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Nasdaq

Why Downside Protection Makes So Much Sense Right Now

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Disclosure:

IBKR Spotlight, 4/17/2024

Why Downside Protection Makes So Much Sense Right Now

Hello Philip

Philip Sun, CEO and Cofounder, @Adaptive

Former quant and fund manager, @Sentinel, @Fidelity, @Wellington, @Highbridge, @PanAgora

Adjunct Professor, @Boston University MSMFT Program and @Hult International Business School, UG, PG and DBA Programs

MBA @Wharton, PhD Physics @CMU, CFA

Hello Kevin

Kevin Davitt, Head of Index Options Content, @Nasdaq

Former market maker (on floor & off) who managed risk in equity, ETF, and Index products (1999 – 2007).

Commodity derivative experience (2008 – 2014)

Marquette University, Finance & Political Science

Evans Scholar Alum (Western Golf Association)

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Topics

1. **Intro:** Downside Protection Makes So Much Sense Right Now
2. **Spotlight:** Downside Protection Made Easy with **Index Puts**
3. **Spotlight: Buy-and-Hold 2.0**—Alternative to Asset Allocation
4. Q&A

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Why Now & Why With Options

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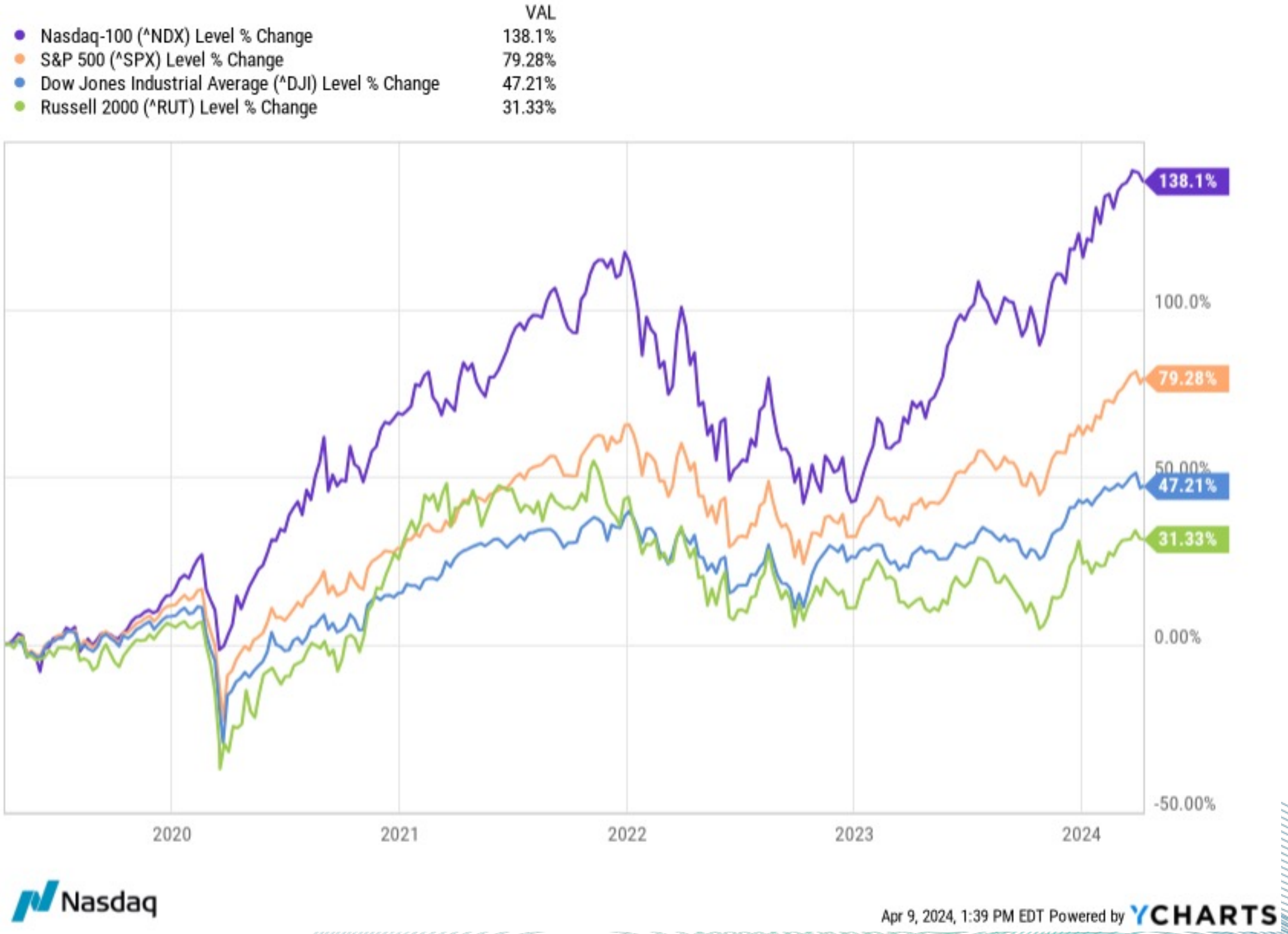
"Buy protection when you can, not when you 'have' to".

Avoiding poor (emotionally driven) decisions can be more important than making savvy ones.

Relatively low macro volatility with very unusual skew dynamics.

Most rate hiking cycles end in recession. Some resolve in financial crisis (1974, 2000, 2008).



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Stock Market Down 10% or More Once a Year

Standard & Poor's 500 Composite Index (1948-2017)

	-5% or more	-10% or more	-15% or more	-20% or more
Average frequency	About 3 times a year	About once a year	About once every 3.5 years	About once every 6.3 years
Length (days)	46 days	117 days	275 days	425 days

Sources: RIMES, Standard & Poor's. Assumes 50% recovery of lost value. Length measures market high to market low.

The volatility of early 2018 may have felt more jarring than usual because it followed a year that didn't have a single 5% decline. But the market movements of 2018 are much more typical than those in 2017. In fact, since 1980 there have been only four years that had no such drawdown.

Downside Protection Made Easy and Cost Effective with Index Options

Problem:

- Equity index options are *underutilized* in the retail market …
  for *risk management.*
- Cost of hedging a diversified portfolio with *index puts* is lower than buying puts on individual names… but how?
- Trading option is complex, technical and error prone.

Solution:

- Leverage *quant finance* and *computing technology to* automate, streamline and simplify options strategy.
- Simplified and cost effective option strategies are suitable for wealth advisors, their clients and individual investors.

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Spotlight on…

“Know Your Options”

—Hedging Made Easy with Index Options

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Know Your Options: Index Puts

Most Liquid:

- NDX (XND), Nasdaq 100, Nasdaq
- SPX (XSP), S&P500, CBOE
- RUT (MRUT), Russell 2000, CBOE

Also Available:

- MSCI Global Indexes (CBOE)

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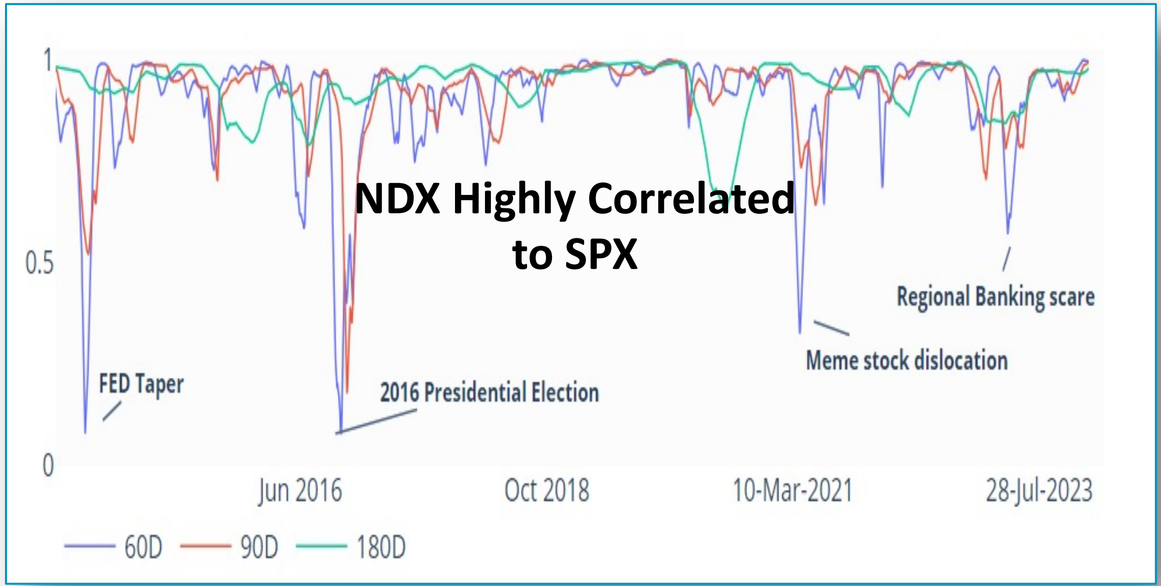
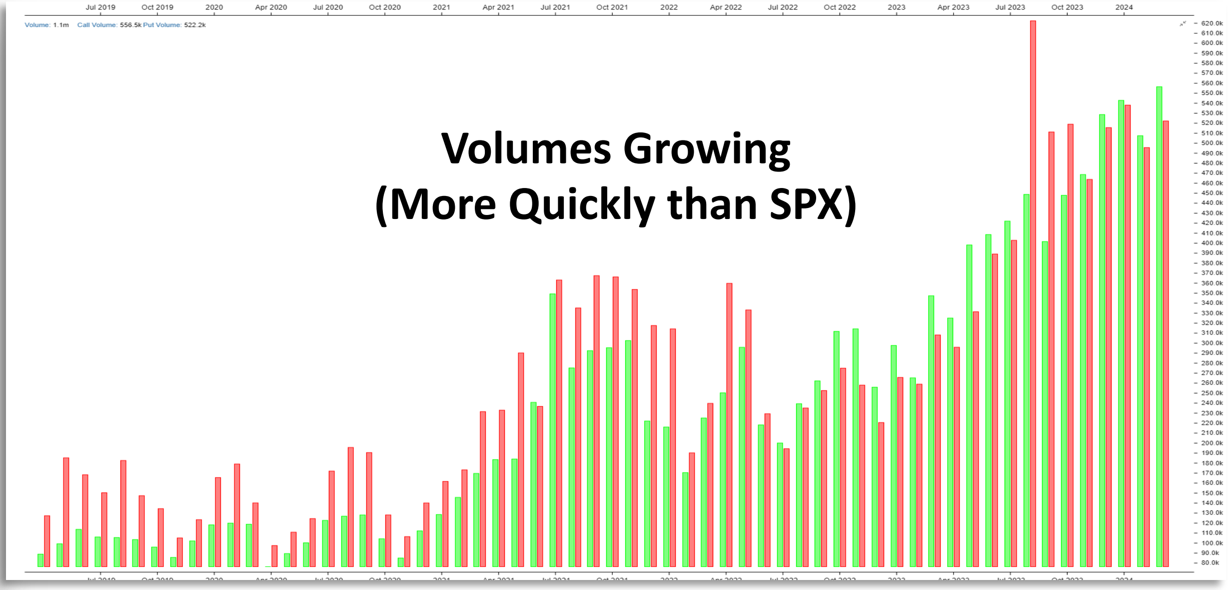
What is the Nasdaq-100 Index (NDX)?

- The companies in the NDX include 100+ of the largest domestic and international non-financial companies.
  - NDX/S&P 500 Correlation (10 Years)

NDX Monthly Options Volume (5 Years)





NDX has high exposure (weighting) to the companies that continue to change the world (many generating significant cash flows).

Nasdaq-100 Micro Index XND tracks the NDX with 1/100th the notional exposure of the full-sized index.

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NDX is A "Magnificent" Hedge

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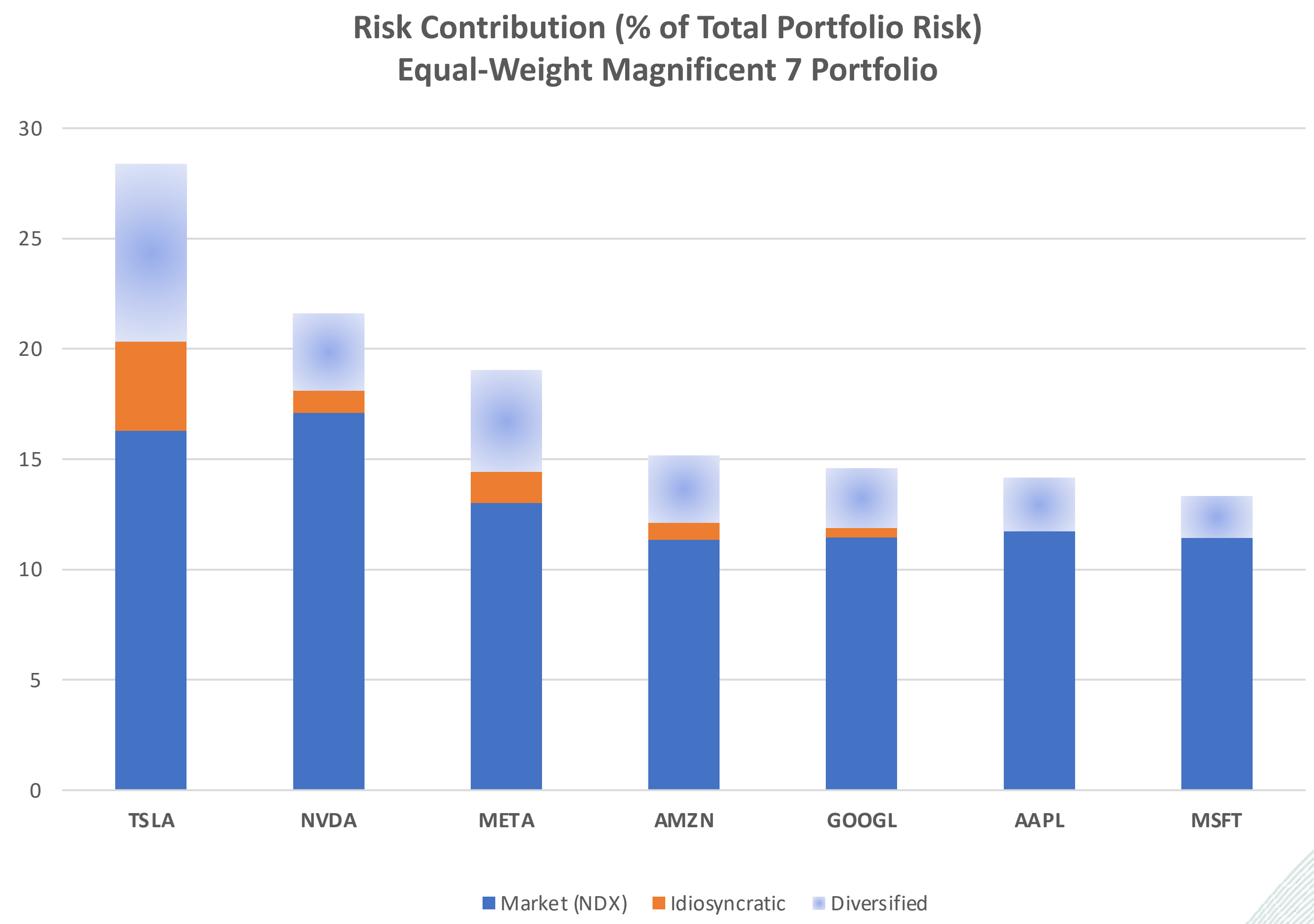

Portfolio Annual Volatility	**32.5%**
Market (NDX) Contribution	**30.0%**
beta	*1.2*
Total from Idiosyncratic Risk	2.5%
Total Risk Reduction (due to diversification)	8.5%

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Hedging with Index is Cost Effective

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Portfolio Protection Calculator

Powered by Adaptive

MODEL PORTFOLIO	PORTFOLIO VALUE	PROTECTION PERIOD	PROTECTION LEVEL	MARKET PROTECTION ESTIMATE
The Magnificent Seven	$1,000,000.00	1 Month	90%	$3,484.00
		May 3, 2024	$900,000.00	0.35% of total portfolio value

Risk Weather is LOW.The market is currently anticipating relatively small moves down or up.
Downside protection costs are cheaper than historical averages. Learn more.

Portfolio Details +

PORTFOLIO PROTECTION

Put contracts for individual portfolio holdings, with approximated strike price & expiration. *Learn more.*

#	CONTRACT	QUANTITY	PRICE	TOTAL
1	AAPL MAY 10 2024 $155.0 PUT	9	$1.04	$936.00
2	AMZN MAY 10 2024 $165.0 PUT	8	$2.27	$1,816.00
3	GOOGL MAY 10 2024 $140.0 PUT	10	$1.44	$1,440.00
4	META MAY 10 2024 $460.0 PUT	3	$10.30	$3,090.00
5	MSFT MAY 10 2024 $380.0 PUT	4	$2.59	$1,036.00
6	NVDA MAY 10 2024 $805.0 PUT	2	$14.85	$2,970.00
7	TSLA MAY 10 2024 $155.0 PUT	9	$5.50	$4,950.00

Total Cost : $16,238.00

MARKET PROTECTION

Mini-SPX Put Options on the S&P 500 market index, with approximated strike price & expiration. Learn more.

This free tool is limited to the S&P 500. Sign up for the Free Trial to see portfolio fit for other indexes including the Nasdaq 100 & Russell 2000.

#	CONTRACT	QUANTITY	PRICE	TOTAL
1	XND2024-05-03P168	67	$0.52	$3,484.00

Total Cost : $3,484.00
Beta 1.22; Tracking Error 9.09; R-Squared 92.31%
Sign up for the Free Trial to see fit with other indexes (Nasdaq 100, Russell 2000).

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Historical Backtest of “Magnificent 07”

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Philip Sun / New Mag 7

Download Report | Shield Recommendations

Risk Contribution | Factor Analysis | Backtest | Forward Test

Market Shield Backtest

☐ Include Portfolio Shield

PROTECTION LEVEL: 90%

PROTECTION PERIOD: 1 Month

US Election Fears	Coronavirus	Recession Fears	Trade War, Tariffs	Rising Rates	Inflation Fears	Election Fears	Brexit Concerns
2020-08-02 to 2020-09-24	2020-02-01 to 2020-03-23	2019-07-01 to 2019-08-05	2018-05-01 to 2021-06-03	2018-09-21 to 2018-12-26	2018-01-26 to 2018-02-09	2016-08-15 to 2016-11-04	2016-06-08 to 2016-06-27

Backtest Starting Value: $2,903,381.93

Portfolio Without Shield: $11,272,575.11

Portfolio With Market Shield: $12,495,756.65

S&P 500: 525.44

	PORTFOLIO WITH MARKET SHIELD	PORTFOLIO WITHOUT SHIELD	S&P 500
ANNUAL RETURNS	32.46%	31.20%	12.89%
DOWNSIDE RISK	20.27%	24.79%	18.01%
RETURN/RISK RATIO	1.60	1.26	0.72

1y | 2y | 3y | 5y | 10y | 2019-03-31 | 2024-03-29 | Run Test

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Offset Protection Cost with Covered Calls

Philip Sun / Mag 7 for Call Writing

Shield Recommendation | Call Writing | Put Buying

PROTECTION TYPE	Market Shield
PROTECTION PERIOD	1 Month
PROTECTION LEVEL / ASSET ALLOCATION	90
PORTFOLIO ANALYTICS	Tracking Error 8.97 %
PROTECTION PRICE	$3,484.00 (0.35%)
PREMIUM COVERED CALLS	$11,484.00
COST INDIVIDUAL PUTS	$0.00
NET COST/INCOME	$11,484.00 (1.15%)

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Covered Calls on Magnificent 7

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Philip Sun / Mag 7 for Call Writing

Shield Recommendation | Call Writing | Put Buying

List of Symbols Global Cap Level 110 Exp Date 05/04/2024 Portfolio Value: $1,001,766.45 Premium Total $11,484.00 (1.15%)

SYMBOL	SHARES	NO CONTRACTS	CAP LEVEL	EXP DATE	BID	PREMIUM $	% STOCK VALUE	% PORTFOLIO VALUE
AAPL	833.08	8	110	05/02/2024	0.80	$640.00	0.453%	0.064%
AMZN	791.98	7	110	05/02/2024	2.22	$1554.00	1.076%	0.155%
GOOGL	946.52	9	110	05/02/2024	1.36	$1224.00	0.835%	0.122%
META	294.2	2	110	05/02/2024	11.35	$2270.00	1.523%	0.227%
MSFT	339.55	3	110	05/02/2024	2.07	$621.00	0.435%	0.062%
NVDA	158.1	1	110	05/02/2024	16.15	$1615.00	1.148%	0.161%
TSLA	812.66	8	110	05/02/2024	4.45	$3560.00	2.602%	0.355%

Spotlight on…

“Know Your Options”

—Alternative to

Buy-n-Hold Asset Allocation

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Traditional “Buy-n-Hold”

For Buy-and-Hold investors, risk management means owning less Stocks!

- Balance funds: asset allocation with fixed Stocks/Bonds ratio, rebalanced monthly or quarterly.
- Glide path: Stocks allocation decline overtime as we approach retirement or with age.

Draw-backs of Traditional Asset Allocation Strategies:

- These are “Active” strategies: rebalancing entails market risk and has tax consequences.
- Manage downside risk by giving up equal portion of upside potential.

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Buy-and-Hold 2.0

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Alternative to Asset Allocation

- Own 100% stocks
- Use downside protection (put buying or Adaptive Shield) to manage downside risk.
- **10%** downside protection equivalent to 50/50 Asset Allocation (12% ≈ 60/40) [Update this rule of thumb with QQQ+Agg]

Advantages of Buy-and-Hold 2.0

- Passive buy-and-hold of stock portfolio
- Consistently buying puts are no more onerous than rebalancing
- Tax consequences are likely to be small or positive as we anticipate payoff of protection to be offset by costs that are deductible as investment losses
- Maintain exposure to the upside
- Turn negative compounding on its head: when market is down, re-invest payoff to boost positive compounding when market rebounds

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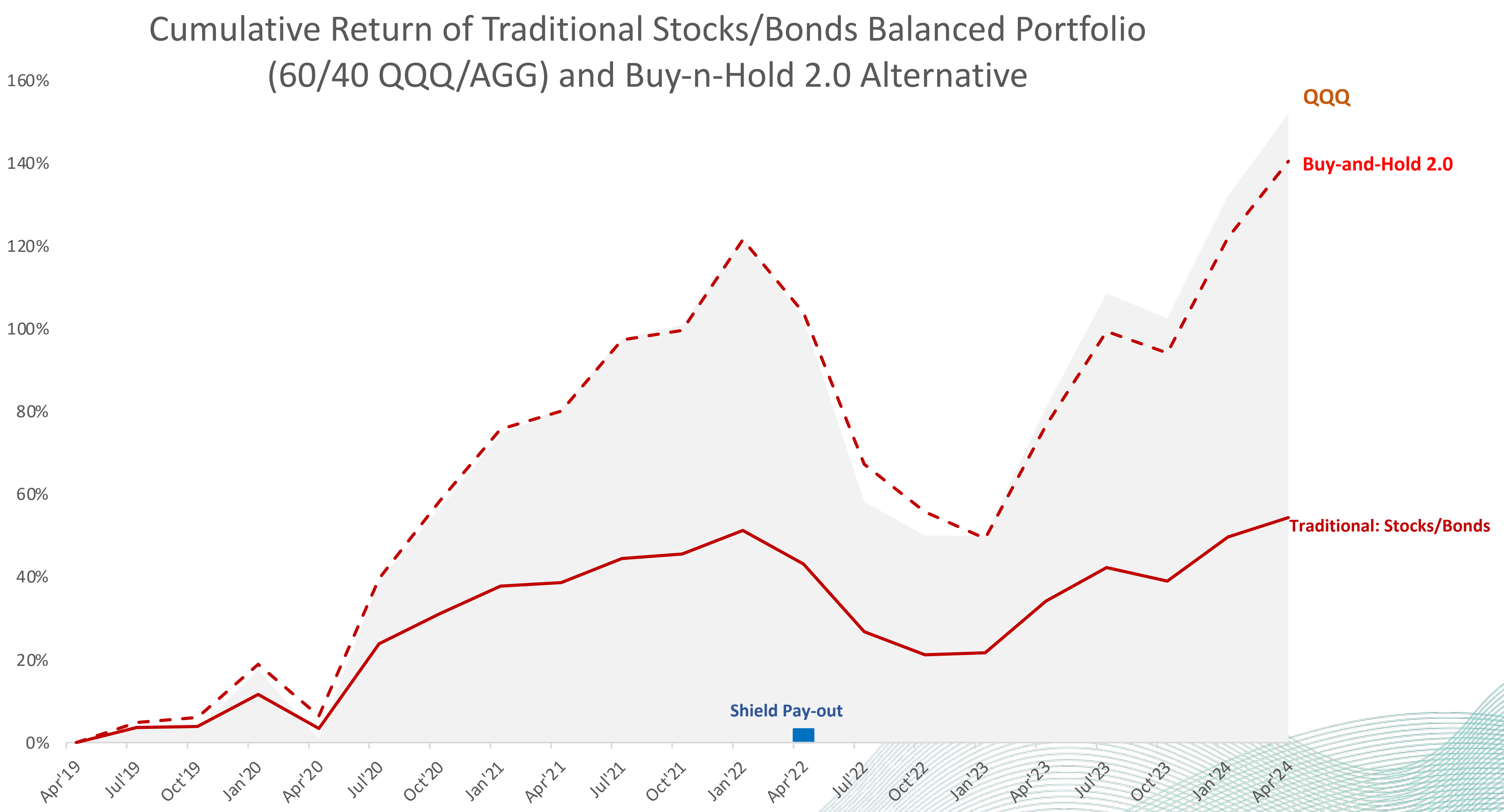
Backtest 60/40 AA and Buy-and-Hold 2.0 Alternative



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Buy-n-Hold 2.0 Backtest

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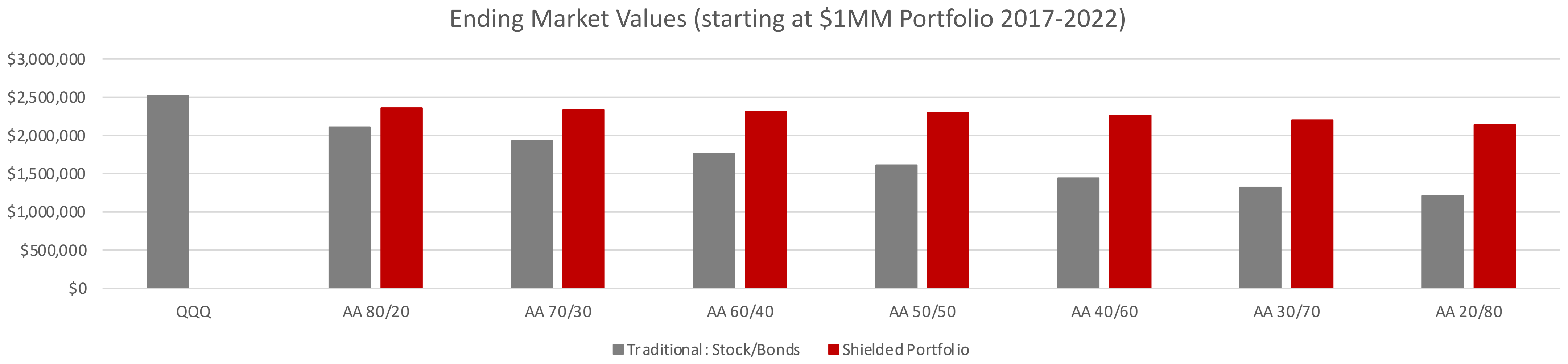

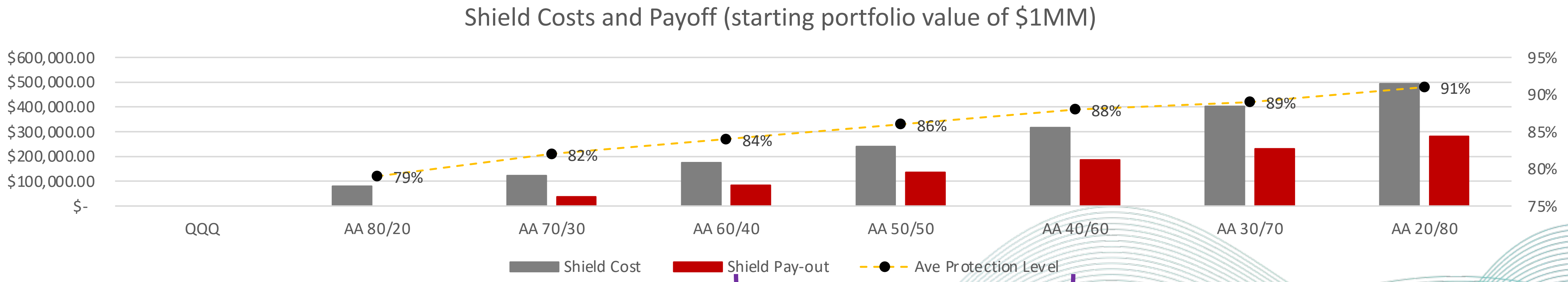

Ave Equivalent Protection Level ~ 86% for 3 months

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