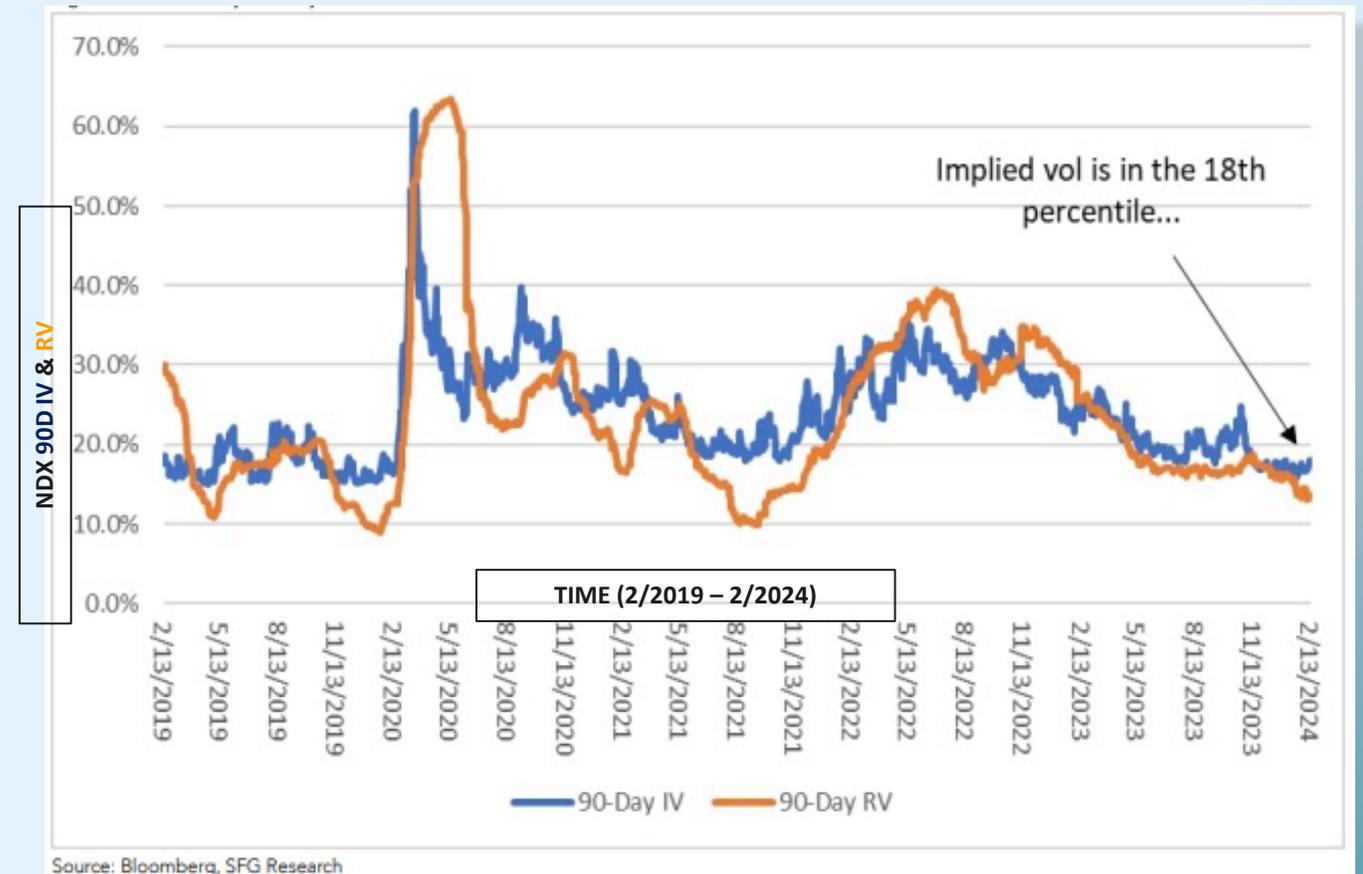
5-year lookback, NDX 90D IV in the 18th percentile, according to Susquehanna.

3M vol trading slightly above pre-pandemic levels.

(As you likely know) As market climbs, vol measures tend to decline (negative correlation).

Typical dynamic at play now.

EXCEPT that.....



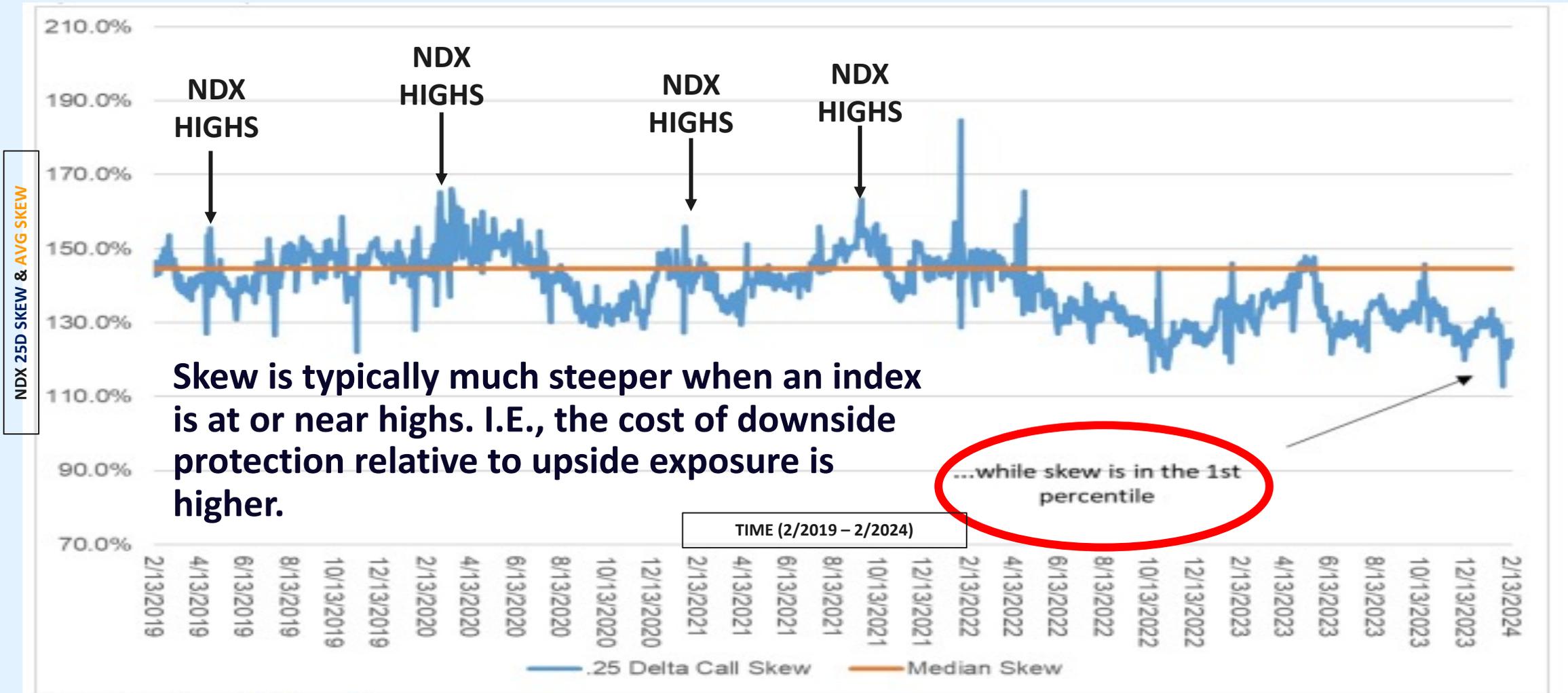
Source: Bloomberg, SFG Research

Source: Chris Jacobson, SFG Research



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NDX25 Delta Skew



Source: Bloomberg, SFG Research

Source: Chris Jacobson, SFG Research



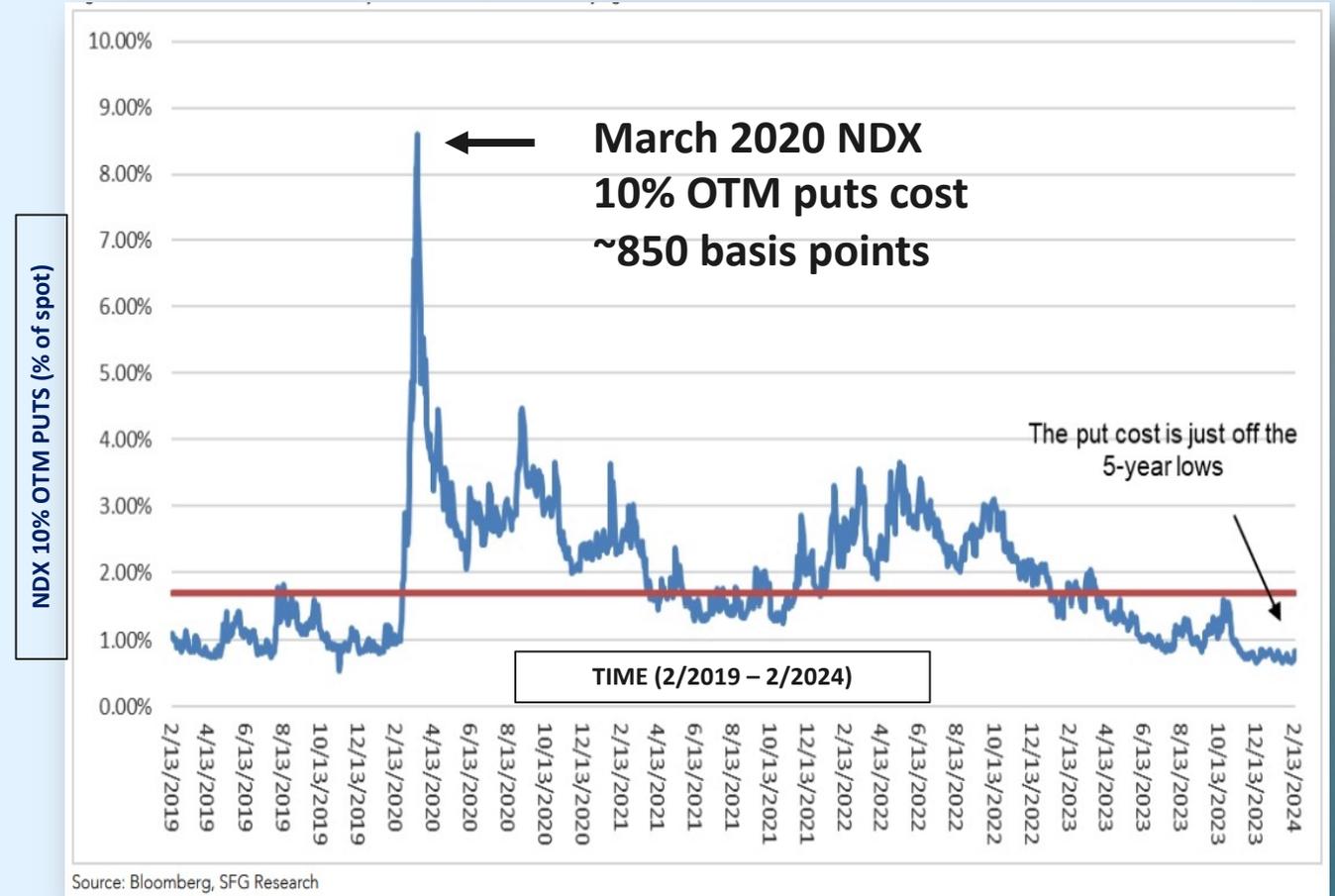
NDX 10% Protection Cost

5-year lookback, NDX 10% OTM put (rolling) price relative to index level.

As a percent of spot, the 3M 10% OTM puts cost about 85 basis points.

The relative cost is in the 6th percentile over the time frame analyzed.

If you subscribe to idea of “buying protection when you can, not when you have to” current levels arguably compelling.



Source: Chris Jacobson, SFG Research



NDX Options Vols

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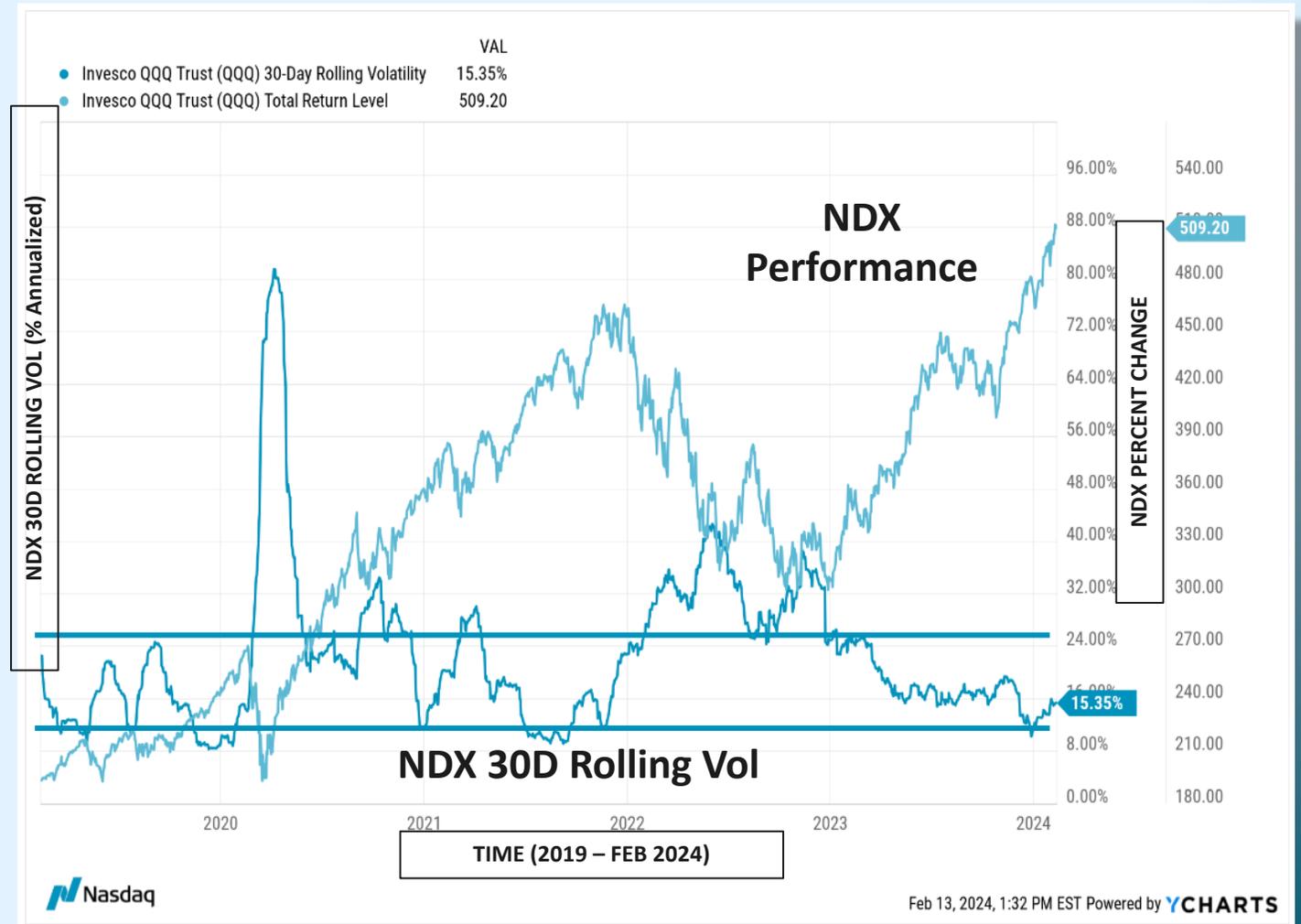
NDX+ 30D Rolling Vol

NDX 1M realized volatility trends between ~25% and ~13%.

Recent pickup in RV, the average moved off longer term “support.”

NDX realized vols were lower in summer 2021 and pre-Covid. Significantly lower for much of 2017.

Historically - selling vol in a low realized environment can be quite effective (but requires oversight).



Source: YCharts



What's Keeping Vol So Low?

NDX higher 14 out of last 15 weeks* (akin to 1972).

NDX +25.6%, RUT +22.9% SPX +22% since late October.

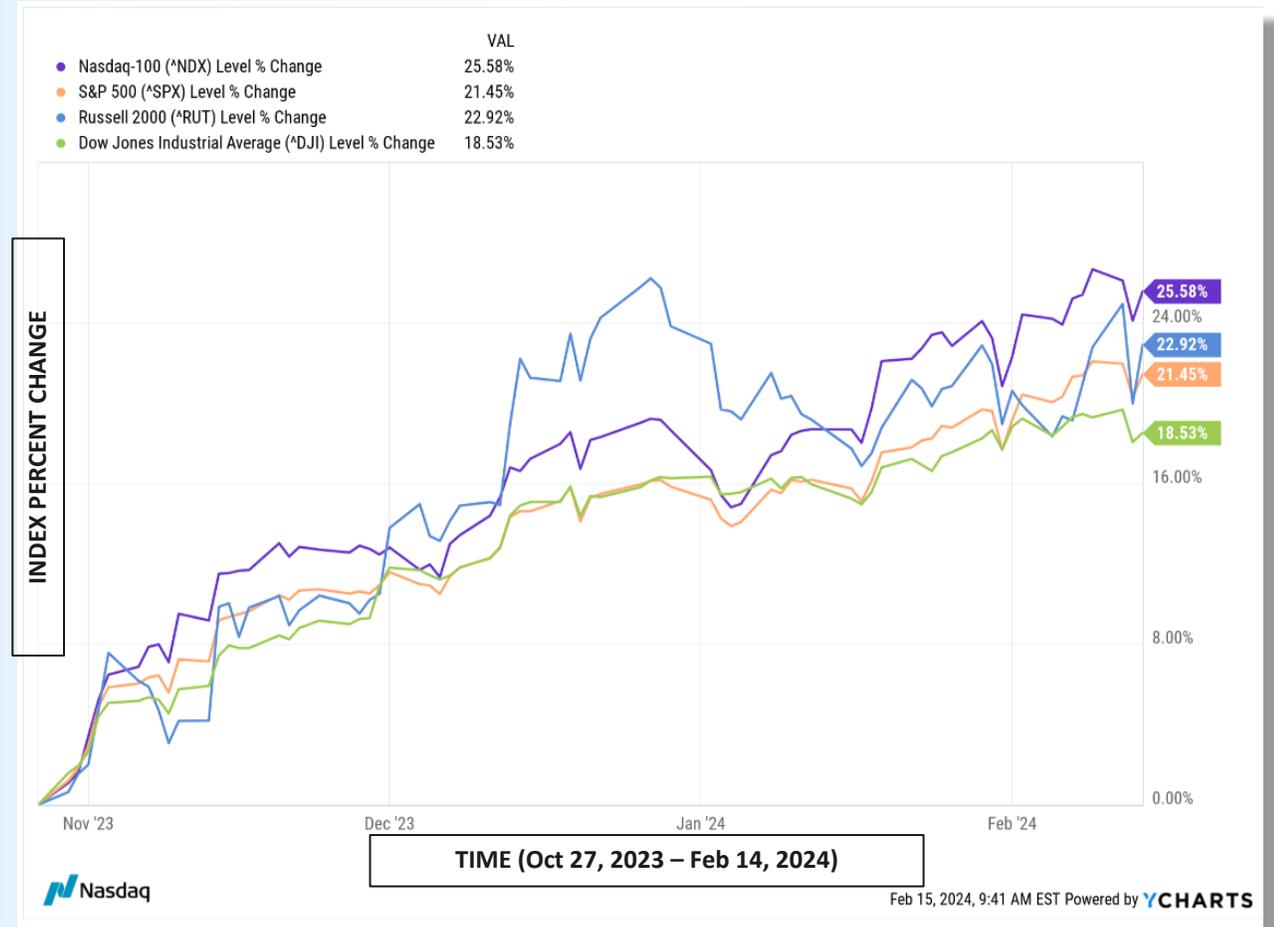
Significant dispersion trading by institutional community:

- -Index vol
- +Constituent vol

This trade continues to work in high dispersion (low correlation) environment.

Vol up > Correlation Up!

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Source: YCharts



What's Implied Correlation

Forward-looking estimate based on index option values (vols) relative to top constituent vol.

In other words, are index options “expensive” or “cheap” relative to component options (in vol terms)?

Can be evaluated at a variety of tenors.

Correlation, like vol measures, tends to move up quickly, and decline slowly.



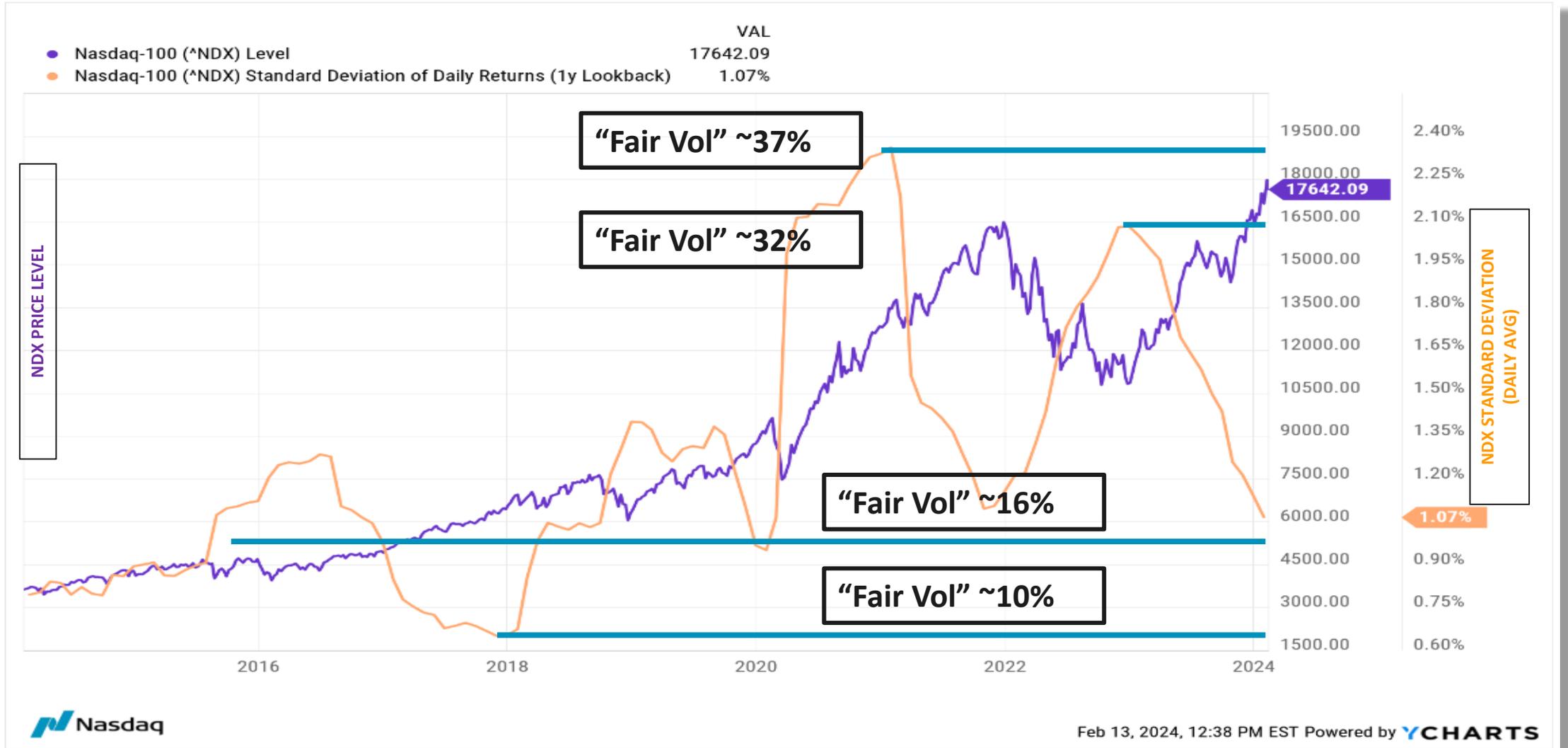
Source: Cboe

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Longer Term Realized Vol is Low

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NDX Options Vols

The Market is Long!

According to Morgan Stanley via Daily Shot: Net Equity positioning (Asset Manager) at record highs.

Adds to potential for “cascade” move lower, but this reflects other bull/bear type date.

Does NOT include potential hedges/offsets...

...But QQQ put open interest is “relatively” low. (SFG Research)

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Source: The Daily Shot

NDX Options Vols

IF There's an Event...

NDX underperformed during Inflation/Rate Hike Fears of 2022.
NDX dramatically outperformed in the wake of Covid selloff.

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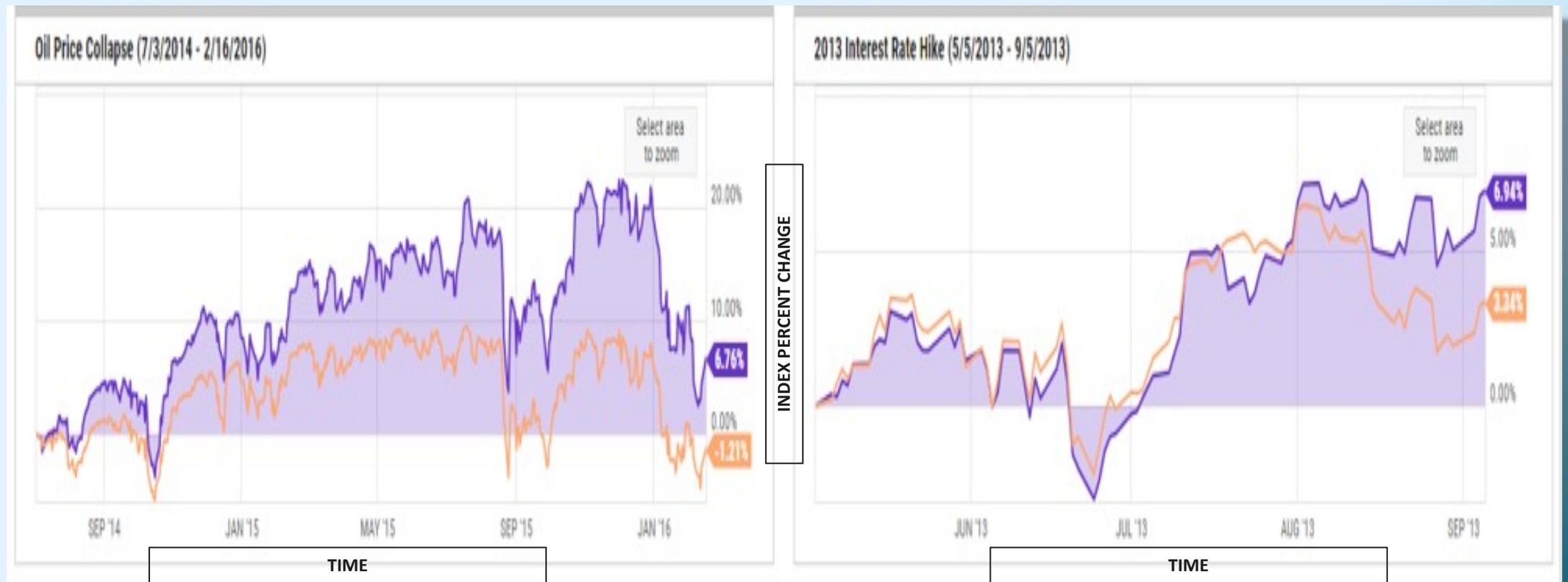
Source: YCharts



IF There's an Event...

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Looking back further....NDX underperformed throughout the commodity/EM crisis across 2015. NDX traded in-line with SPX during previous rate hike cycle and outperformed toward the end.



NDX Options Vols

IF There's an Event...

NDX has consistently outperformed (excepting 2022) in the post Global Financial Crisis world.

NDX construction (ex-Financials and heavy Tech) leans into the macro trends shaping the economy of the 21st Century.

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Source: YCharts

NDX Options Vols

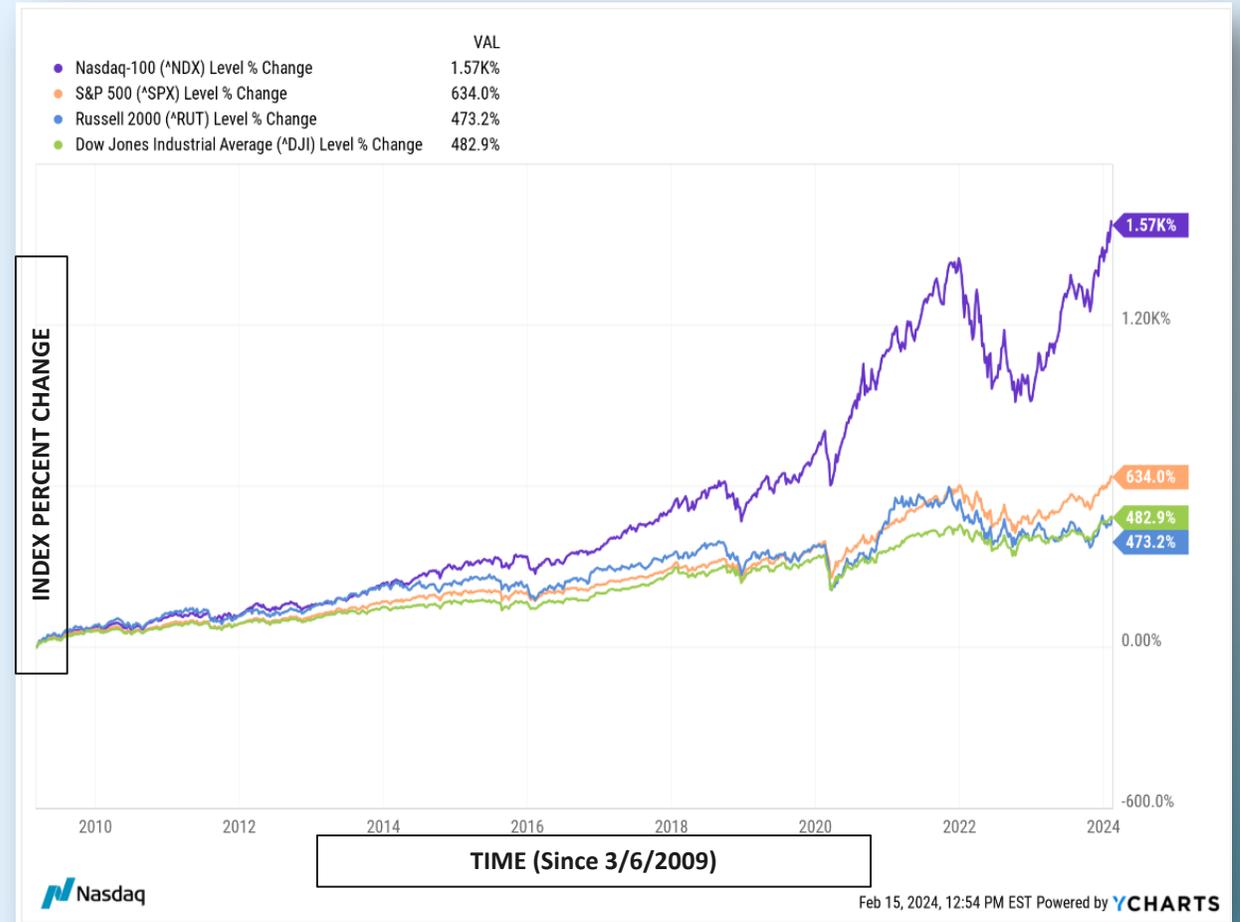
Since 2009 Market Bottom

Overweight Tech has worked, and worked, and worked again.

Of course, that could reverse.

If there's a period like 2000 – 2002, hedging equity risk, and tech risk in particular will become a greater focus.

The growth of index options in the intervening (15) years has been almost as impressive as the NDX performance.



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Source: YCharts



Recap

Implied volatility levels are low, primarily because realized vol has been persistently low.

Vol does tend to mean revert, but in the interim, it's heteroskedastic!

Macro trading trends have arguably helped mute index vol:

- Dispersion
- Vol control
- Short duration options

NDX outperforms in a variety of environments and short option strategies can perform well in low vol environment.



What's Unique?

The current index skew dynamic is unique, characterized by:

- Relatively low put skew
- Relatively high call skew
- Fairly high constituent vols

That results in relatively cheap (in vol terms) hedging setups. The dynamic is most visible at short end (earnings), but long dated skew is also unusually low.