Options In Practice – NQTRI™ Nasdaq Investment Intelligence

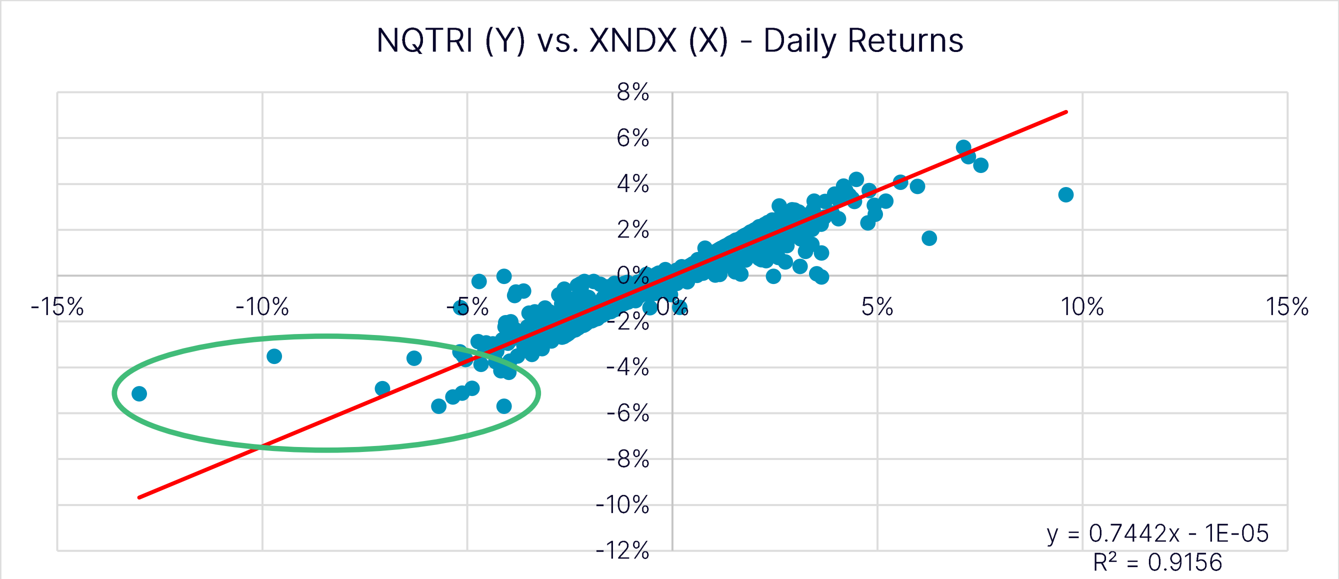
Introduction

A protective put is a strategy that can be used to reduce the risk of an equity position by buying a put option on a stock or index that an investor already owns. A put option gives the holder the right, but not the obligation, to sell the underlying stock at a certain price (known as the "strike price") on or before a certain date. The key feature of a put option is that it increases in value as the price of the underlying asset declines below the strike price, which is why many investors use puts to hedge against tail risk. For a brief explanation and example of a protective put using index options, please see "Understanding Protective Puts" in the further resources section below.

The Nasdaq-100 Quarterly Protective Put 90™ Index (NQTRI™) tracks the performance of a systematic rolling protective put options strategy that uses 3-month options on the Nasdaq-100 Index®. The put options are selected to be 10% out-of-the-money, thus protecting approximately 90% of the value of the underlying index. NQTRI provides exposure to the Nasdaq 100 Index while reducing the risk of a pure long position in three important ways.

NQTRI provides exposure to the Nasdaq-100 with Lower Volatility

The first feature/benefit is that we can gain exposure to the Nasdaq-100® with lower volatility, a popular proxy for risk. Using daily returns from 6/22/2009 through 12/31/2022, the annualized standard deviation of NQTRI is 16.27% versus 20.91% for the Nasdaq-100, a reduction of just over 20%. The correlation between the two indexes is 96% and the r-squared is 92%, so we are not losing exposure to the Nasdaq-100 if we instead choose to gain exposure to the Nasdaq-100 Total Return® Index (XNDX®) via NQTRI. We do, however, reduce our exposure to the largest negative days of the Nasdaq-100, as we can see in the green circle in the scatterplot below.

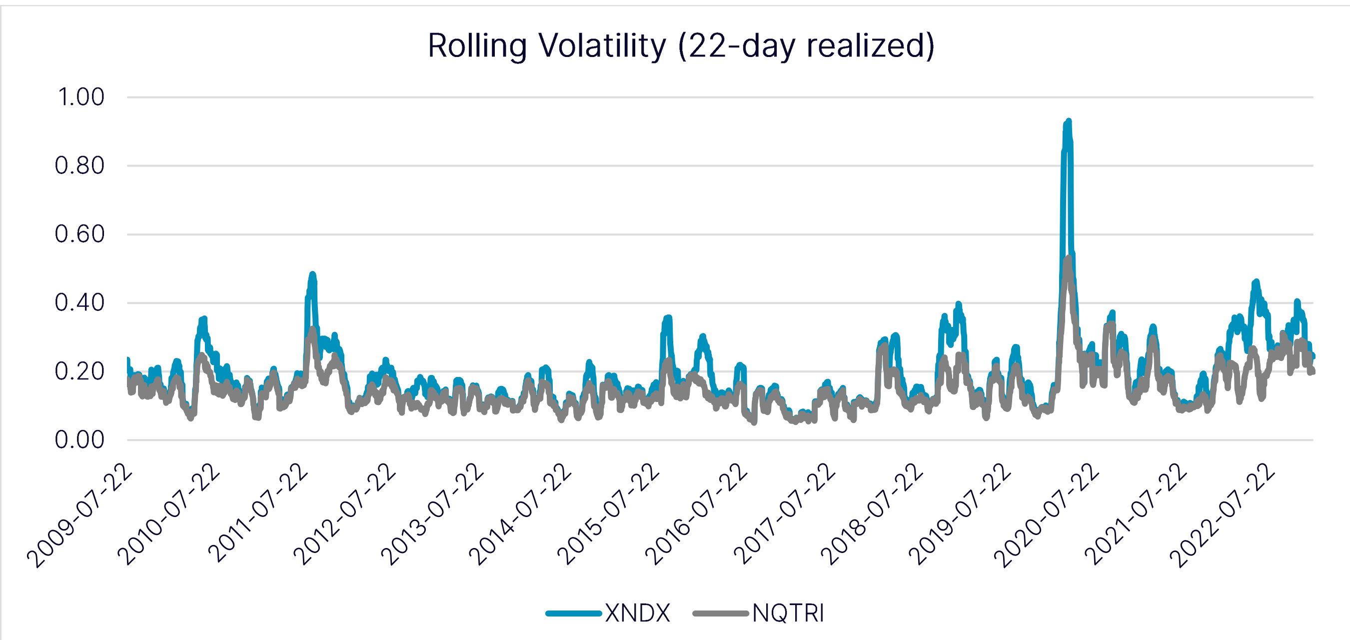


Scatterplot of daily returns, Source: Bloomberg & Nasdaq

NQTRI Has Lower "Volatility of Volatility" Than the Nasdaq-100

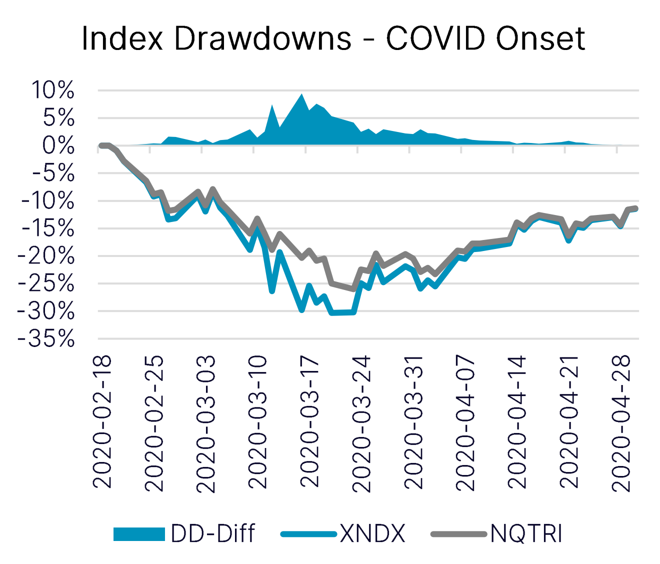
The second feature of NQTRI is that the volatility of volatility is significantly lower. For example, if we plot the rolling 22-day (annualized) volatility of each index for the common period spanning from June 2009 through the end of 2022, we see that both timeseries change a fair bit, with occasional jumps or spikes. We can also see that the Nasdaq-100 expresses higher volatility through time, along with larger spikes relative to NQTRI.

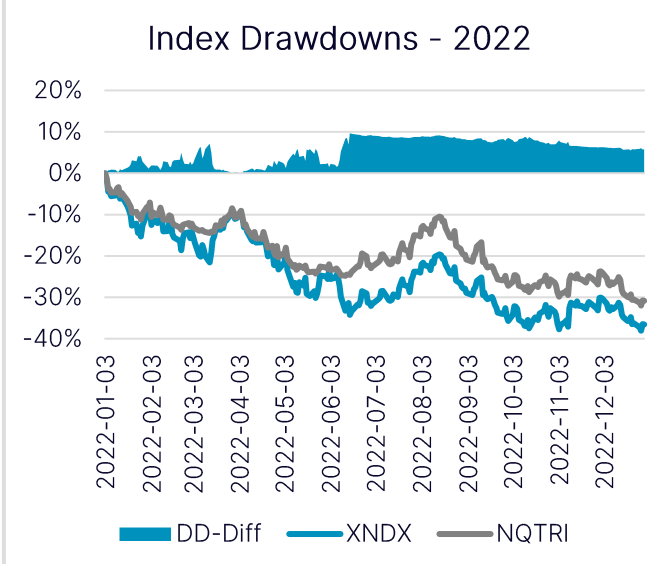
What this means is that shorter-term estimates of volatility move around much less and are less likely to vary greatly from a longer-term estimate. Investors who adjust their allocations based on volatility or similar measures of risk, such as risk-parity investors, will be prompted to rebalance less frequently, saving on a) transaction costs and b) slippage, in the sense that there is less noise in their estimate of the 'true' risk of the index.



NQTRI May Have Smaller Drawdowns Than the Nasdaq-100

Perhaps the most important feature, however, is the potential for NQTRI to reduce the impact of drawdowns in the Nasdaq-100. Arguably one of the greatest hazards to long-term investors is seeing the value of their investment decrease markedly during a drawdown. Knowing that a protective put strategy can bolster the value of an investment during drawdowns may help investors stay invested, rather than make the error of selling at a depressed value. Below we chart drawdowns for both indexes during two periods: calendar year 2022, and the "COVID Crisis" of early 2020. In both cases, we can see that NQTRI experienced smaller, smoother drawdowns, and in both cases reduced the peak drawdown by roughly 10%.





DD-Diff = is defined as the cumulative difference in drawdowns between the referenced indexes.

Conclusion

The Nasdaq-100 Quarterly Protective Put 90™ Index (NQTRI) tracks the performance of a systematic rolling protective put options strategy. This index has the potential to reduce the risk associated with tracking the Nasdaq-100 Index by reducing volatility, volatility of volatility and cushioning drawdowns. In summary, NQTRI provides meaningful exposure to the Nasdaq-100 with lower risk (but with less upside capture as a result of the cost of the put).

Notes and Further Resources

- Understanding Protective Puts – Nasdaq Investment Intelligence
- Option-Strategy Indexes: A Powerful Tool for Improving Portfolios https://jii.pm-research.com/content/early/2023/01/27/jbis.2023.1.031.abstract
- Nasdaq-100® Education: https://www.nasdaq.com/solutions/nasdaq-100/education
- Nasdaq-100 Index Options: https://www.nasdaq.com/solutions/nasdaq-100-index-options
- Global X Nasdaq 100 Tail Risk ETF: https://www.globalxetfs.com/funds/qtr/