



**JULEX** CAPITAL

## OPTION OVERLAY STRATEGIES

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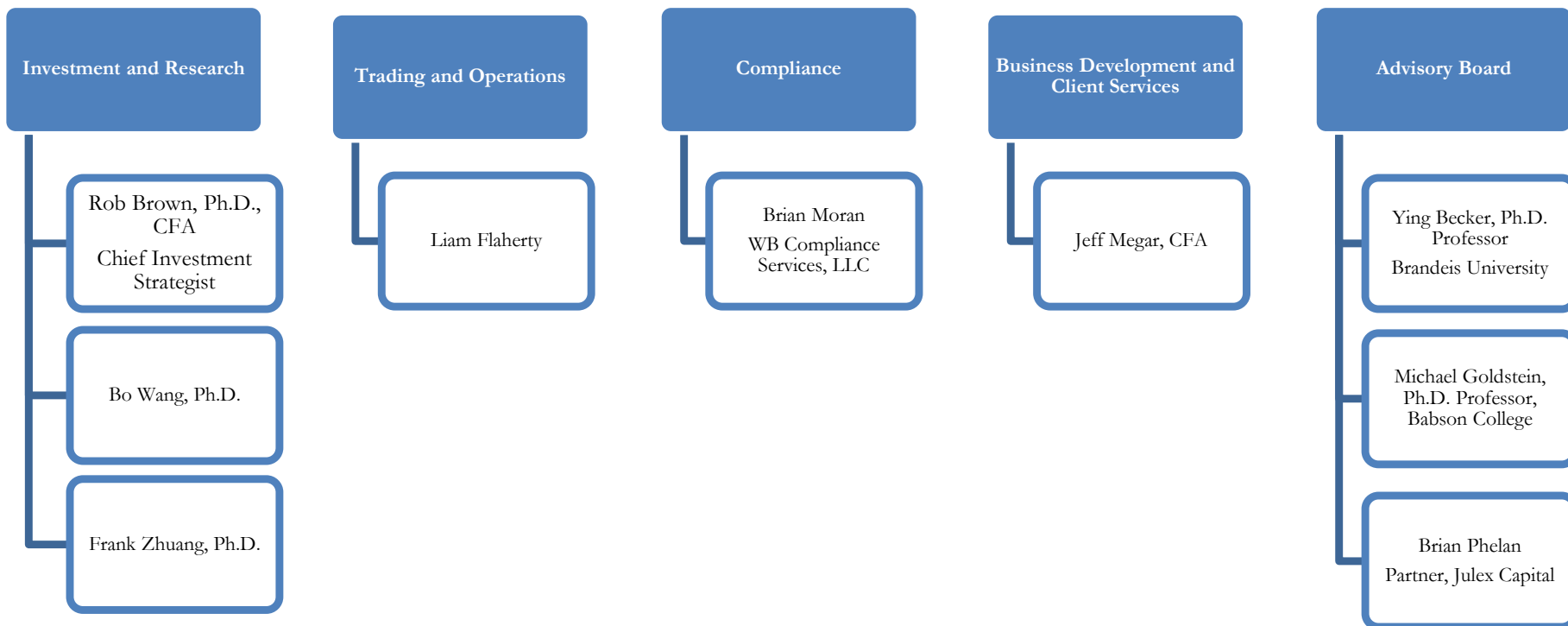
Web: [www.julexcapital.com](http://www.julexcapital.com)

# Firm Overview

## Firm

- Employee-owned, established 2012
- Model driven, rules-based investment process
- Specializes in tactical asset allocation, quantitative equity, and option overlay

Henry Ma, Ph.D., CFA  
President/CIO



# Investment Team Background

Team	Role	Experience	Education
Henry Ma Ph.D., CFA	President Chief Investment Officer	Geode Capital – Hedge Fund Manager Loomis Sayles – Director of Quantitative Research Fortis Investments - Director of Quantitative Research Sun Life Financial– Portfolio Manager	Ph.D. Economics – Boston University BA, MA – Peking University
Rob Brown Ph.D., CFA	Chief Investment Strategist	Integrated Financial Partners – Chief Investment Officer United Capital – Chief Investment Officer Arizona Public Safety Personal Retirement System – CIO Genworth Financial – CIO Investnet and SEI – Senior Managing Director	Ph.D. Economics – Northwestern University MA – University of Maryland
Liam Flaherty	Trading/PM and Operations	MFS Investments - Independent Contractor MassMutual - Internship	BS – Babson College
Bo Wang Ph.D.	Research		Ph.D. Economics – Boston College BA – Renmin University of China
Frank Zhuang Ph.D.	Research	Ericsson – Senior Engineer Nortel, Alcatel/Lucent - Senior Research Scientist	Ph.D. Electric Engineering – University of Maryland MS – West Virginia University
Jeffrey Megar CFA	Managing Director, Marketing & Business Development	State Street Global Advisors – Senior Portfolio Manager Fortis Investments – Senior Portfolio Manager Cypress Tree Investment Management	MBA – Northeastern University BA – Framingham State University

## Overlay Service

**Only trade S&P 500 Index options – Can be used with any Marginable Asset**

### Enhanced Yield

Generate tax-advantaged net income of 2-3% annually

### Capital Appreciation

Enhance short-term appreciation for equity portfolios

### Defensive Overlay

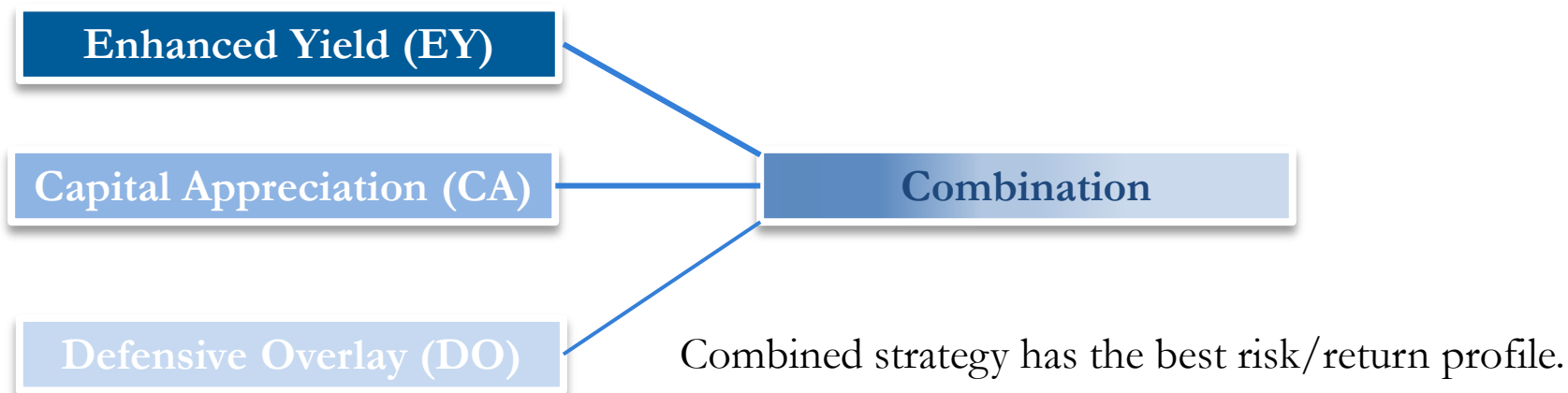
Provide short-term protection in turbulent markets

### Combination Strategies

- For each strategy, the underlying accounts will continue to be managed as before.
- Clients can exit the strategies at any time.
- The Index Based Defensive Overlay and Capital Appreciation are partially self-funding

## What Is An Overlay?

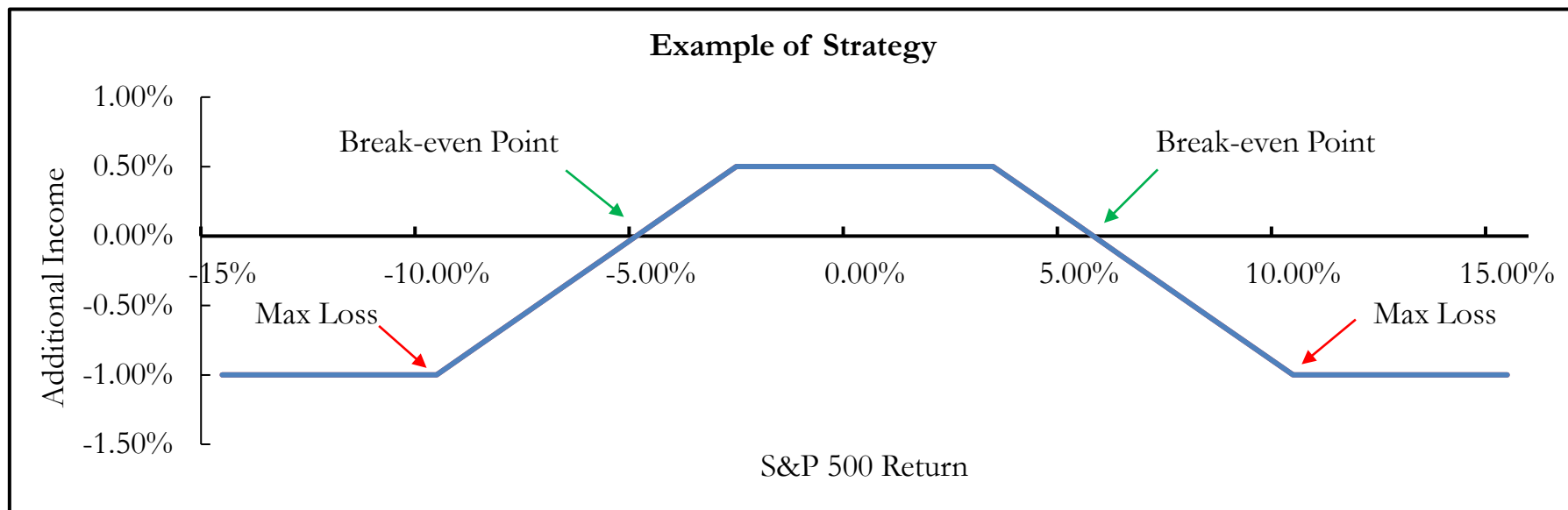
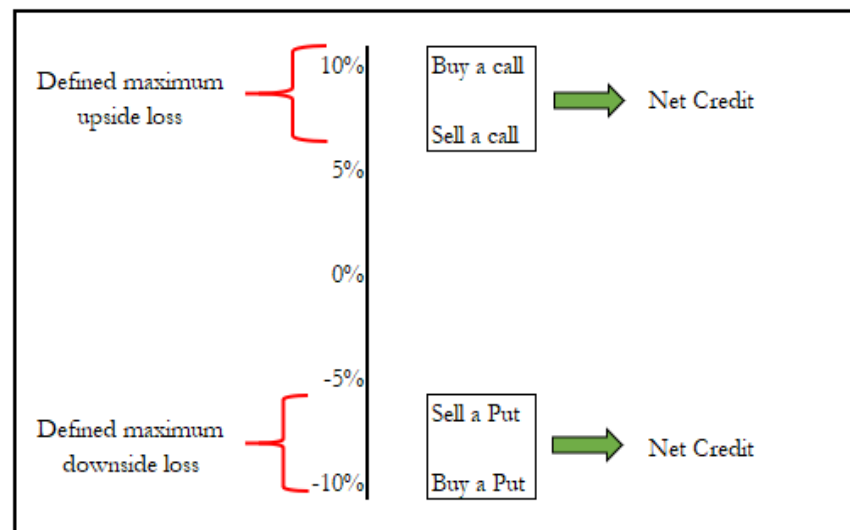
- Overlays are unfunded - do not need to sell other assets to purchase them.
- They use the value of the existing account to collateralize the strategies
- Overlays can be tax-sensitive
  - 60% long-term capital gains/40% short-term capital gains
- Overlays can enhance returns or reduce risks of existing assets



# Enhanced Yield Overlay (EY)

**Objective:** Provide tax-advantaged incremental income (target 2-3% on any marginable asset (equity, fixed income, cash)).

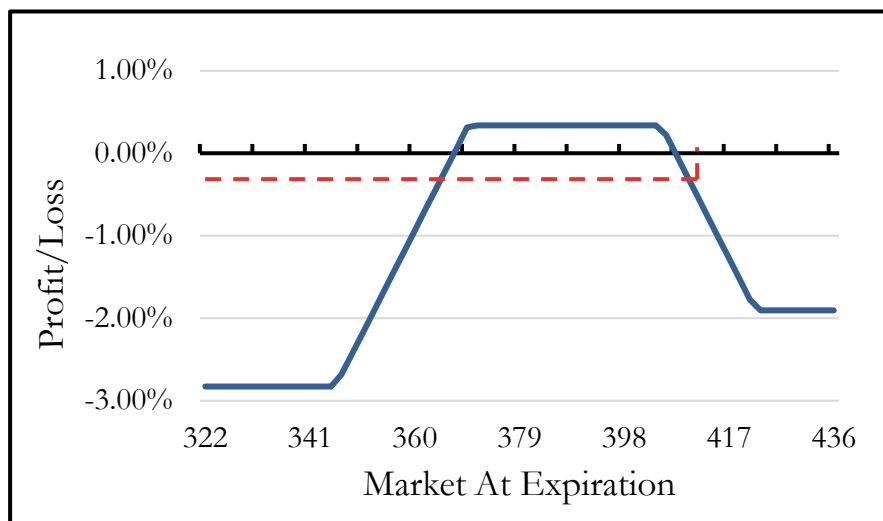
**Attributes:** Defined weekly downside risk and expected average annual net yield of 2-3%, taxed at 60% long-term and 40% short-term capital gains.



# EY Live Example

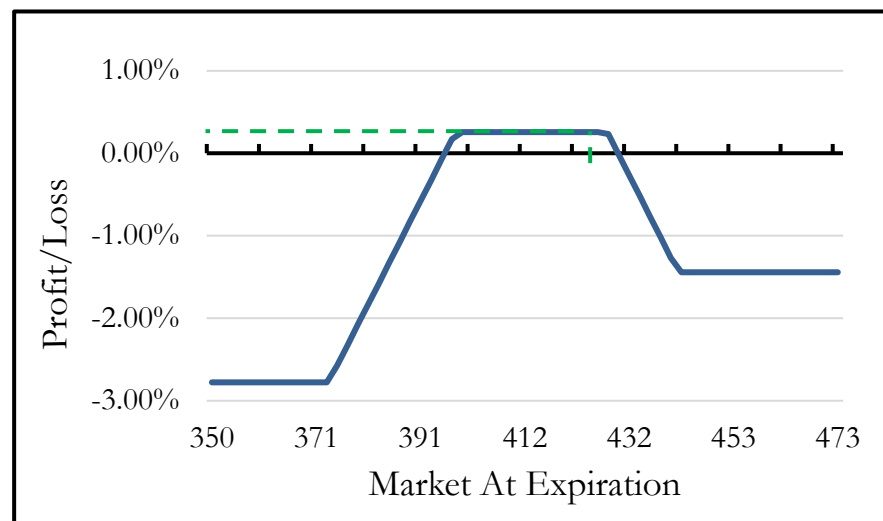
## Negative Example

- On 7/15/2022 with SPY at 385.31...
  - B 422 Call (1.0 delta, -1bp)
  - S 405 Call (10.4 delta, +9bp)
  - S 370 Put (-20.1 delta, +29bp)
  - B 346 Put (-3.2 delta, -4bp)
- On 7/29/2022 SPY finishes at 413.03
  - Loss of 71bps



## Positive Example

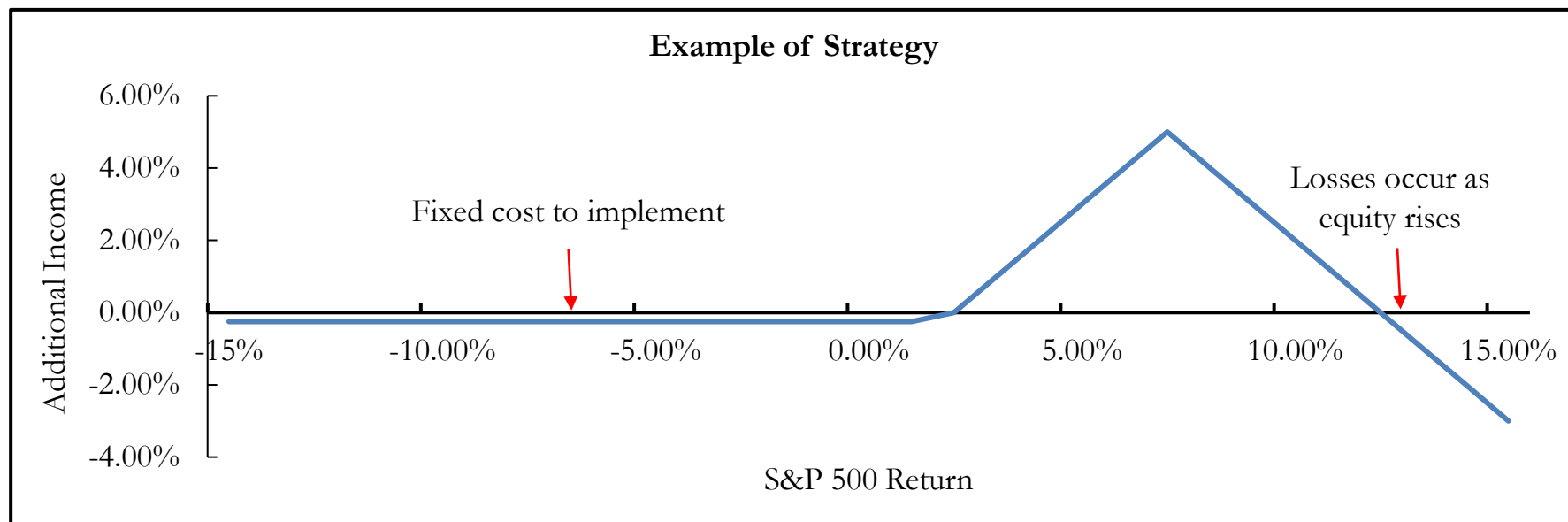
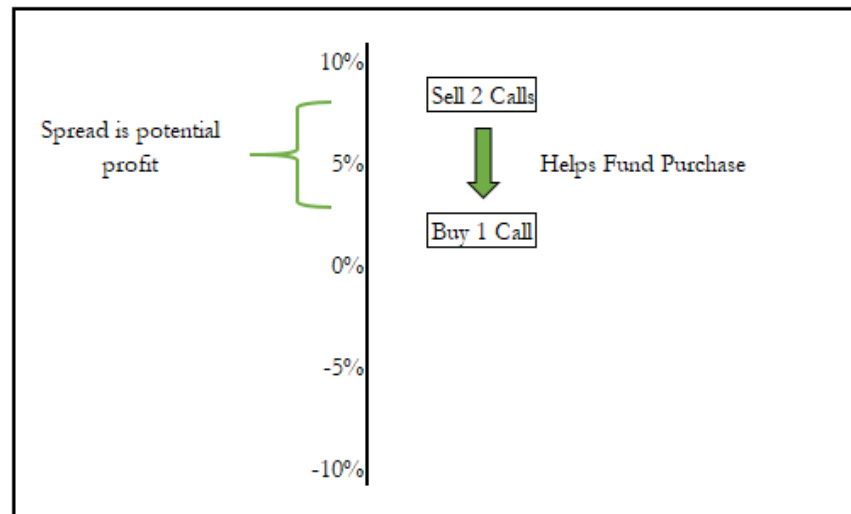
- On 7/29/2022 with SPY at 411.72...
  - B 442 Call (1.0 delta, -1bp)
  - S 428 Call (10.0 delta, +7bp)
  - S 398 Put (-19.7 delta, +23bp)
  - B 373 Put (-2.8 delta, -3bp)
- On 8/12/2022 SPY finishes at 427.79
  - Profit of 26bps



# Capital Appreciation Overlay (CA)

**Objective:** Add incremental returns in upward trending markets.

**Attributes:** Risk is only to the upside. Returns are tax advantaged.





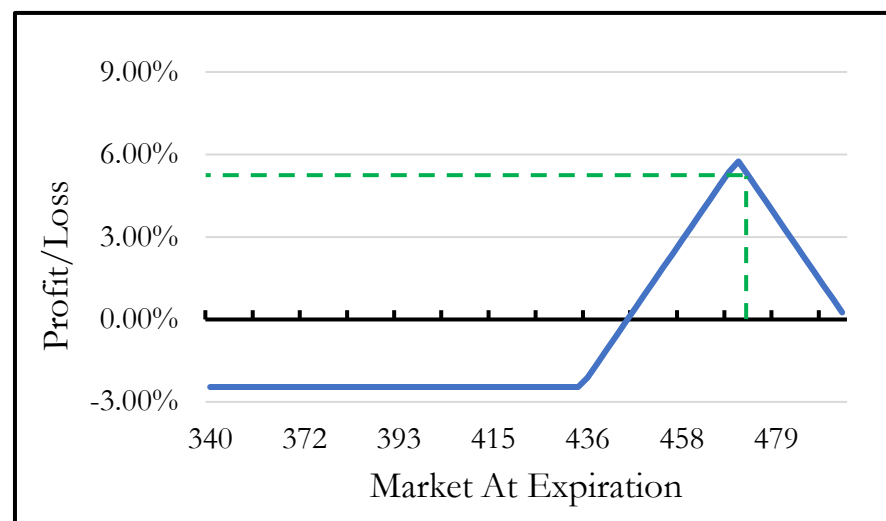
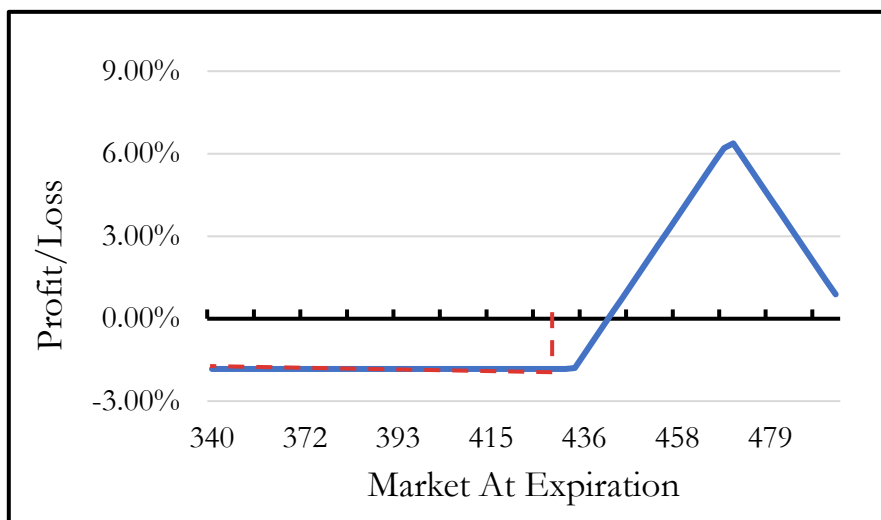
# CA Live Example

## Negative Example

- On 6/30/2021 with SPY at 429.86...
  - S 470 Call (4.7 delta, 10bpbp)
  - B 434 Call (43.2 delta, -204bp)
- On 9/30/2021 SPY finishes at 430.75
  - Loss of 1.83%

## Positive Example

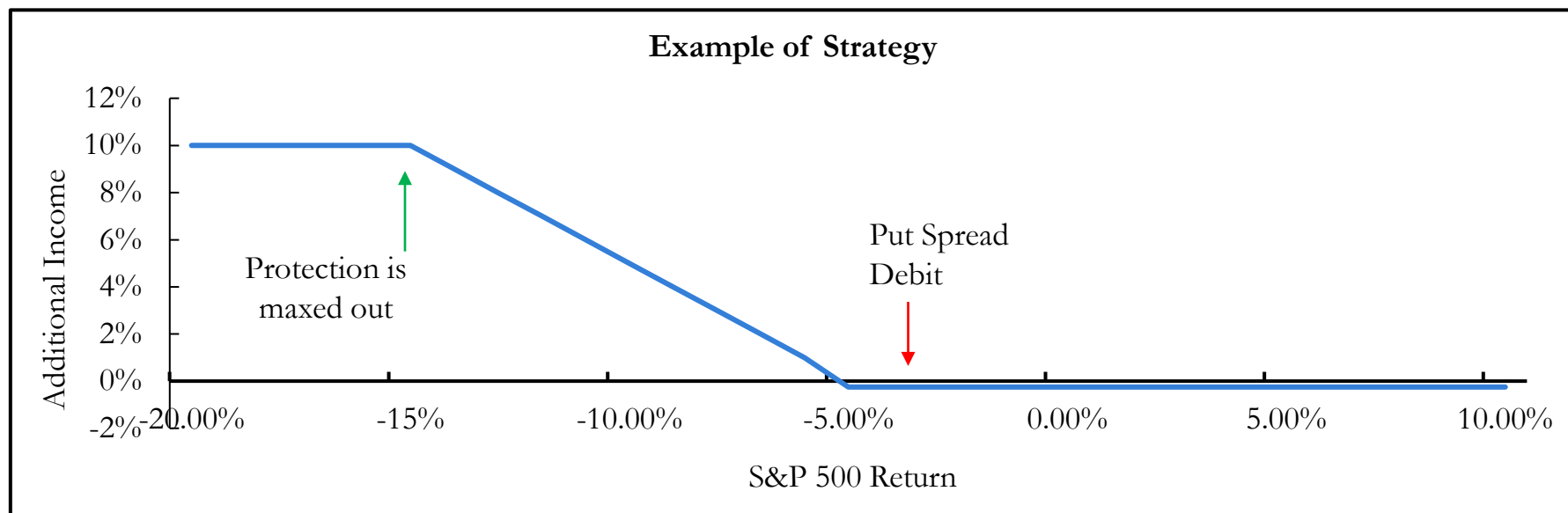
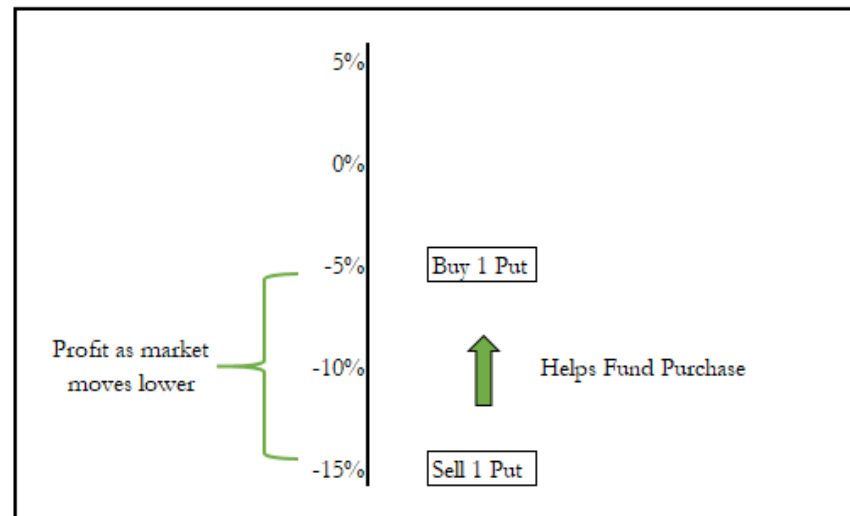
- On 10/1/2021 with SPY at 434.96...
  - S 476 Call (7.7 delta, 22bp)
  - B 440 Call (46.3 delta, -289bp)
- On 12/31/2021 SPY finishes at 476.62
  - Profit of 5.67%



# Defensive Overlay (DO)

**Objective:** Offer incremental protection of equity portfolios in downward trending markets.

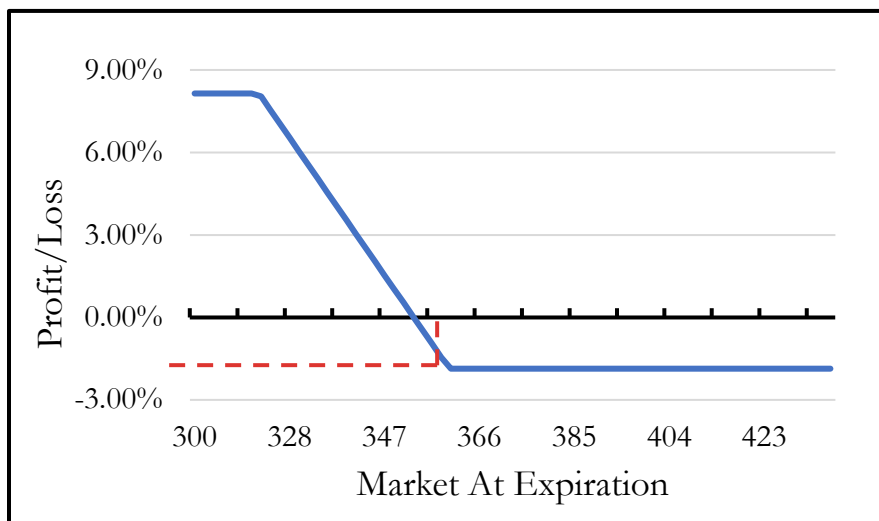
**Attributes:** Preserves Capital. Returns are tax advantaged.



# DO Live Example

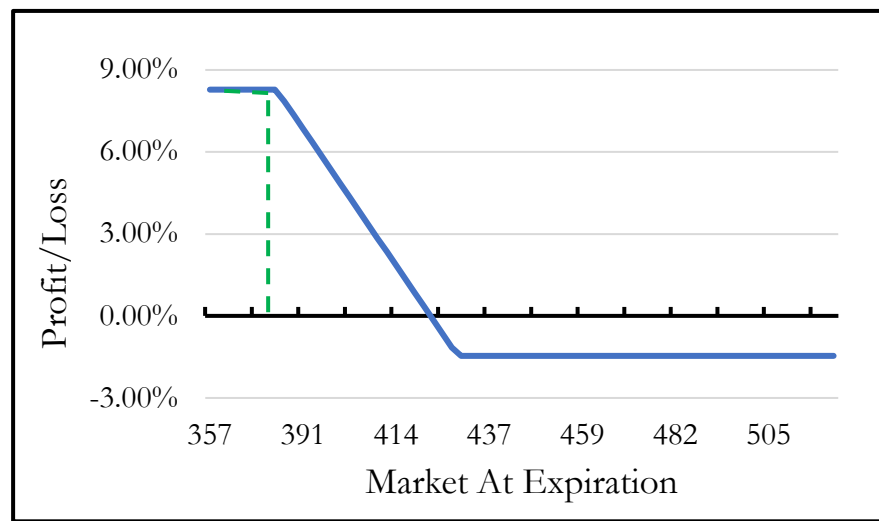
## Negative Example

- On 7/1/2022 with SPY at 379.31...
  - B 360 Put (-32.2 delta, -313bp)
  - S 322 Put (-13.2 delta, +113bp)
- On 9/30/2022 SPY finishes at 357.18
  - Loss of 1.25%



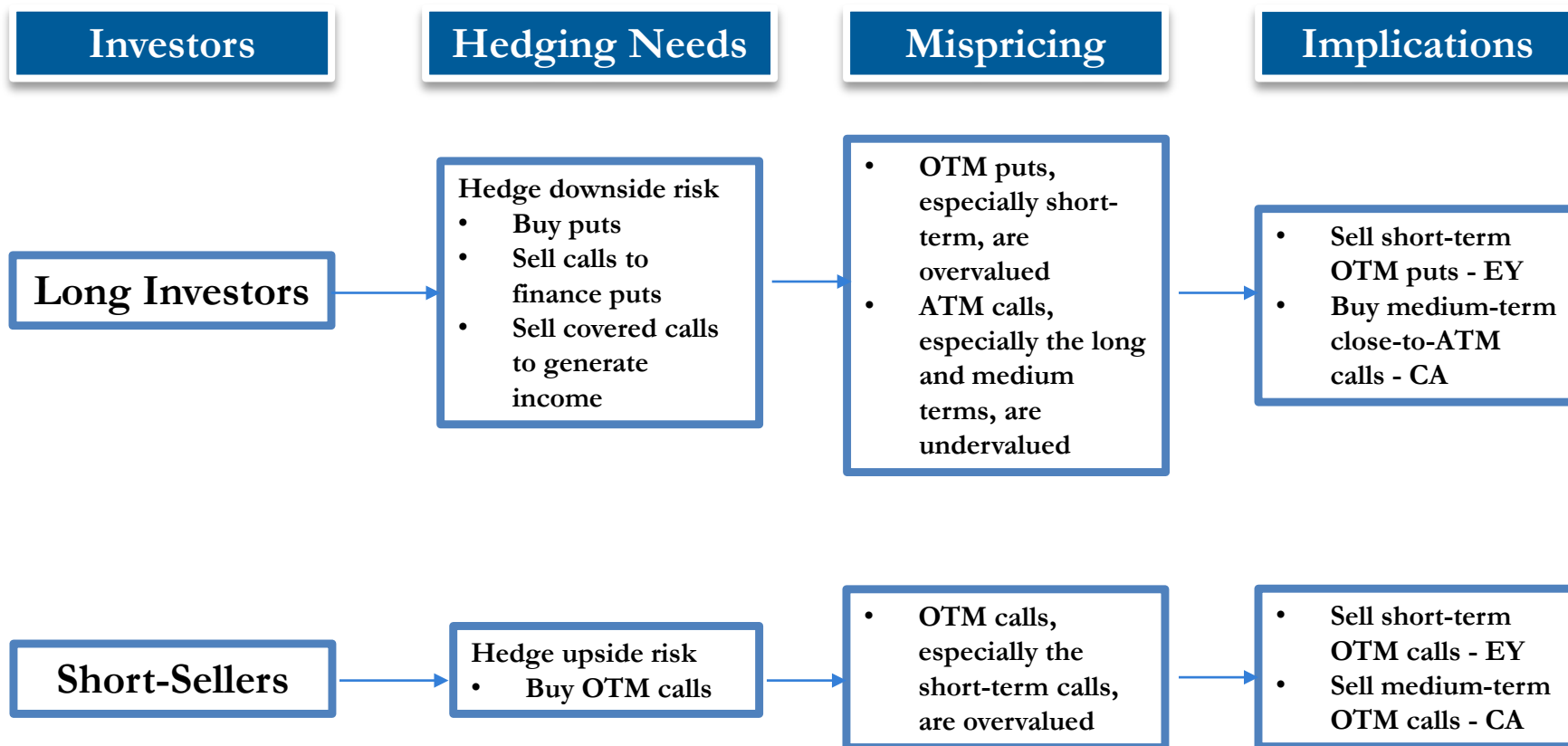
## Positive Example

- On 4/1/2022 with SPY at 452.51...
  - B 429 Put (-31.5 delta, -232bp)
  - S 385 Put (-11.7 delta, +87bp)
- On 6/30/2022 SPY finishes at 377.25
  - Profit of 8.27%



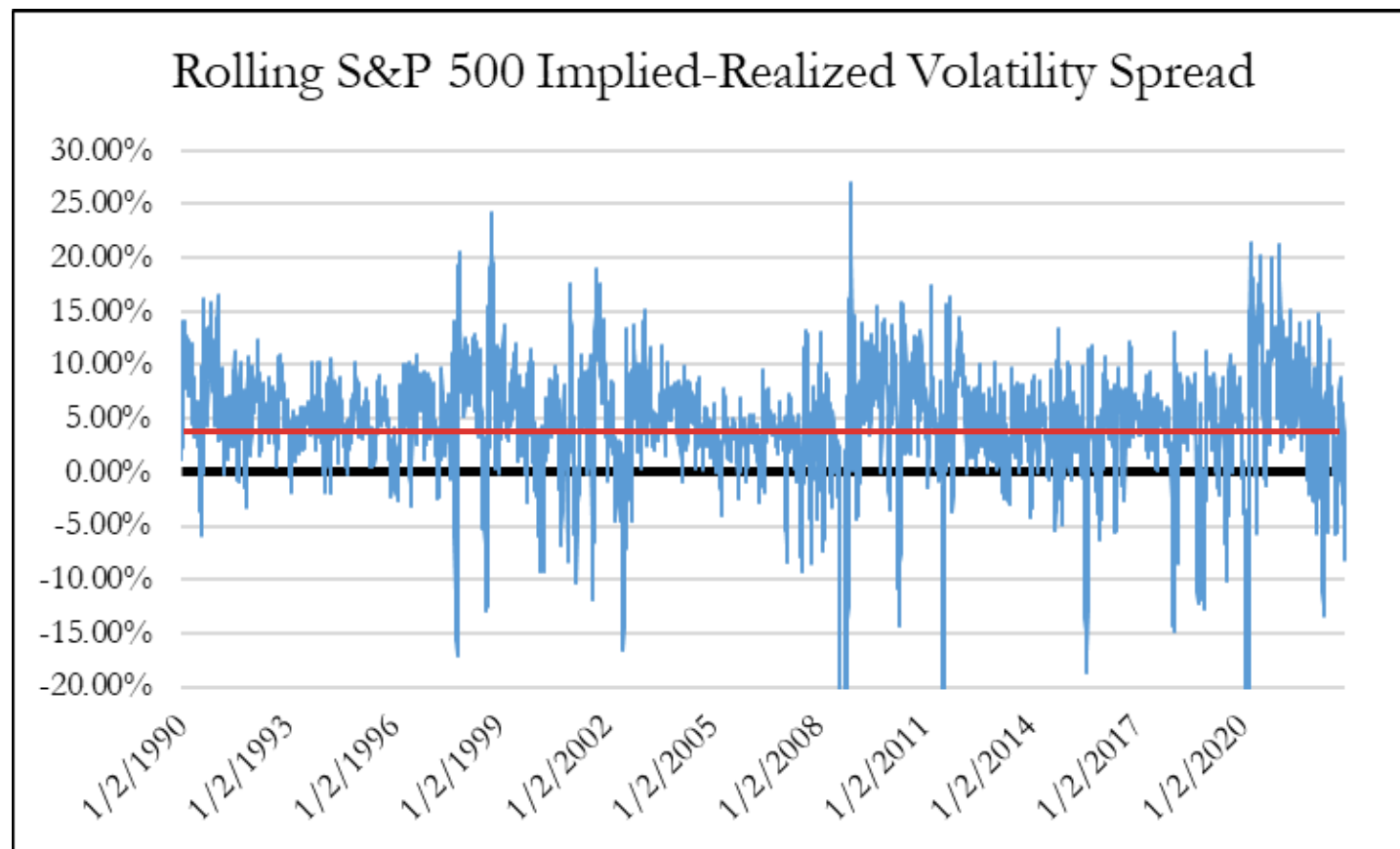
# Why Option Overlays Make Sense?

- Option mispricing due to hedging needs



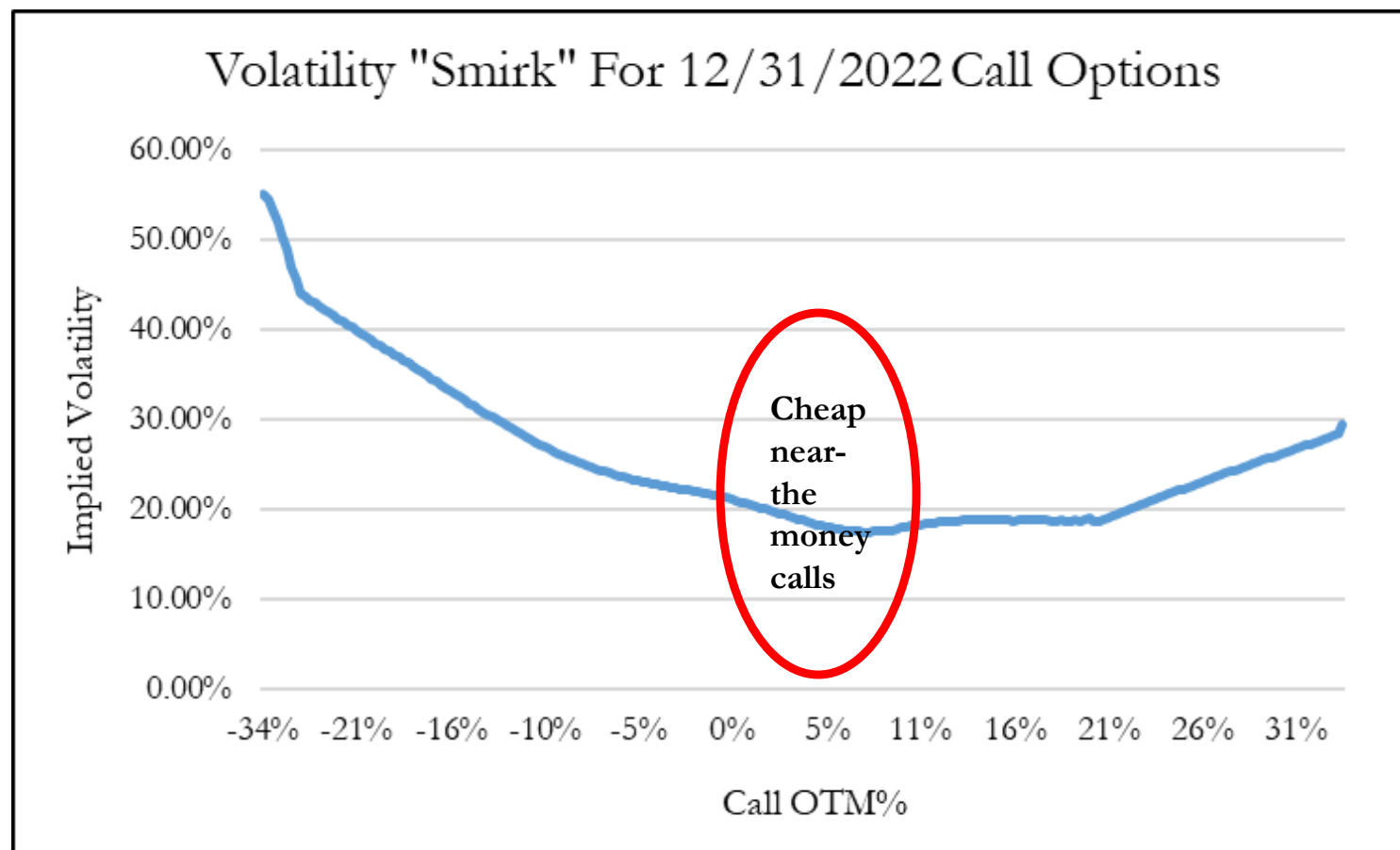
# Why Does EY Work?

– Implied volatility > realized volatility



- Goal is to harvest this systemic market bias
  - “Net short volatility, with a cap on potential losses”
  - There is a consistent ~4% annual spread over the last 30 years
  - Recall EY is expected to deliver ~3% annually over the long run

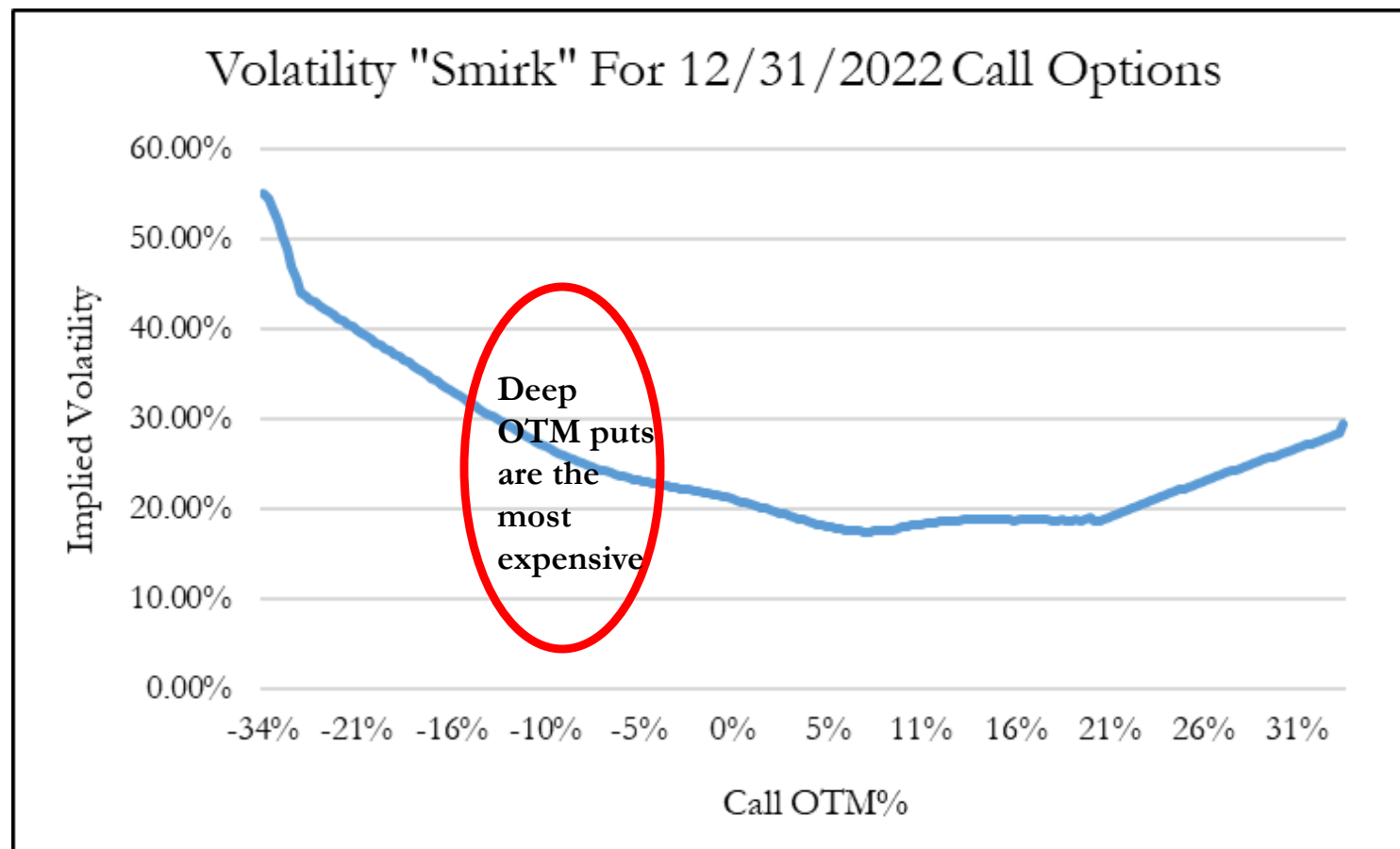
## - Option markets price in more downside than upside



- Since the 80's, people have overpaid for protection
  - “People are more fearful than greedy”
  - Consistent “skew” in options market
  - Theoretically, a 5% OTM and 5% ITM option should have the same IV

# Why Is DO a Less Expensive Hedge?

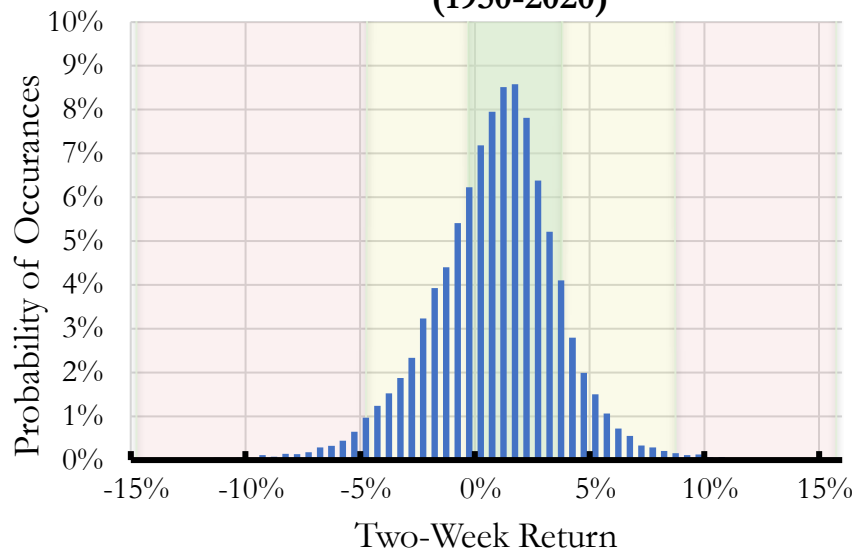
- Deep out-of-the-money puts are the most expensively-priced



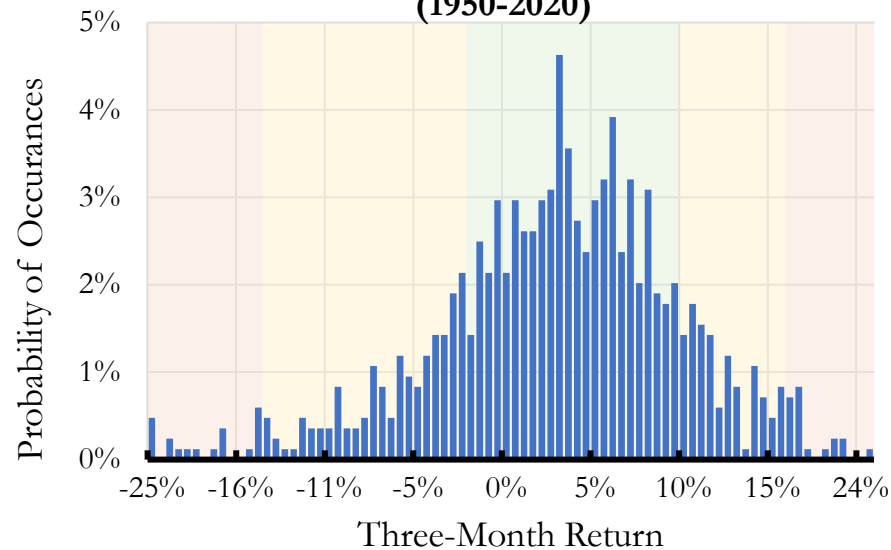
- Investors overpay for protection against large event risks
- The implied vol of deep OTM options is a lot bigger than those close to the money

# High Probability Trade + Limited Tail Hedge

**S&P 500 Two-Week Return Distribution (1950-2020)**



**S&P 500 Three-Month Return Distribution (1950-2020)**



- In the short-term (two-week) and medium-term (three-month), equity returns are largely normally distributed
- Two-week return distribution:
  - ✓ 74% between -3% and 3%
  - ✓ 99% between -10% and 10%
- Three-month return distribution:
  - ✓ 46% between 1% and 9%; 58% between 1% and 15%
  - ✓ 13% below 5%; 1.5% below 15%

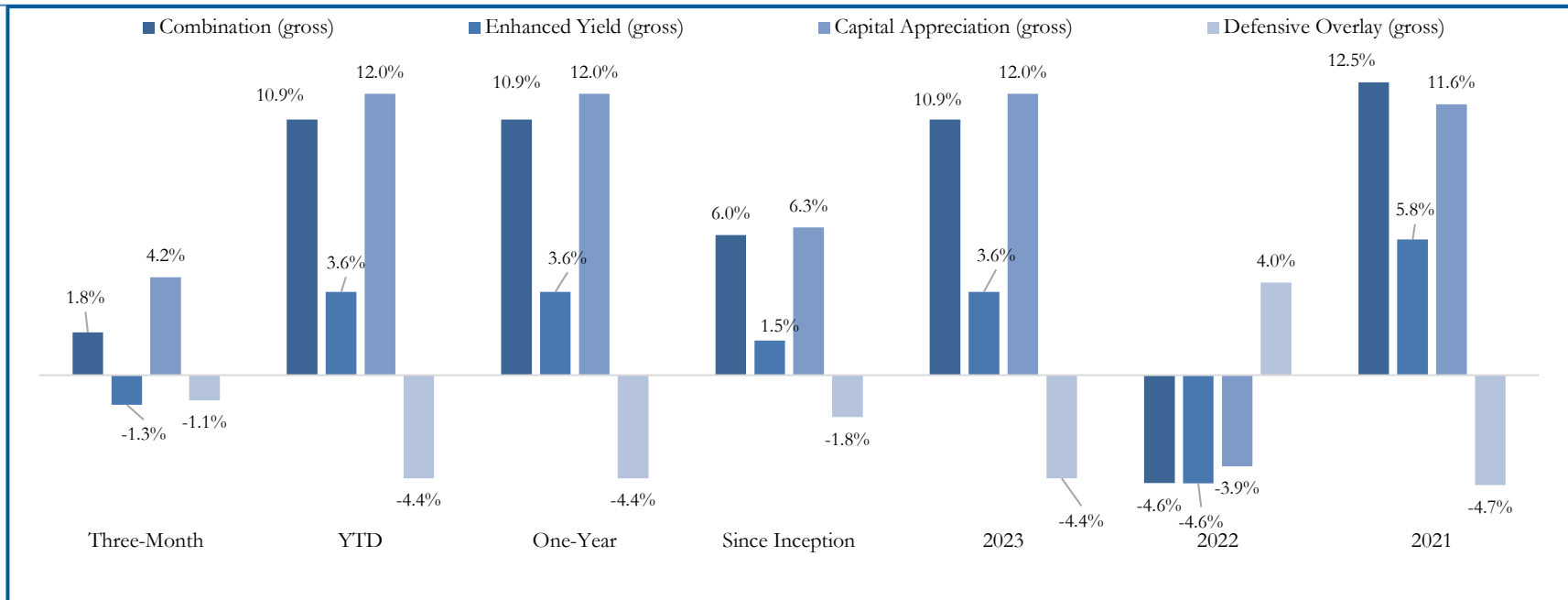
Note: Graphic is based on rolling two-week (ten trading day) and three-month price returns on the S&P 500 from January 1950-December 2019.



# Portfolio Example – Funded with S&P 500 Index ETF

Holdings	Market Value Portfolio Weights	Notional Value Portfolio Weights	Overlay Strategies
SPDR S&P 500 ETF TRUST	96.07%		
XSP 18AUG23 415 P	0.01%	48.04%	EY
XSP 18AUG23 442 P	-0.18%	-48.04%	EY
XSP 18AUG23 464 C	0.00%	-48.04%	EY
XSP 18AUG23 476 C	0.00%	48.04%	EY
XSP 25AUG23 406 P	0.02%	48.04%	EY
XSP 25AUG23 433 P	-0.13%	-48.04%	EY
XSP 25AUG23 459 C	-0.03%	-48.04%	EY
XSP 25AUG23 470 C	0.00%	48.04%	EY
XSP 29SEP23 377 P	-0.14%	-96.07%	DO
XSP 29SEP23 422 P	0.67%	96.07%	DO
XSP 29SEP23 448 C	1.67%	96.07%	CA
XSP 29SEP23 485 C	-0.04%	-192.14%	CA
Cash	2.09%		

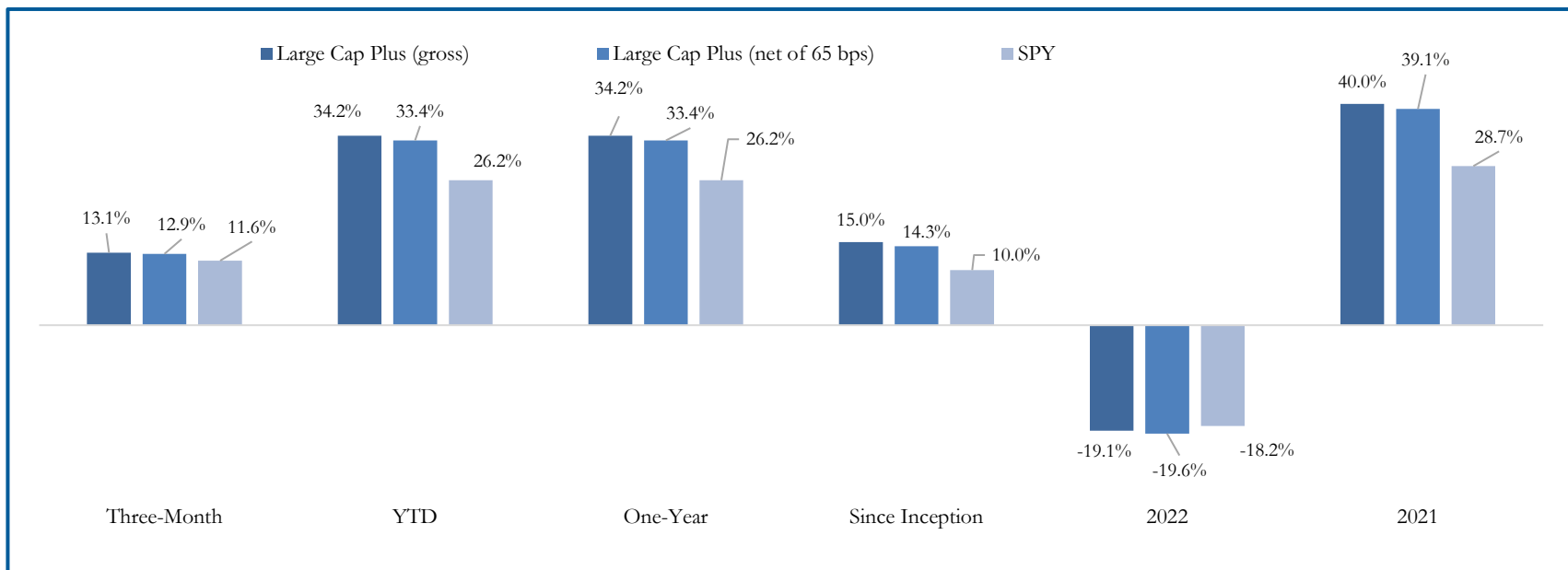
# Option Overlay Performance



For Information Only January 2021 – December 2023	Combination (Gross)	Combination (Net 0.65%)	Enhanced Yield (Gross)	Capital Appreciation (Gross)	Defensive Overlays (Gross)
<b>Annualized Return</b>	5.99%	5.30%	1.47%	6.31%	-1.80%
<b>Standard Deviation</b>	8.55%	8.55%	3.40%	6.87%	5.10%
<b>Sharpe Ratio (risk free rate = 0)</b>	0.70	0.62	0.43	0.92	-0.35
<b>Max Drawdown</b>	-8.64%	-8.96%	-6.80%	-6.84%	-6.27%

- As of December 31, 2023. Inception date: January 1, 2021. The numbers shown above are unaudited returns.
- Past performance is not an indication of future returns. You must do your own due diligence and consult a professional investment advisor before making any investment decisions.
- Data Source: FactSet, Julex Capital Management

# Large Cap Plus Performance – Funded with S&P 500 Index ETF



For Information Only January 2021 – December 2023	Large Cap Plus (Gross)	Large Cap Plus (Net 0.65%)	S&P 500 Index ETF (SPY)
<b>Annualized Return</b>	14.99%	14.25%	9.96%
<b>Standard Deviation</b>	20.03%	20.03%	17.59%
<b>Sharpe Ratio (risk free rate = 0)</b>	0.75	0.71	0.57
<b>Max Drawdown</b>	-26.57%	-26.94%	-23.93%
<b>Tracking Error</b>	7.15%		
<b>Information Ratio</b>	0.70		

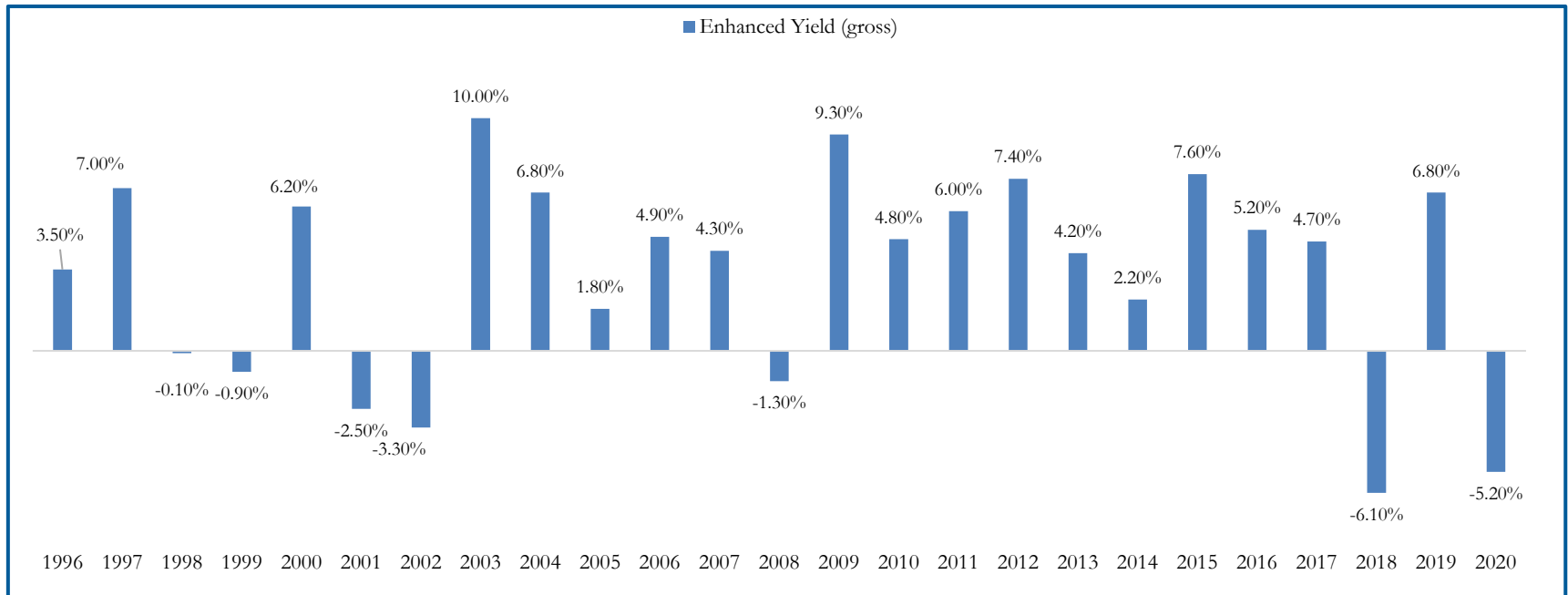
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## **APPENDIX**

- **BACK TEST RESULTS**
- **MORE TRADING DETAILS**

# Option Overlays Hypothetical Back Test Performance

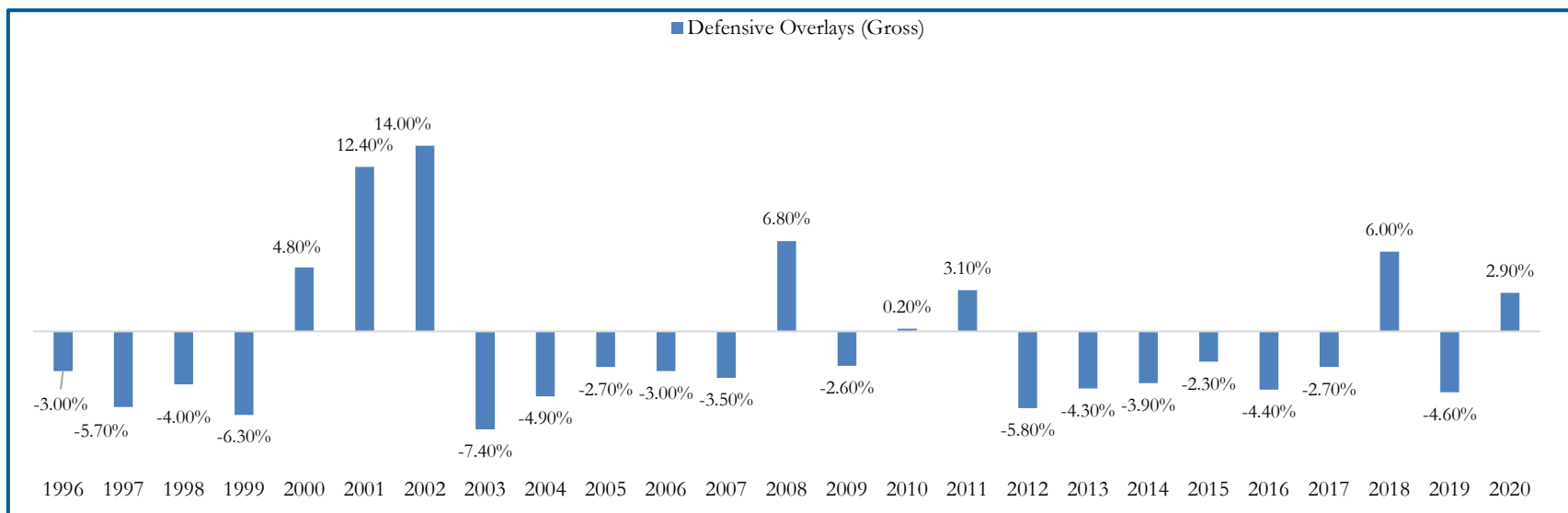
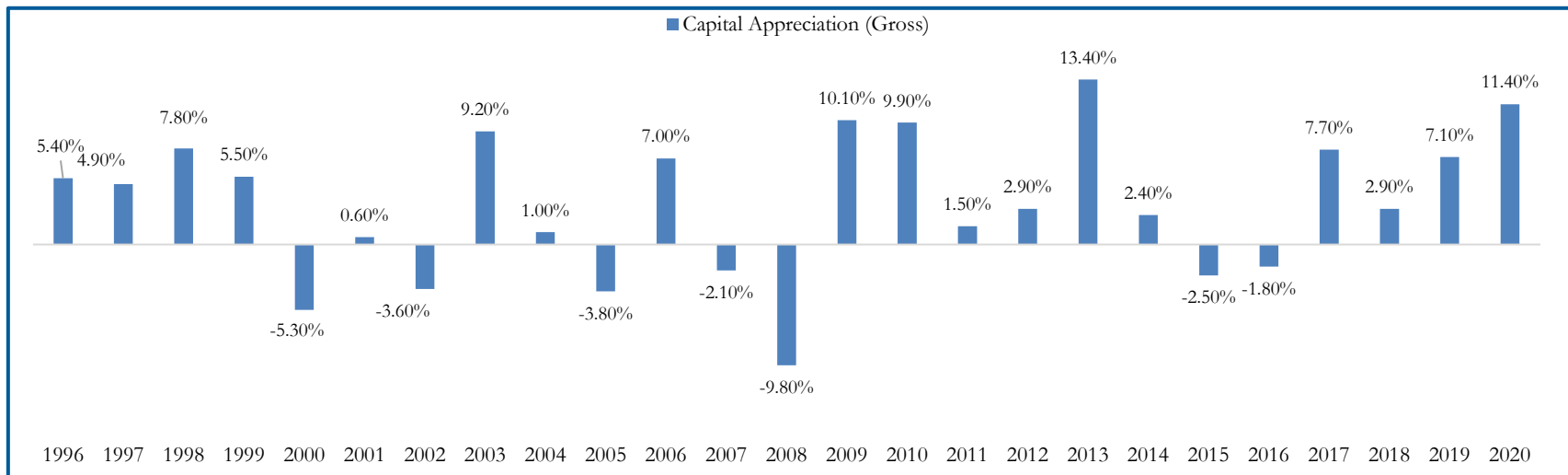
For Information Only January 1996 – December 2020	Combination (Gross)	Combination (Net 0.65%)	Enhanced Yield (Gross)	Capital Appreciation (Gross)	Defensive Overlays (Gross)
<b>Annualized Return</b>	5.53%	4.85%	3.24%	3.11%	-1.01%
<b>Standard Deviation</b>	6.09%	6.09%	4.15%	4.74%	5.30%
<b>Sharpe Ratio (risk free rate = 0)</b>	0.91	0.80	0.78	0.66	-0.19
<b>Max Drawdown</b>	-11.28%	-11.94%	-10.14%	-15.83%	-36.17%



Note: (1) Before January 2007, EY was traded once a month due to lack of data. (2) The back test performance results shown on this slide are HYPOTHETICAL and are gross returns before investment management fees unless otherwise noted. Please see Disclosure for more information.

Data Source: FactSet, Julex Capital Management

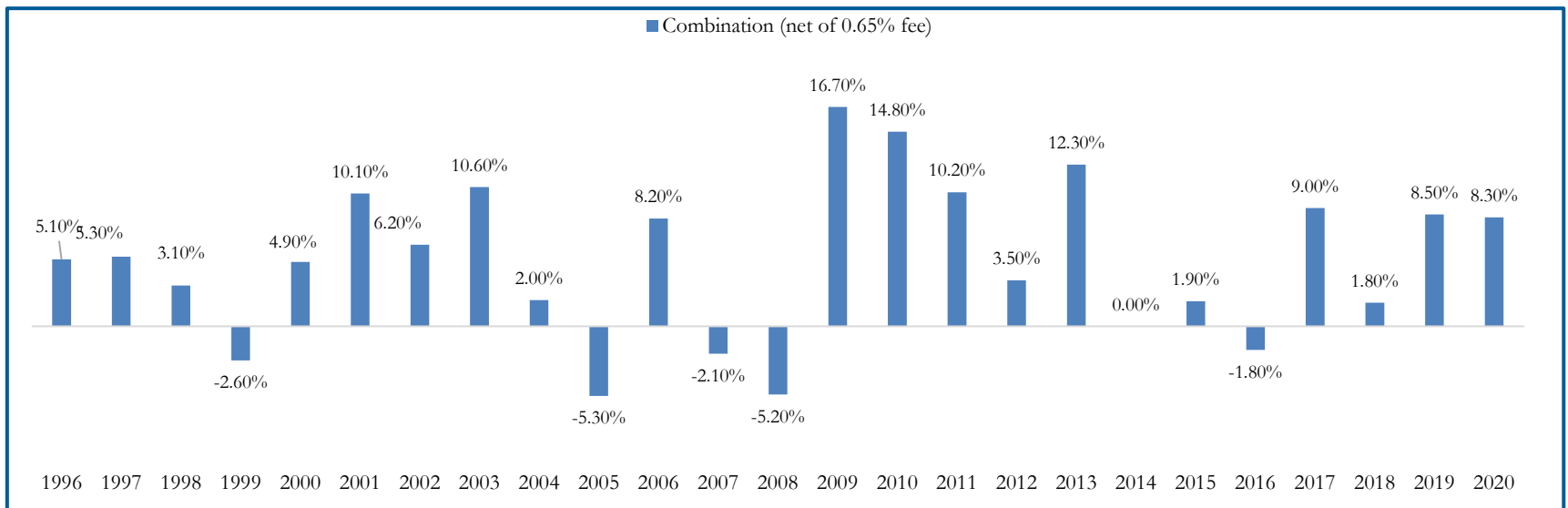
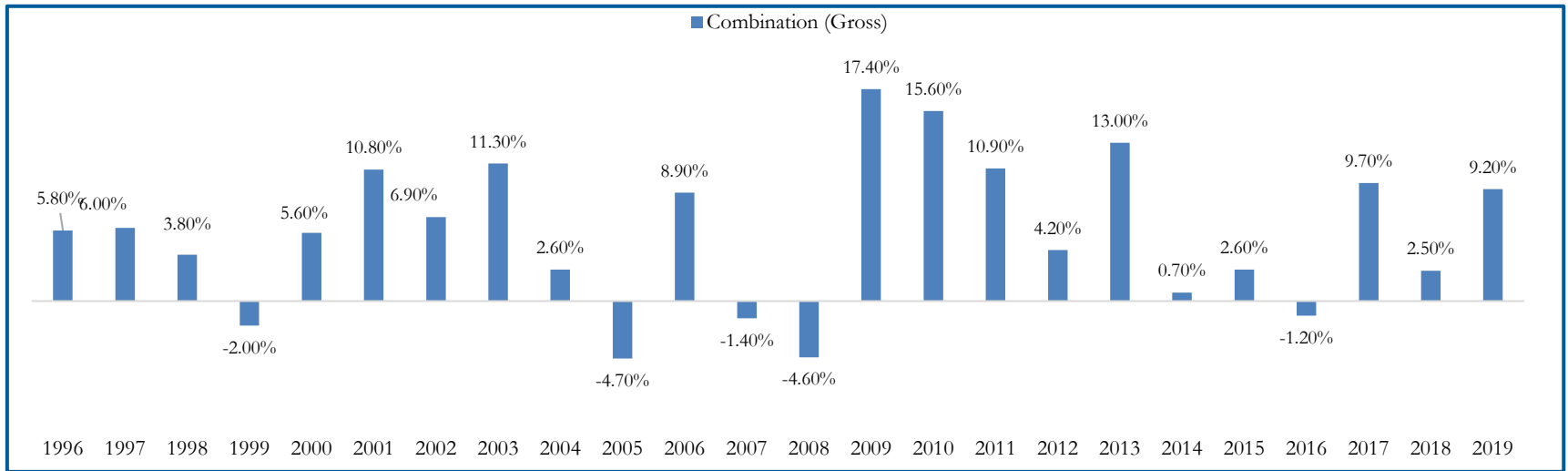
# Option Overlays Hypothetical Back Test Performance



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# Option Overlays Hypothetical Back Test Performance

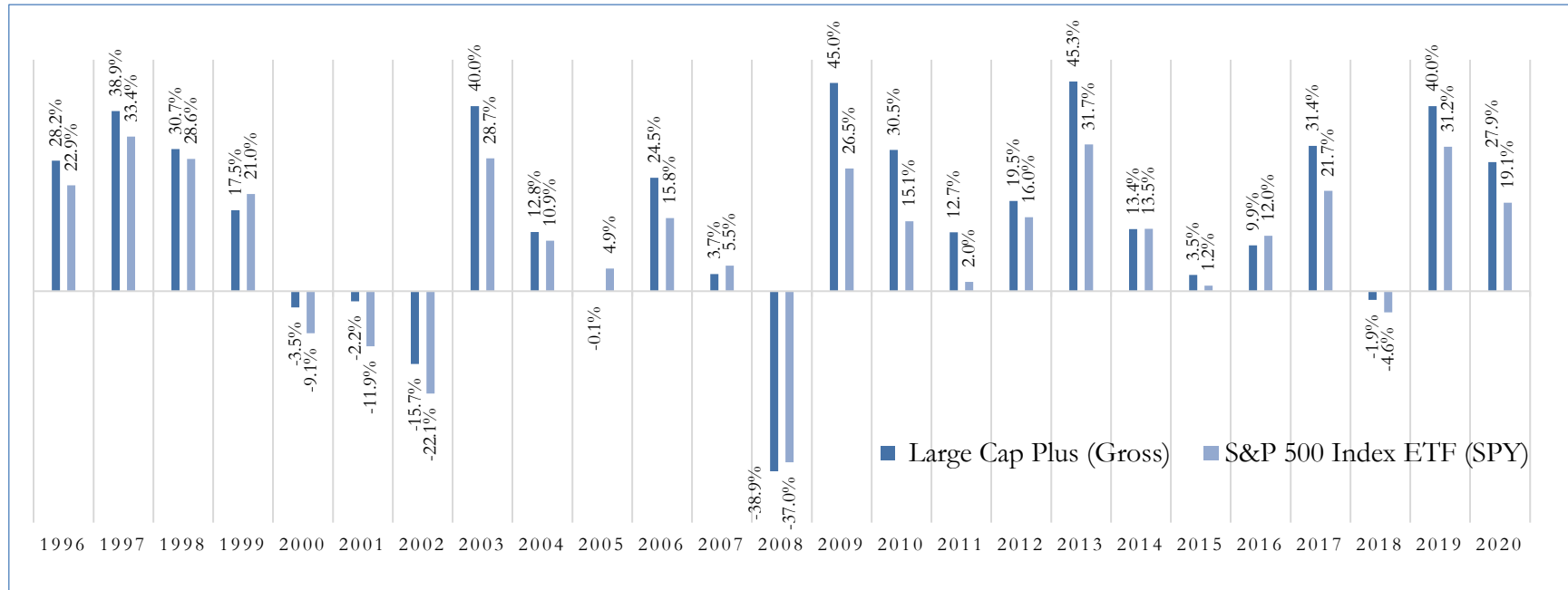


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# Large Cap Plus Hypothetical Back Test Performance

For Information Only January 1996 – December 2020	Large Cap Plus (Gross)	Large Cap Plus (Net 0.65%)	S&P 500 Index ETF (SPY)
<b>Annualized Return</b>	14.55%	13.82%	9.52%
<b>Standard Deviation</b>	17.10%	17.10%	15.29%
<b>Sharpe Ratio (risk-free rate = 0)</b>	0.85	0.81	0.62
<b>Information Ratio</b>	0.90	0.77	
<b>Maximum Drawdown</b>	-52.94%	-53.37%	-50.92%



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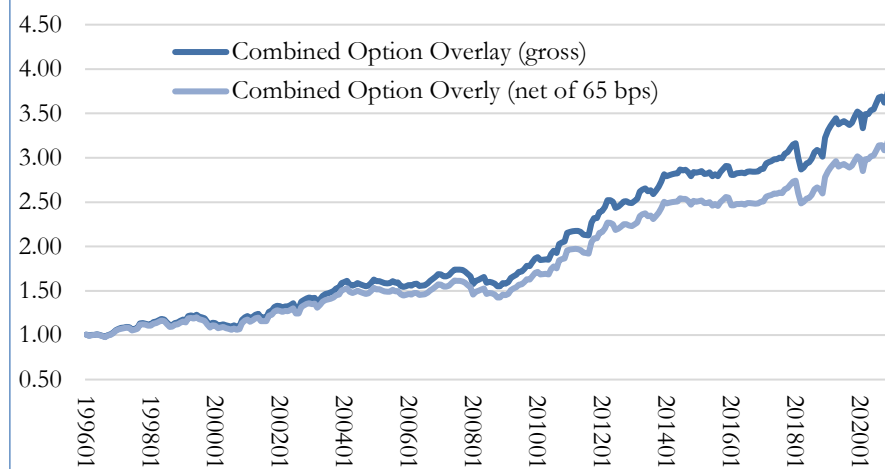


# Option Overlay Hypothetical Back Test Performance

Jan. 1996 – December 2020	Combination (Gross)	Combination (Net 0.65%)	Enhanced Yield (Gross)	Capital Appreciation (Gross)	Defensive Overlays (Gross)
Annualized Return	5.53%	4.85%	3.24%	3.11%	-1.01%
Standard Deviation	6.09%	6.09%	4.15%	4.74%	5.30%
Sharpe Ratio (risk-free rate = 0)	0.91	0.80	0.78	0.66	-0.19
Maximum Drawdown	-11.28%	-11.94%	-10.14%	-15.83%	-36.17%

Year	Combination (Gross)	Combination (Net 0.65%)	Enhanced Yield (Gross)	Capital Appreciation (Gross)	Defensive Overlays (Gross)
1996	5.8%	5.1%	3.5%	5.4%	-3.0%
1997	6.0%	5.3%	7.0%	4.9%	-5.7%
1998	3.8%	3.1%	-0.1%	7.8%	-4.0%
1999	-2.0%	-2.6%	-0.9%	5.5%	-6.3%
2000	5.6%	4.9%	6.2%	-5.3%	4.8%
2001	10.8%	10.1%	-2.5%	0.6%	12.4%
2002	6.9%	6.2%	-3.3%	-3.6%	14.0%
2003	11.3%	10.6%	10.0%	9.2%	-7.4%
2004	2.6%	2.0%	6.8%	1.0%	-4.9%
2005	-4.7%	-5.3%	1.8%	-3.8%	-2.7%
2006	8.9%	8.2%	4.9%	7.0%	-3.0%
2007	-1.4%	-2.1%	4.3%	-2.1%	-3.5%
2008	-4.6%	-5.2%	-1.3%	-9.8%	6.8%
2009	17.4%	16.7%	9.3%	10.1%	-2.6%
2010	15.6%	14.8%	4.8%	9.9%	0.2%
2011	10.9%	10.2%	6.0%	1.5%	3.1%
2012	4.2%	3.5%	7.4%	2.9%	-5.8%
2013	13.0%	12.3%	4.2%	13.4%	-4.3%
2014	0.7%	0.0%	2.2%	2.4%	-3.9%
2015	2.6%	1.9%	7.6%	-2.5%	-2.3%
2016	-1.2%	-1.8%	5.2%	-1.8%	-4.4%
2017	9.7%	9.0%	4.7%	7.7%	-2.7%
2018	2.5%	1.8%	-6.1%	2.9%	6.0%
2019	9.2%	8.5%	6.8%	7.1%	-4.6%
2020	9.0%	8.3%	-5.2%	11.4%	2.9%

### Cumulative Return

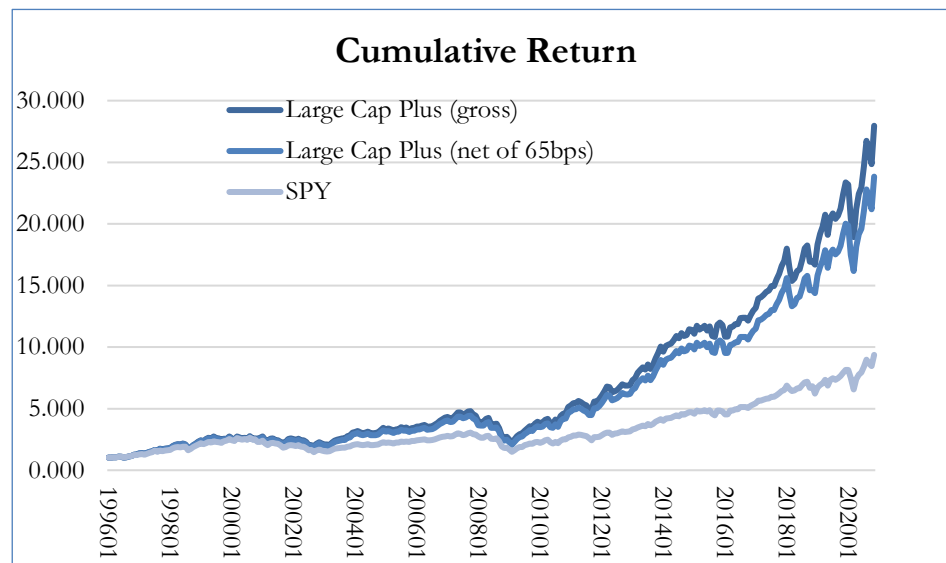


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# Large Cap Plus Hypothetical Back Test Performance

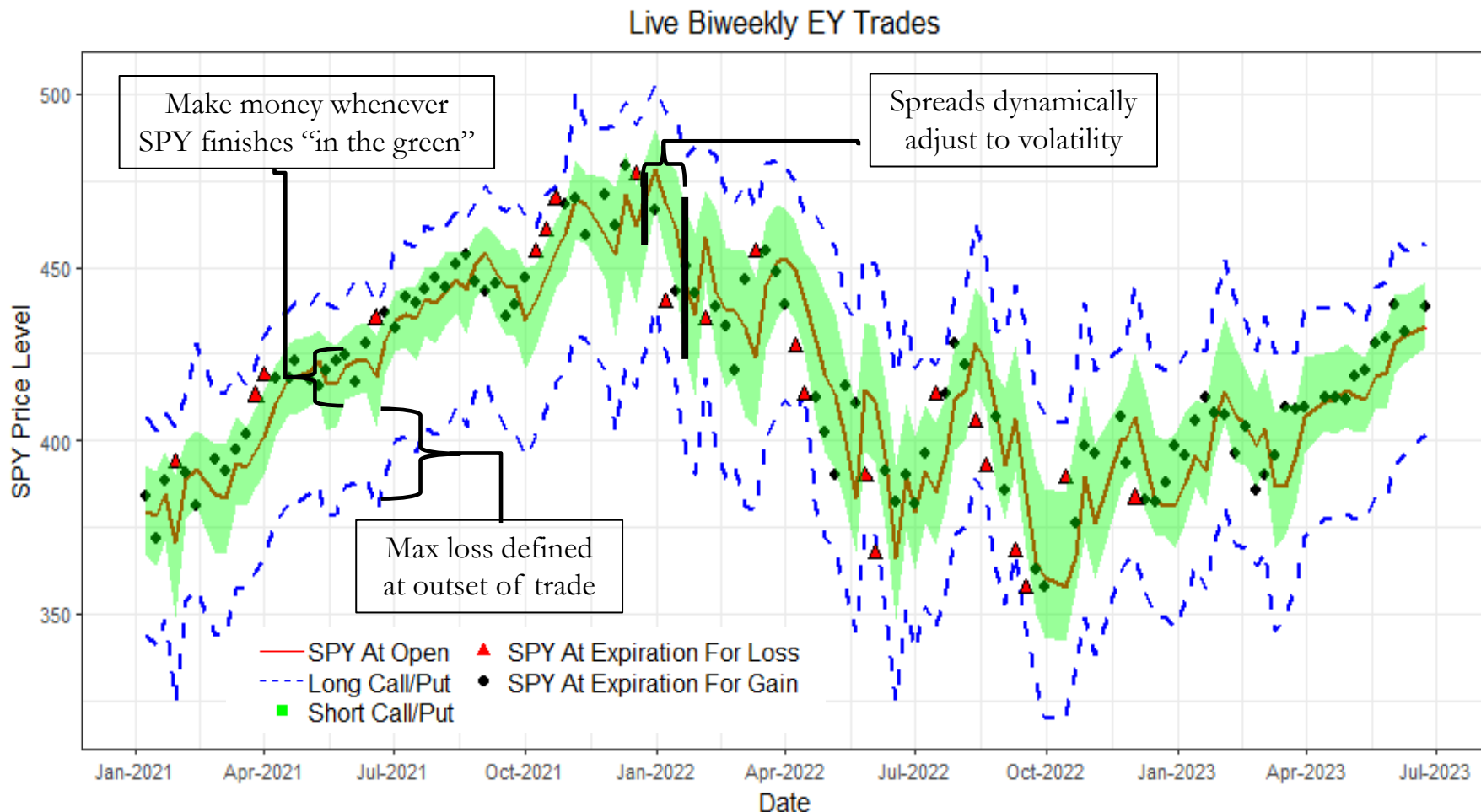
Jan. 1996 – December 2020	Large Cap Plus (Gross)	Large Cap Plus (Net 0.65%)	S&P 500 Index ETF (SPY)
Annualized Return	14.55%	13.82%	9.52%
Standard Deviation	17.10%	17.10%	15.29%
Sharpe Ratio (risk-free rate = 0)	0.85	0.81	0.62
Information Ratio	0.90	0.77	
Maximum Drawdown	-52.94%	-53.37%	-50.92%



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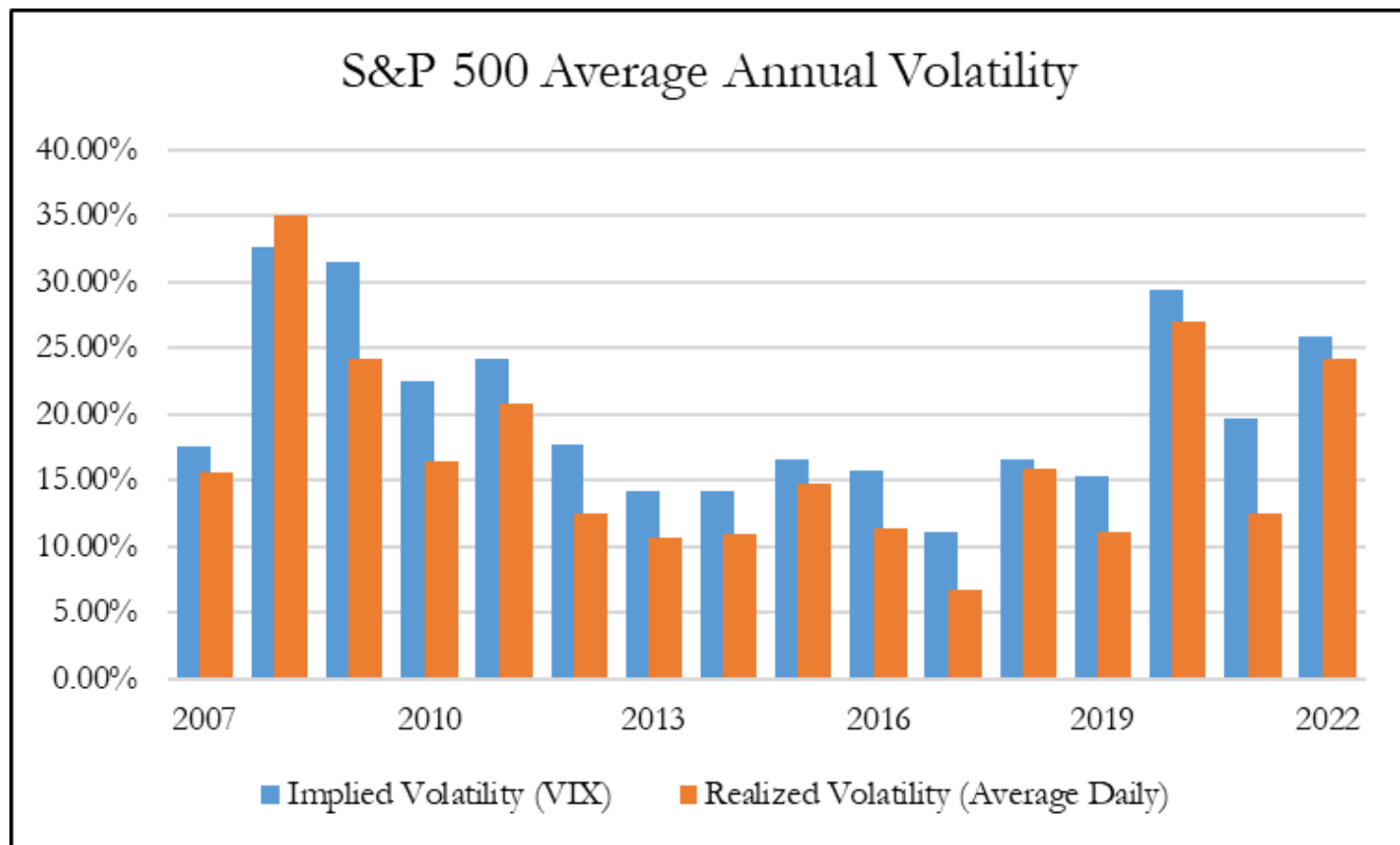
Year	Large Cap Plus (Gross)	Large Cap Plus (Net 0.65%)	S&P 500 Index ETF (SPY)
1996	28.2%	27.4%	22.9%
1997	38.9%	38.1%	33.4%
1998	30.7%	29.9%	28.6%
1999	17.5%	16.7%	21.0%
2000	-3.5%	-4.1%	-9.1%
2001	-2.2%	-2.9%	-11.9%
2002	-15.7%	-16.2%	-22.1%
2003	40.0%	39.2%	28.7%
2004	12.8%	12.1%	10.9%
2005	-0.1%	-0.7%	4.9%
2006	24.5%	23.7%	15.8%
2007	3.7%	3.1%	5.5%
2008	-38.9%	-39.3%	-37.0%
2009	45.0%	44.1%	26.5%
2010	30.5%	29.7%	15.1%
2011	12.7%	12.0%	2.0%
2012	19.5%	18.8%	16.0%
2013	45.3%	44.4%	31.7%
2014	13.4%	12.6%	13.5%
2015	3.5%	2.8%	1.2%
2016	9.9%	9.2%	12.0%
2017	31.4%	30.6%	21.7%
2018	-1.9%	-2.6%	-4.6%
2019	40.0%	39.1%	31.2%
2020	27.9%	27.1%	19.1%

# EY Trades Example



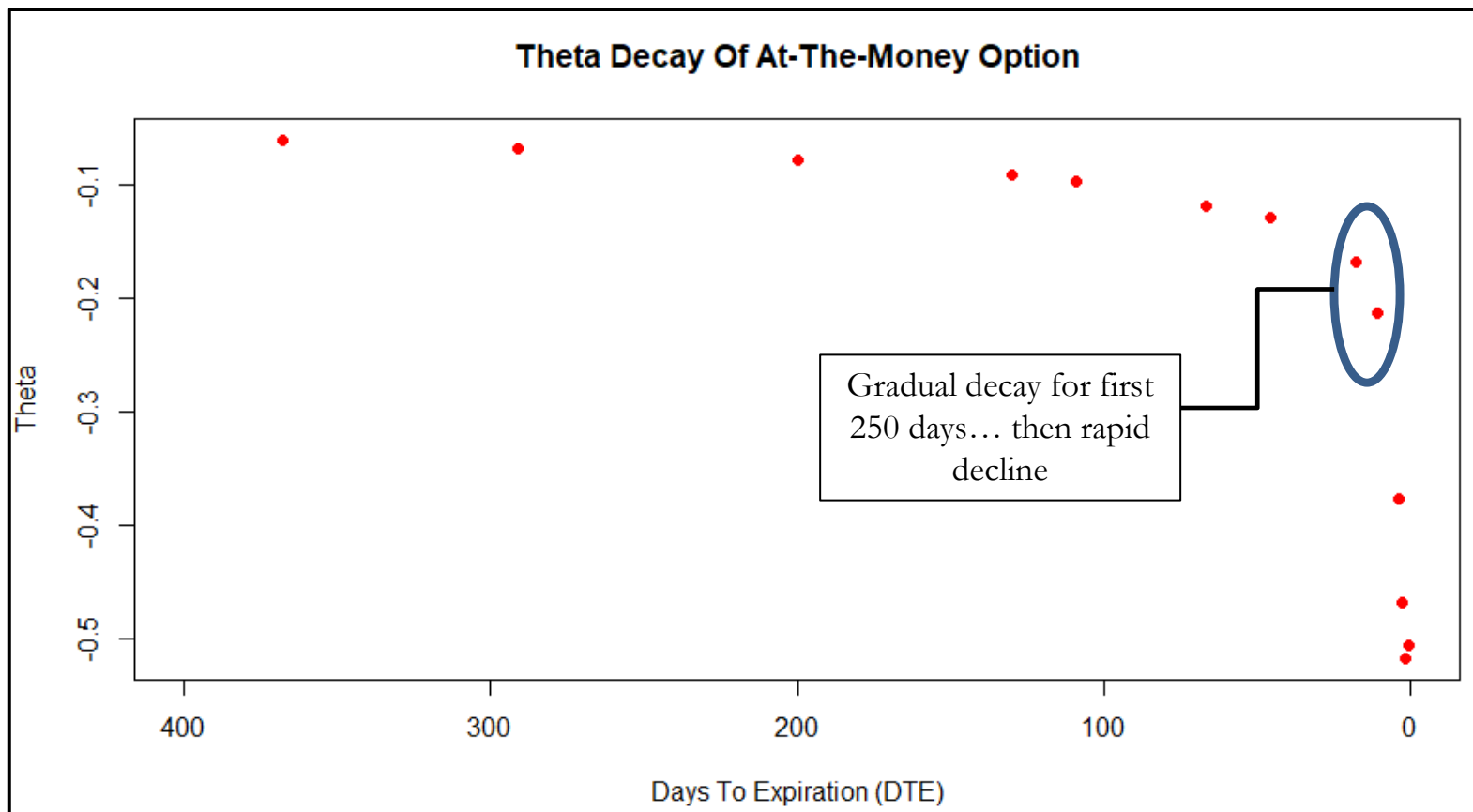
- Positive return in 82.1% of trades
- -79.4 bp average return in negative weeks
- 22.6 bp average return in positive weeks

## Implied Volatility vs. Realized Volatility



- Simply put, people are fearful!
  - Options market systemically overestimates future volatility
  - In the 395 months since 1/1990, 338 (85%) saw implied volatility higher than realized volatility
  - Recall EY should be positive ~80% of the time over the long run.

# Patten of Option Time Decay



- Strategy is “theta harvesting”
  - As net sellers, want the time-value of the option to drop off quickly
  - Theta decay is an exponentially decreasing process
  - There is a bifurcation around 14 days until expiration– that’s when we enter trade

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# Risk Considerations

- There are several factors to take into consideration when evaluating the risks of options strategies:
  - If the S&P 500® Index becomes more volatile, causing more of the short calls and puts to settle in-the-money, there will be a negative impact on performance.
  - If liquidity and pricing transparency in the weekly expirations diminish, there could be negative impact on performance. In extreme situations, we may be unable to implement the strategy.
  - Transaction costs could be significant in multi-leg options strategies, including spreads, as they involve multiple commission charges.
  - Margin requirements for option writers are complicated and not the same for each type of underlying security. They are subject to change and can vary from brokerage firm to brokerage firm. As they have significant impact to the risk/reward profiles of each trade, writers of options (whether they be calls or puts alone or as part of multiple position strategies such as spreads, straddles, or strangles) should determine the applicable margin requirements from their brokerage firms and be sure that they are able to meet those requirements in case the market turns against them.
  - Taxable clients should consult a tax adviser to determine how options transactions and any sales of underlying stock will affect their tax situation. Tax-exempt investors should ensure that counsel is comfortable that the strategy is allowed and, if not, what steps need to be implemented to amend the plan document.
  - The investor should also confer with their custodian to ensure the full understanding of the options settlement process and collateralization requirements.