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CME Group

2023 US Stock Outlook and Strategies – Where S&P, Nasdaq Could Go From Here

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GFM Asset Management

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GFM
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US Market Outlook for 2023

S&P 500 vs Nasdaq 100 Futures & Options Strategies

by Tariq Dennison

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Image credit: MS Office Stock Photo

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About Tariq Dennison TEP

- Independent Advisor Managing Accounts on the IBKR platform
 - US Advisor: GFM Asset Management LLC
 - HK Advisor: GFM Group Limited
- In the market since 1998
 - Commerzbank (NY, London, Frankfurt)
 - Bear Stearns (NY)
 - J.P. Morgan (NY)
 - Canadian Imperial Bank of Commerce
 - Societe Generale (HK)
- Masters in Financial Engineering
 - University of California at Berkeley
- Lecturer at ESSEC Singapore
 - Fixed Income
 - Alternative Assets
- “Neither Standard Nor Poor”
- Author “Invest Outside the Box”



S&P 500 vs Nasdaq 100

- What are they?
- Some key numbers
- Dot-Com Bubble Redux?
- Specs of futures options
- Futures options vs other ways of trading these two benchmarks

Options Strategies

- Simple puts and calls
- Probability lab
- "The greeks" & how to use them
- Put spreads: 1x1 vs 1x2
- Straddles

Options involve risk and are not suitable for all investors. Multiple leg strategies, including spreads, will incur multiple transaction costs.

What are they?

S&P 500

- 500 firms (506 stocks)
- NYSE & NASDAQ
- US-based firms
- 11 sectors

Nasdaq 100


- 100 firms
- NASDAQ-only
- Mostly, not all, US firms
- Financials clearly excluded

Top overlapping components

Overlapping Holdings

Show 10 entries

Search:

Company	Weight in S&P 500	Weight in Nasdaq 100	Overlap
 APPLE INC	6.6%	13.3%	6.6%
 MICROSOFT CORP	5.4%	10.3%	5.4%
 AMAZON.COM INC	2.4%	5.3%	2.4%
 ALPHABET INC. CLASS A	1.7%	3.3%	1.7%
 ALPHABET INC. CLASS C	1.5%	3.4%	1.5%
 TESLA MOTORS INC	1.4%	3.2%	1.4%
 NVIDIA CORP	1.2%	3.2%	1.2%
 META PLATFORMS INC	0.7%	2.1%	0.7%
 PEPSICO INC	0.7%	2.3%	0.7%
 COSTCO WHOLESALE CORP	0.7%	2.2%	0.7%

Source: <https://www.etfrc.com/funds/overlap.php>











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Top Differences

Position Highlights (Non-Overlapping Exposures)

S&P 500 overweight vs Nasdaq 100

	BERKSHIRE HATHAWAY INC-CL B	1.7%
	UNITEDHEALTH GROUP INC	1.5%
	EXXON MOBIL CORP	1.4%
	JOHNSON & JOHNSON	1.4%
	JPMORGAN CHASE & CO	1.2%
	PROCTER & GAMBLE CO/THE	1.0%
	VISA INC-CLASS A SHARES	1.0%
	HOME DEPOT INC	1.0%
	CHEVRON CORP	1.0%
	MASTERCARD INC-CLASS A	0.9%

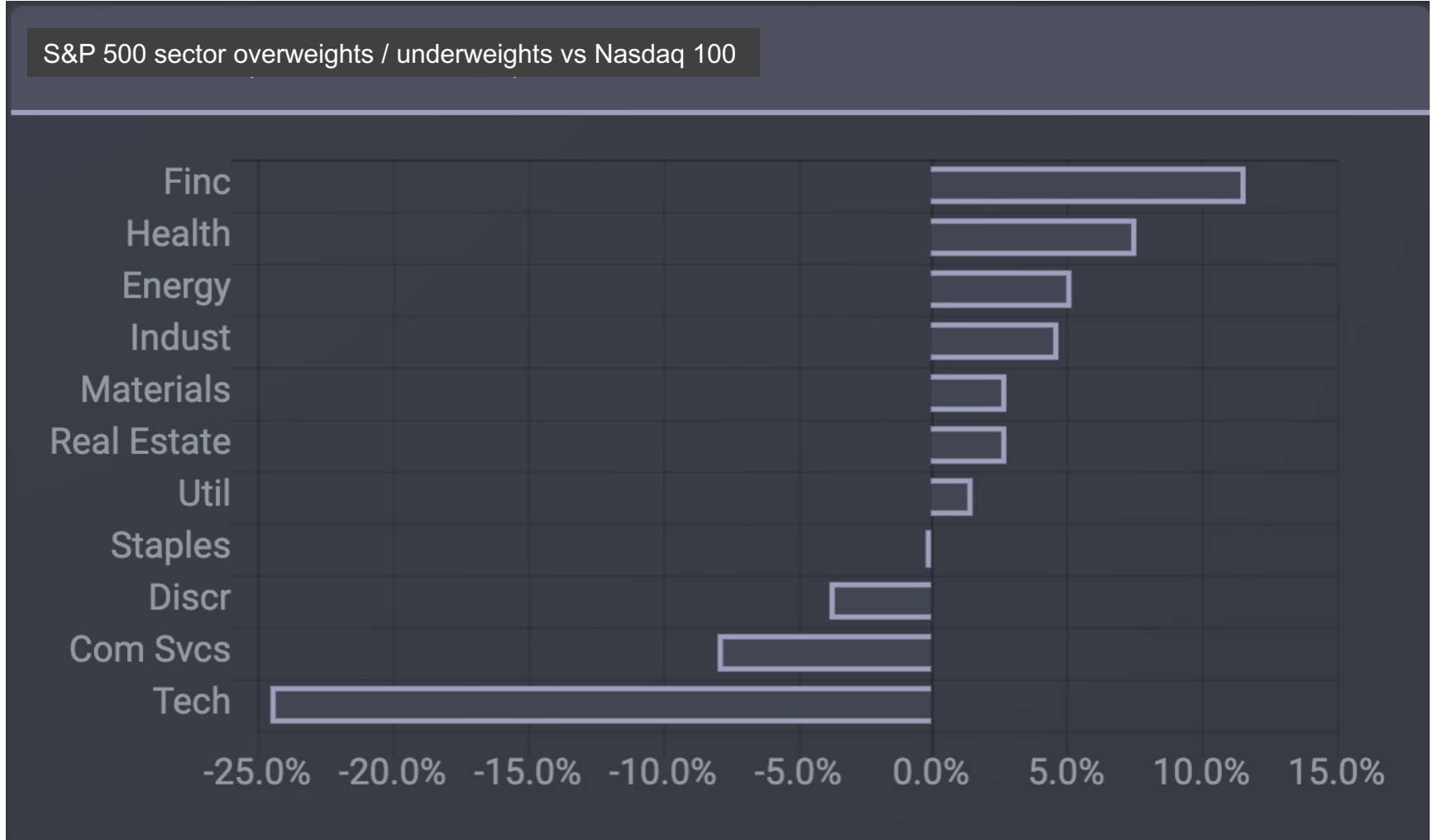
S&P 500 underweight vs Nasdaq 100

	APPLE INC	-6.7%
	MICROSOFT CORP	-4.9%
	AMAZON.COM INC	-2.9%
	NVIDIA CORP	-2.0%
	ALPHABET INC. CLASS C	-1.8%
	TESLA MOTORS INC	-1.7%
	PEPSICO INC	-1.6%
	ALPHABET INC. CLASS A	-1.5%
	COSTCO WHOLESALE CORP	-1.5%
	T-MOBILE US, INC.	-1.5%

Source: <https://www.etfrc.com/funds/overlap.php>

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Different Sector Exposures



Source: <https://www.etfrc.com/funds/overlap.php>

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S&P 500

Cheaper

Price/Earnings	16.75
Price/Book	3.19
Price/Sales	1.99
Price/Cash Flow	10.27
Dividend Yield %	1.91
Long-Term Earnings %	11.91
Historical Earnings %	23.62
Sales Growth %	7.92
Cash-Flow Growth %	11.64
Book-Value Growth %	7.95

Investment as of Nov 29, 2022 | Category: Large Blend

Nasdaq 100

Price/Earnings	20.43
Price/Book	4.60
Price/Sales	2.93
Price/Cash Flow	12.50
Dividend Yield %	1.07
Long-Term Earnings %	11.85
Historical Earnings %	25.89
Sales Growth %	15.07
Cash-Flow Growth %	19.87
Book-Value Growth %	14.06

Investment as of Nov 29, 2022 | Category: Large Growth

Faster growth

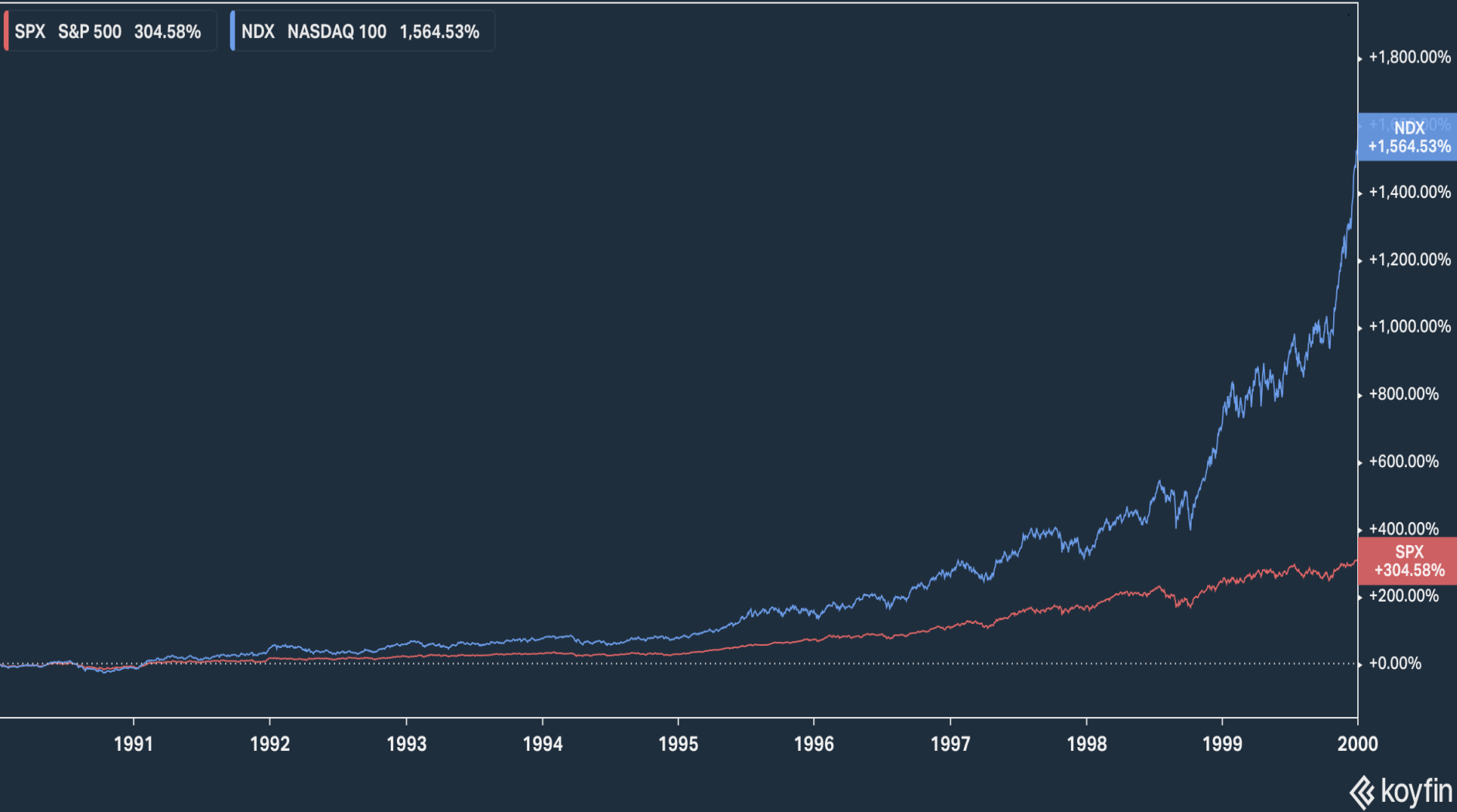
Source: Morningstar, <https://www.morningstar.com/etfs/xnas/qqq/portfolio>

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Some history and charts...

S&P 500 vs Nasdaq 100 in the 1990s, Price Return

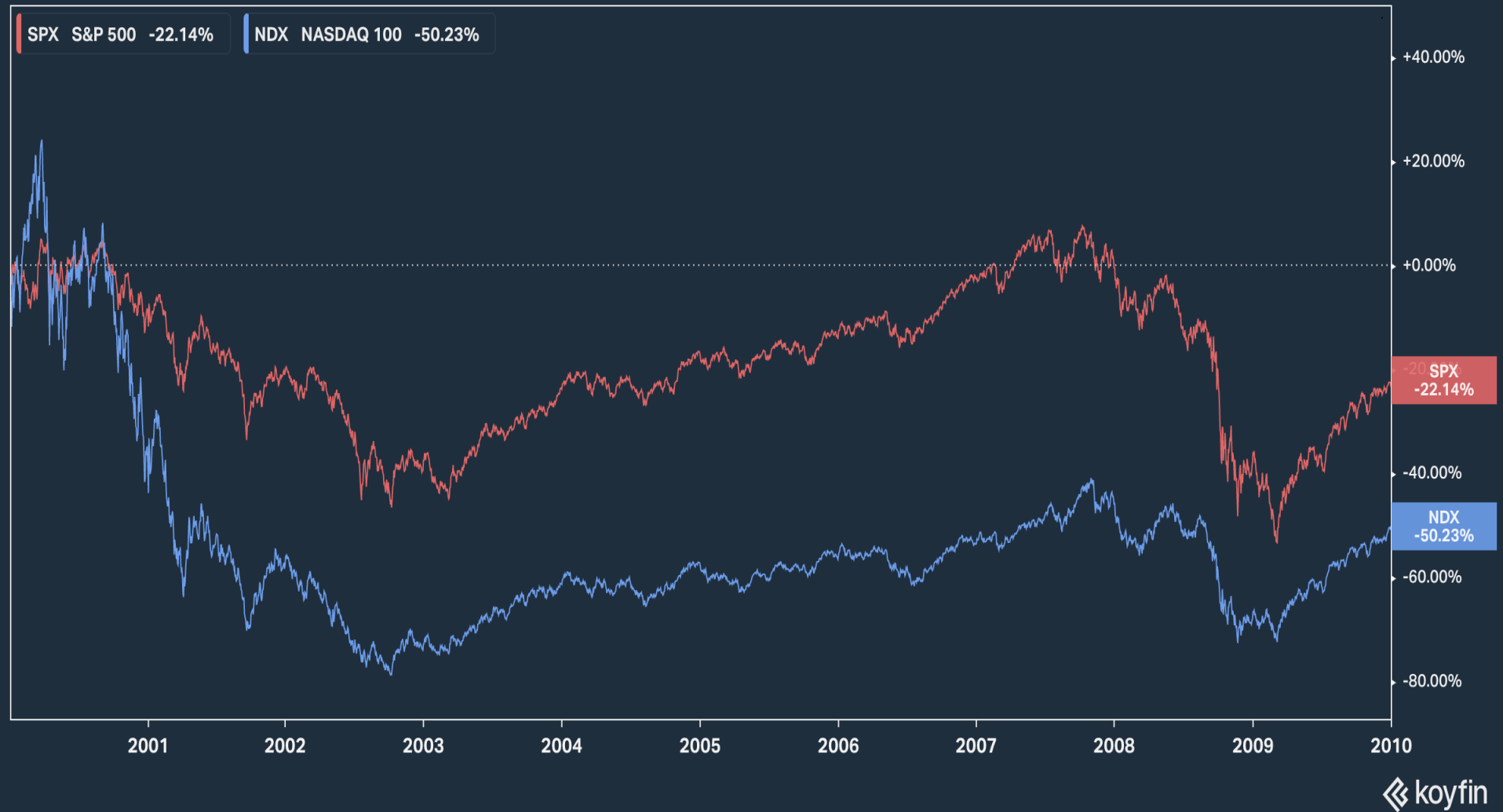


Source: Koyfin

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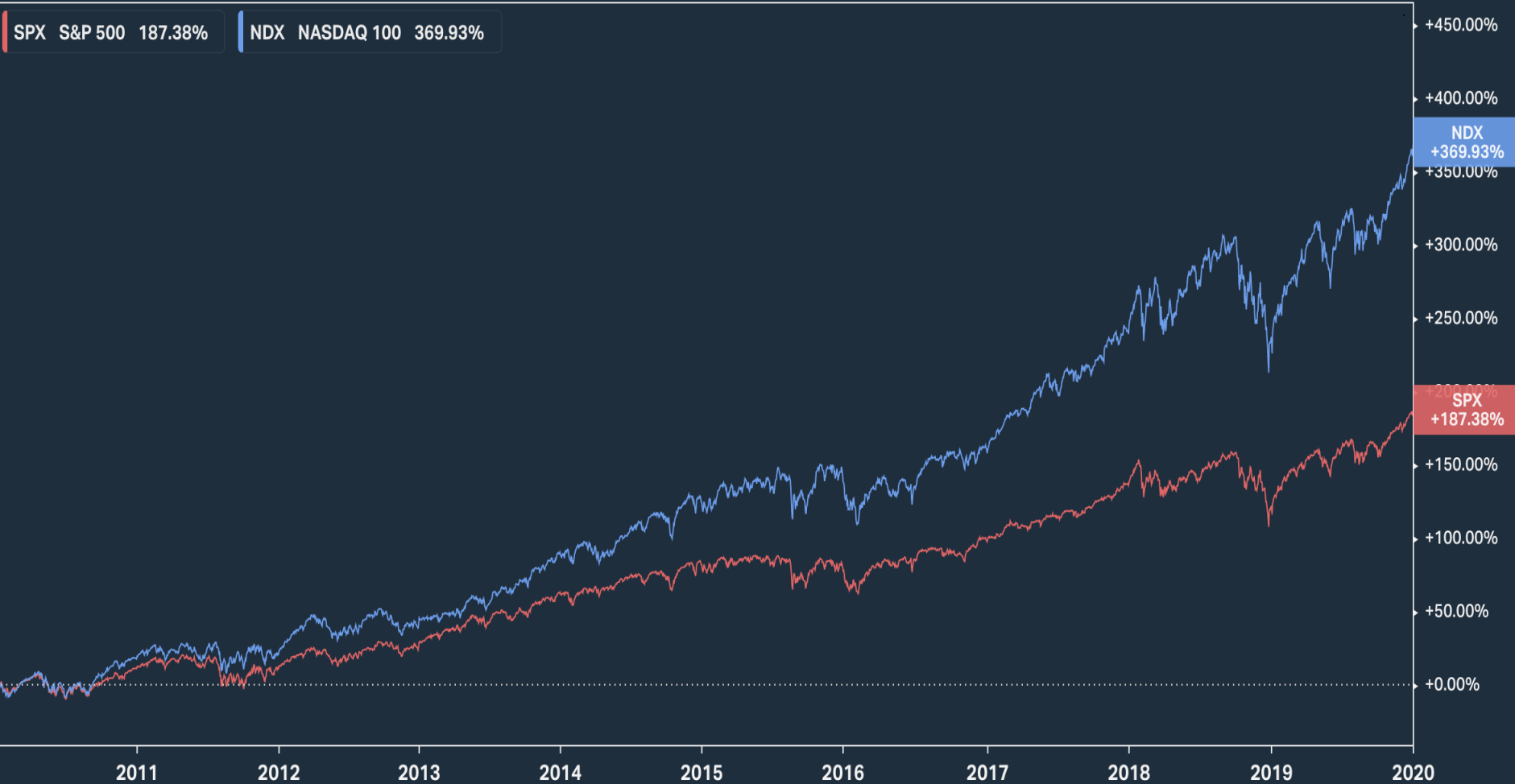
S&P 500 vs Nasdaq 100 in the 2000s, Price Return



Source: Koyfin

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S&P 500 vs Nasdaq 100 in the 2010s, Price Return



Source: Koyfin

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S&P 500 vs Nasdaq 100: Jan 2020-Nov 2022



Source: Koyfin

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S&P 500 vs Nasdaq 100: Jan-Nov 2022



Source: Koyfin

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Breaking down relative performance on those top 10

Ticker	Name	Sector	↓ Market Cap	Total Return (1Y)	Tangible Book Value, CAGR (1Y FQ)	P/E (LTM)
SPX Overweights						
• BRKB	Berkshire Hathaw...	Financials	\$ 694.29B	13.89%	-4.24%	-
• UNH	UnitedHealth Grou...	Health Care	\$ 493.34B	20.40%	28.54%	25.9x
• JNJ	Johnson & Johnson	Health Care	\$ 460.38B	15.90%	-106.73%	24.5x
• XOM	Exxon Mobil Corp...	Energy	\$ 455.24B	92.05%	15.89%	9.0x
• V	Visa Inc.	Information Techn...	\$ 431.02B	8.71%	9.31%	29.9x
• JPM	JPMorgan Chase ...	Financials	\$ 400.56B	-11.31%	-0.72%	11.5x
• CVX	Chevron Corporat...	Energy	\$ 350.05B	66.17%	17.16%	10.3x
• PG	The Procter & Gam...	Consumer Staples	\$ 344.74B	3.12%	1.28%	25.2x
• MA	Mastercard Incorp...	Information Techn...	\$ 329.91B	9.60%	-0.68%	34.3x
• HD	The Home Depot, ...	Consumer Discreti...	\$ 322.02B	-18.81%	-4.27%	19.1x
+ Add Ticker	+ New Group					
NDX Overweights						
• AAPL	Apple Inc.	Information Techn...	\$ 2,245.75B	-14.10%	-19.68%	23.1x
• MSFT	Microsoft Corpora...	Information Techn...	\$ 1,791.53B	-26.62%	1.68%	25.9x
• GOOGL	Alphabet Inc.	Communication S...	\$ 1,233.57B	-32.92%	1.00%	18.9x
• AMZN	Amazon.com, Inc.	Consumer Discreti...	\$ 942.84B	-47.30%	11.50%	83.1x
• TSLA	Tesla, Inc.	Consumer Discreti...	\$ 571.02B	-52.61%	48.34%	55.7x
• NVDA	NVIDIA Corporation	Information Techn...	\$ 384.88B	-52.09%	-11.24%	66.4x
• PEP	PepsiCo, Inc.	Consumer Staples	\$ 254.52B	17.39%	-23.08%	26.1x
• COST	Costco Wholesale ...	Consumer Staples	\$ 234.12B	-1.28%	18.60%	40.3x
• AVGO	Broadcom Inc.	Information Techn...	\$ 211.17B	-2.99%	-2.92%	22.5x
• TMUS	T-Mobile US, Inc.	Communication S...	\$ 184.91B	36.59%	0.52%	121.8x

Source: Koyfin

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Bullish Drivers

- “Fed Pivot”
 - More MNQ than MES?
 - w/ or w/o recession?
- Robust US consumer
 - Strong dollar
 - Capital light
- Buybacks

Bearish Drivers

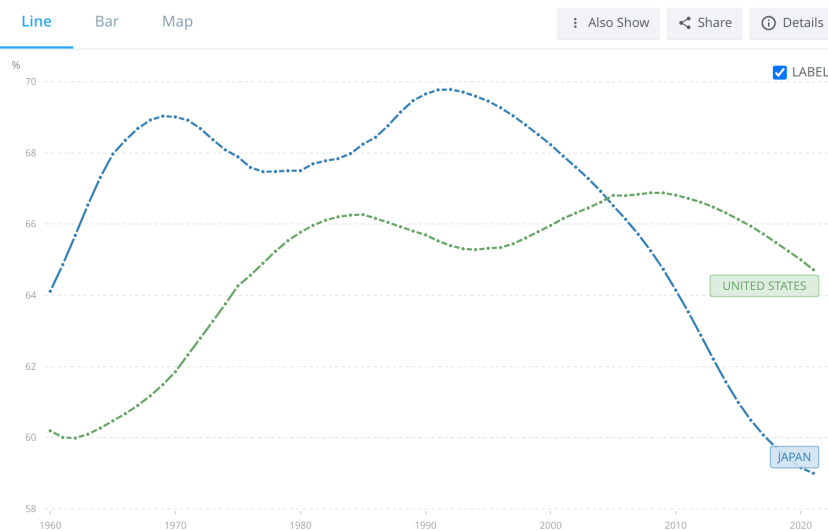
- Unexpected Fed Hikes
 - Inflation doesn't die
 - Stagflation (1970s)
- Credit crisis
 - High rates
 - Home & student loans
- Employment & productivity

Two charts I find too important to forget...

Population ages 15-64 (% of total population) - Japan, United States

World Bank staff estimates based on age/sex distributions of United Nations Population Division's World Population Prospects: 2019 Revision.

License: CC BY-4.0



★ Employment Rate: Aged 15-64: All Persons for the United States

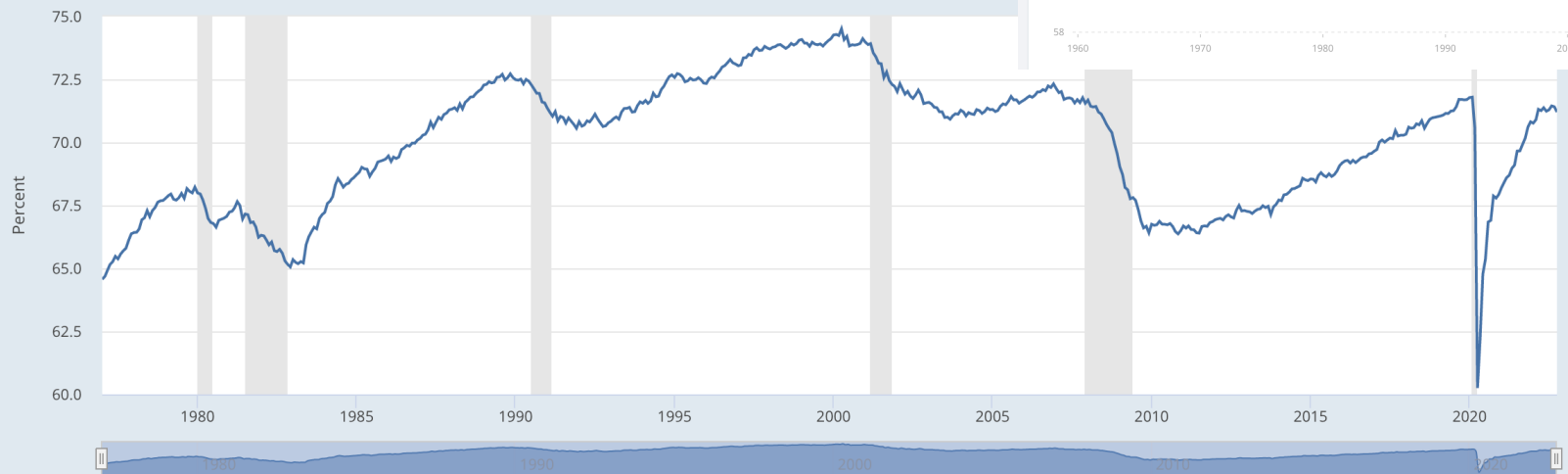
Observation:
Oct 2022: **71.20688** (+ more)
Updated: Nov 14, 2022

Units:
Percent,
Seasonally Adjusted

Frequency:
Monthly

1Y | 5Y | 10Y

FRED — Employment Rate: Aged 15-64: All Persons for the United States



Shaded areas indicate U.S. recessions.

Source: Organization for Economic Co-operation and Development

fred.stlouisfed.org

Source: <https://data.worldbank.org/indicator/SP.POP.1564.TO.ZS?locations=JP-US> , <https://fred.stlouisfed.org/series/LREM64TTUSM156S>

Futures & Options Basics

MES & MNQ Futures Description

DESCRIPTION File Configure

Stock Description

Micro E-Mini S&P 500 Stock Price Index

Security Type	FUT
Underlying	MES IND
Contract Month	MAR23
Expiration Date	MAR 17 '23
Last Trading Date	MAR 17 '23 08:30 CST
Currency	USD
Multiplier	5
Exchange	CME
Trading Class	MES
Symbol	MESH3
Product Type	Equity Index
Settlement Method	Cash

Trading Schedule: November 30, 2022 [Calendar](#)

Regular Trading Session	08:30 - 16:00 (22:30 - 06:00 your time)
Total Available Hours	<i>17:00*</i> - 16:00 (07:00 - 06:00 your time)
Exchange Time Zone	US/Central

** Times in italics are on the calendar date preceding trade date*

Margin Information

Margin Requirements Per Contract [More](#)

Initial	1870.25 USD
Maintenance	1700.23 USD

DESCRIPTION File Configure

Stock Description

Micro E-Mini Nasdaq-100 Index

Security Type	FUT
Underlying	MNQ IND
Contract Month	MAR23
Expiration Date	MAR 17 '23
Last Trading Date	MAR 17 '23 08:30 CST
Currency	USD
Multiplier	2
Exchange	CME
Trading Class	MNQ
Symbol	MNQH3
Product Type	Equity Index
Settlement Method	Cash

Trading Schedule: November 30, 2022 [Calendar](#)

Regular Trading Session	08:30 - 16:00 (22:30 - 06:00 your time)
Total Available Hours	<i>17:00*</i> - 16:00 (07:00 - 06:00 your time)
Exchange Time Zone	US/Central

** Times in italics are on the calendar date preceding trade date*

Margin Information

Margin Requirements Per Contract [More](#)

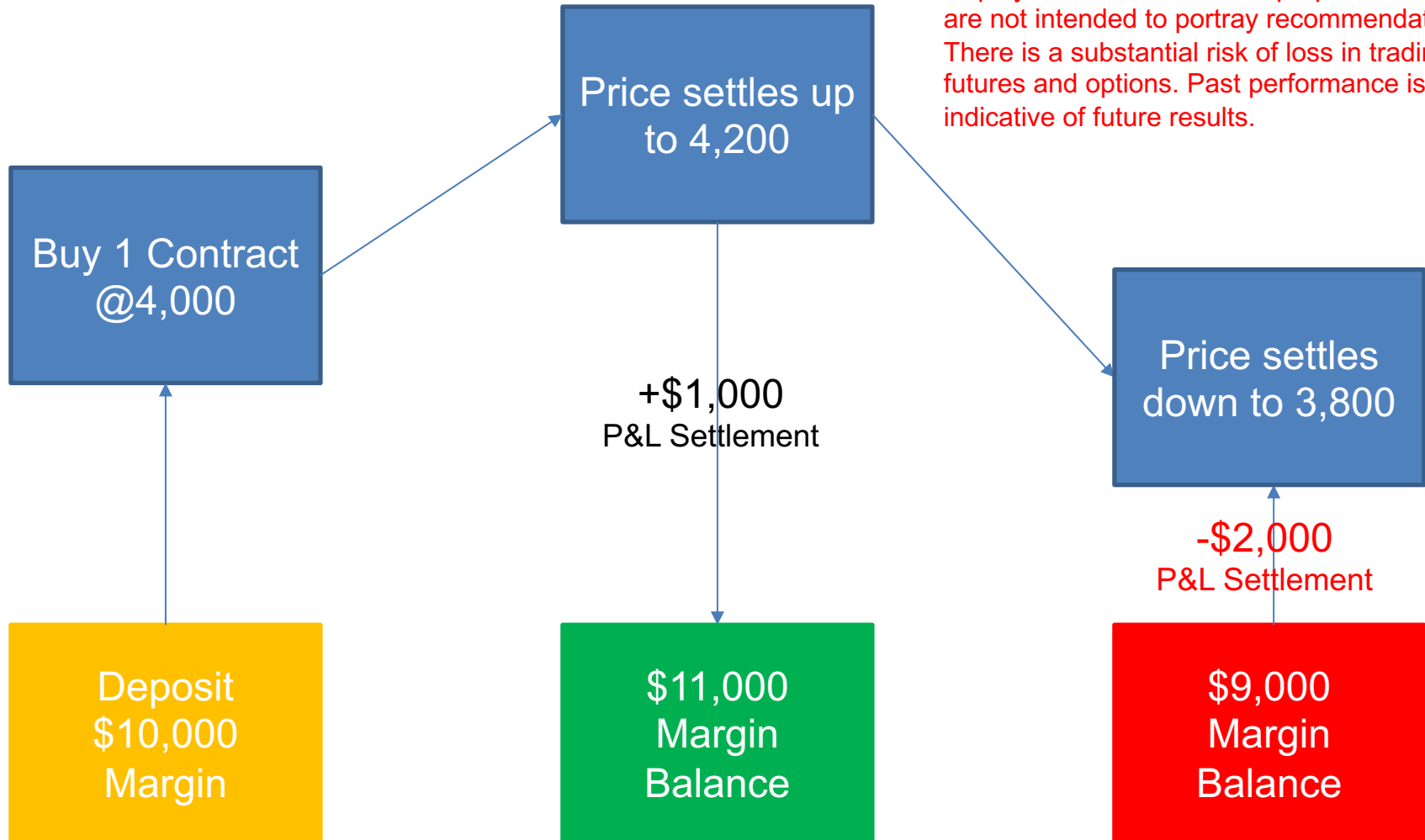
Initial	2724.42 USD
Maintenance	2476.75 USD

Source: IBKR

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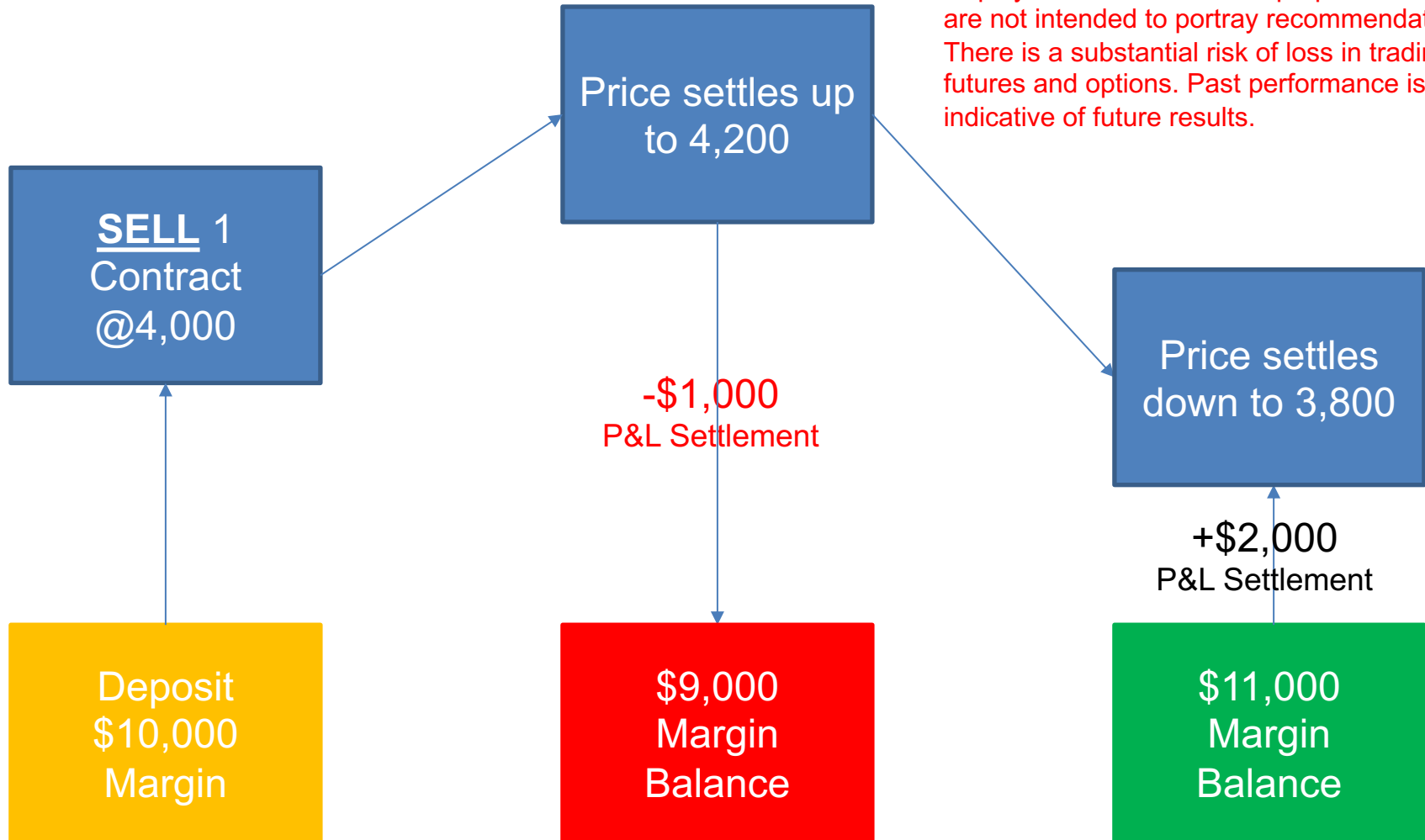
Quick recap: how long futures trades work

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How short selling futures works

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How to find these futures & option (chains) on TWS

	LAST	VLM	CHANGE	
MES ∞ Dec16'22 @GLOBEX	3859.00	359K	-60.25	-1.54%
MNQ ∞ Dec16'22 @GLOBEX	11794.75	464K	-212.75	-1.77%

MITSUBISHI ESTATE CO LTD - FWB2

- Stock (SMART)
- Combinations

Micro E-Mini S&P 500 Stock Price Index - GLOBEX

- Index
- Futures**
- Futures Options
- Combinations

Search by company name

mes

[View Popular Products](#)

MES@GLOBEX 1 pt = \$5.00

MES SEP	Sep16'22	3860.75
MES DEC	Dec16'22	3872.00
MES MAR	Mar17'23	3888.00
MES ∞ DEC	Continuous (Dec)	3872.00

More/Multiple Futures Spreads

Source: TWS

New Window IBot FYI 19 Advisor Setup

Search

For You

- Option Chain
- Probability Lab
- OptionTrader

General Tools

- Order Entry
- Portfolio
- Watchlist
- Quote Details
- Trade History
- Alerts
- Market Depth (Level II)
- BookTrader
- Toolbox
- Chart
- Order Management
- Time & Sales
- Scanners
- Forex

Information System

- Fundamentals Explorer
- Impact Dashboard
- Calendar
- Daily Lineup
- News
- Analyst Research and Market Commentary
- Templates

Option Tools

- Option Chain**
- OptionTrader
- Option Analysis
- Advanced Option Tools

Education

- Video Tutorials
- FAQs
- News@IBKR

Other Tools

- IBot - type to trade
- Templates
- Portfolio Tools
- More Advanced Tools

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Micro S&P 500 Option Chain (MES)

3994.50 -0.50 (-0.01%) ? ⚙️ 🔗 ⏪ ⏩

PUT/CALLs (Side by Side) ▾

JAN'23 EX3 / MAR'23 EX3 5 51 DAYS | JAN'23 EX3 / MAR'23 EX3 5 62 DAYS | FEB'23 EX3 / MAR'23 EX3 5 79 DAYS | MAR'23 / MAR'23 MES 5 107 DAYS | MORE ▾

TABBED VIEW ▾ PUT/CALL ▾ STRIKES ▾ CME ▾ TRADING CLASS ▾ 5

IV: 22.0%

CALLS						PUTS								
OPTN ...	VOLUME	BID	SI...	BID x ASK	DELTA IMPLD... ASK S...	STRIKE	OPTN ...	VOLUME	BID	SI...	BID x ASK	DELTA IMPLD... ASK S...		
3		130	♦	460.50 x 464.50 ♦	0.788 26.1%	130	3600	108	2	129	♦	71.50 x 72.75 ♦	-0.212 26.2%	129
9		135	♦	420.25 x 424.75 ♦	0.763 25.7%	135	3650	28		115	♦	81.50 x 82.75 ♦	-0.238 25.7%	115
13		140	♦	382.75 x 386.25 ♦	0.735 25.1%	140	3700	71	7	100	♦	92.75 x 94.00 ♦	-0.266 25.1%	443
1		146	♦	345.75 x 349.25 ♦	0.704 24.7%	146	3750	264	8	86	♦	105.00 x 106.25 ♦	-0.297 24.7%	86
114		153	♦	310.00 x 313.25 ♦	0.672 24%	153	3800	60	4	79	♦	118.75 x 120.00 ♦	-0.329 24.1%	79
17		161	♦	275.75 x 279.00 ♦	0.636 23.6%	161	3850	418		64	♦	133.75 x 135.25 ♦	-0.365 23.6%	64
461		171	♦	241.75 x 246.00 ♦	0.599 22.9%	171	3900	40		57	♦	150.50 x 151.75 ♦	-0.403 22.9%	57
20	1	184	♦	212.00 x 214.75 ♦	0.559 22.5%	184	3950	591		57	♦	169.00 x 170.25 ♦	-0.443 22.5%	57
94	3	50	♦	183.75 x 185.00 ♦	0.517 21.8%	50	4000	62	1	50	♦	189.25 x 190.50 ♦	-0.485 21.8%	50
20		50	♦	156.50 x 158.00 ♦	0.473 21.3%	50	4050	6		50	♦	211.50 x 213.00 ♦	-0.529 21.3%	50
231		57	♦	131.75 x 133.25 ♦	0.428 20.7%	57	4100	35		169	♦	235.75 x 238.50 ♦	-0.575 20.7%	169
101	3	64	♦	109.50 x 110.75 ♦	0.382 20.2%	64	4150	114		157	♦	262.75 x 265.75 ♦	-0.622 20.2%	157
66	1	72	♦	89.50 x 90.75 ♦	0.337 19.8%	72	4200	4		146	♦	292.25 x 295.50 ♦	-0.667 19.8%	146
17		86	♦	72.00 x 73.50 ♦	0.291 19.3%	451	4250	3		136	♦	324.25 x 327.75 ♦	-0.714 19.3%	136
48		108	♦	57.00 x 58.50 ♦	0.248 18.8%	544	4300	1.64K		129	♦	358.75 x 364.25 ♦	-0.757 18.8%	129

OFF Strategy Builder

Source: IBKR TWS, 30 Nov 2022

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Description of MES & MNQ options

DESCRIPTION	
Stock Description	
Micro E-Mini S&P 500 Stock Price Index	
Product	MES
Security Type	FOP
Underlying	<u>MESZ2 DEC 16 '22 FUT</u>
Contract Month	DEC22
Expiration Date	DEC 16 '22
Last Trading Date	DEC 16 '22 08:30 CST
Strike	4000
Right	Call
Currency	USD
Multiplier	5
Exchange	GLOBEX
Symbol	MESZ2 C4000
Trading Class	MES
Product Type	Equity Index
Settlement Method	Physical Delivery
Exercise Style	American
Trading Schedule: September 2, 2022 <u>Calendar</u>	
Regular Trading Session	08:30 - 16:00 (21:30 - 05:00 your time)
Total Available Hours	<i>17:00*</i> - 16:00 (06:00 - 05:00 your time)
Exchange Time Zone	US/Central
<small>* Times in italics are on the calendar date preceding trade date</small>	

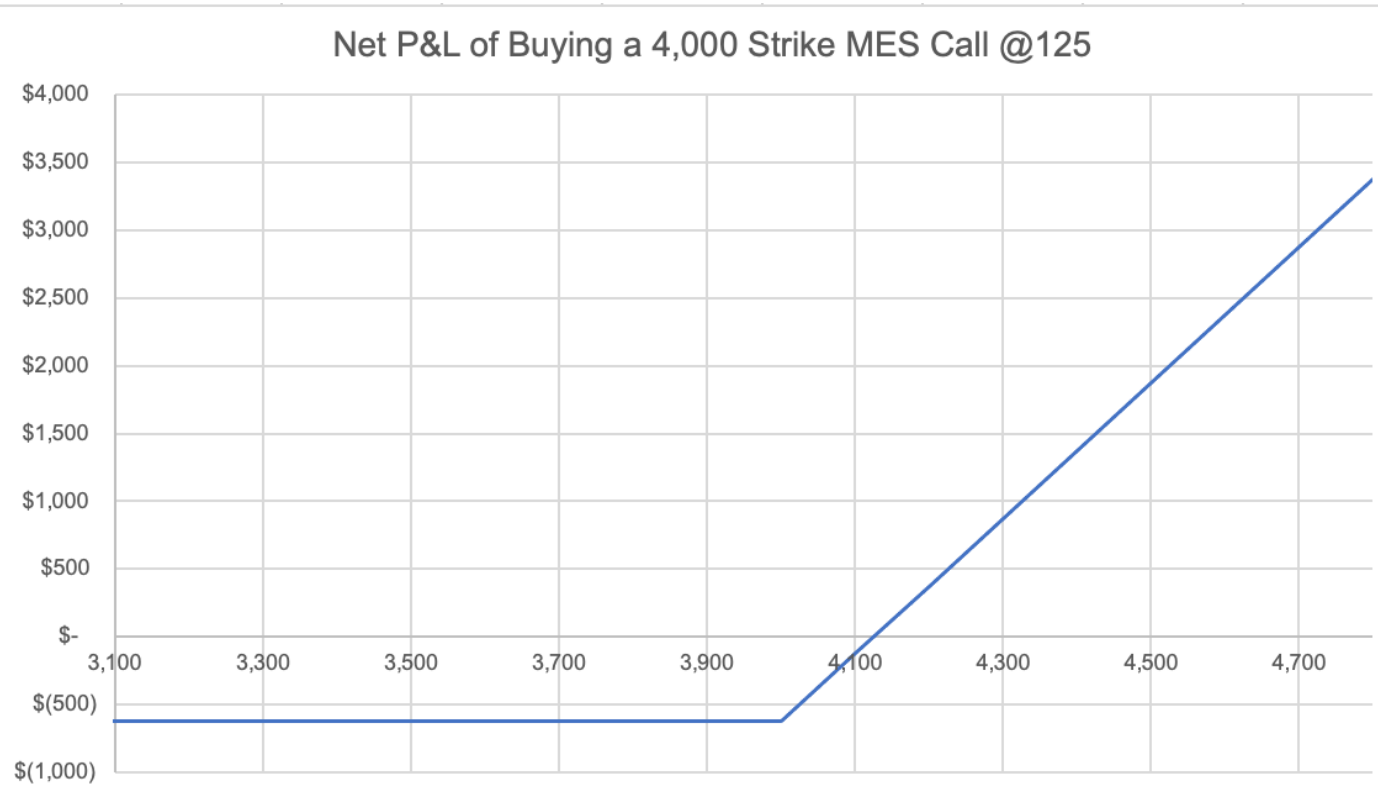
DESCRIPTION	
Stock Description	
Micro E-Mini Nasdaq-100 Index	
Product	MNQ
Security Type	FOP
Underlying	<u>MNQZ2 DEC 16 '22 FUT</u>
Contract Month	DEC22
Expiration Date	DEC 16 '22
Last Trading Date	DEC 16 '22 08:30 CST
Strike	12500
Right	Call
Currency	USD
Multiplier	2
Exchange	GLOBEX
Symbol	MNQZ2 C1250
Trading Class	MNQ
Product Type	Equity Index
Settlement Method	Physical Delivery
Exercise Style	American
Trading Schedule: September 2, 2022 <u>Calendar</u>	
Regular Trading Session	08:30 - 16:00 (21:30 - 05:00 your time)
Total Available Hours	<i>17:00*</i> - 16:00 (06:00 - 05:00 your time)
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Source: IBKR

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Sample payoff diagram: Buying a call

Final Index Level	P&L
4,800	\$ 3,375
4,700	\$ 2,875
4,600	\$ 2,375
4,500	\$ 1,875
4,400	\$ 1,375
4,300	\$ 875
4,200	\$ 375
4,100	\$ (125)
4,000	\$ (625)
3,900	\$ (625)
3,800	\$ (625)
3,700	\$ (625)
3,600	\$ (625)
3,500	\$ (625)
3,400	\$ (625)
3,300	\$ (625)
3,200	\$ (625)
3,100	\$ (625)
3,000	\$ (625)

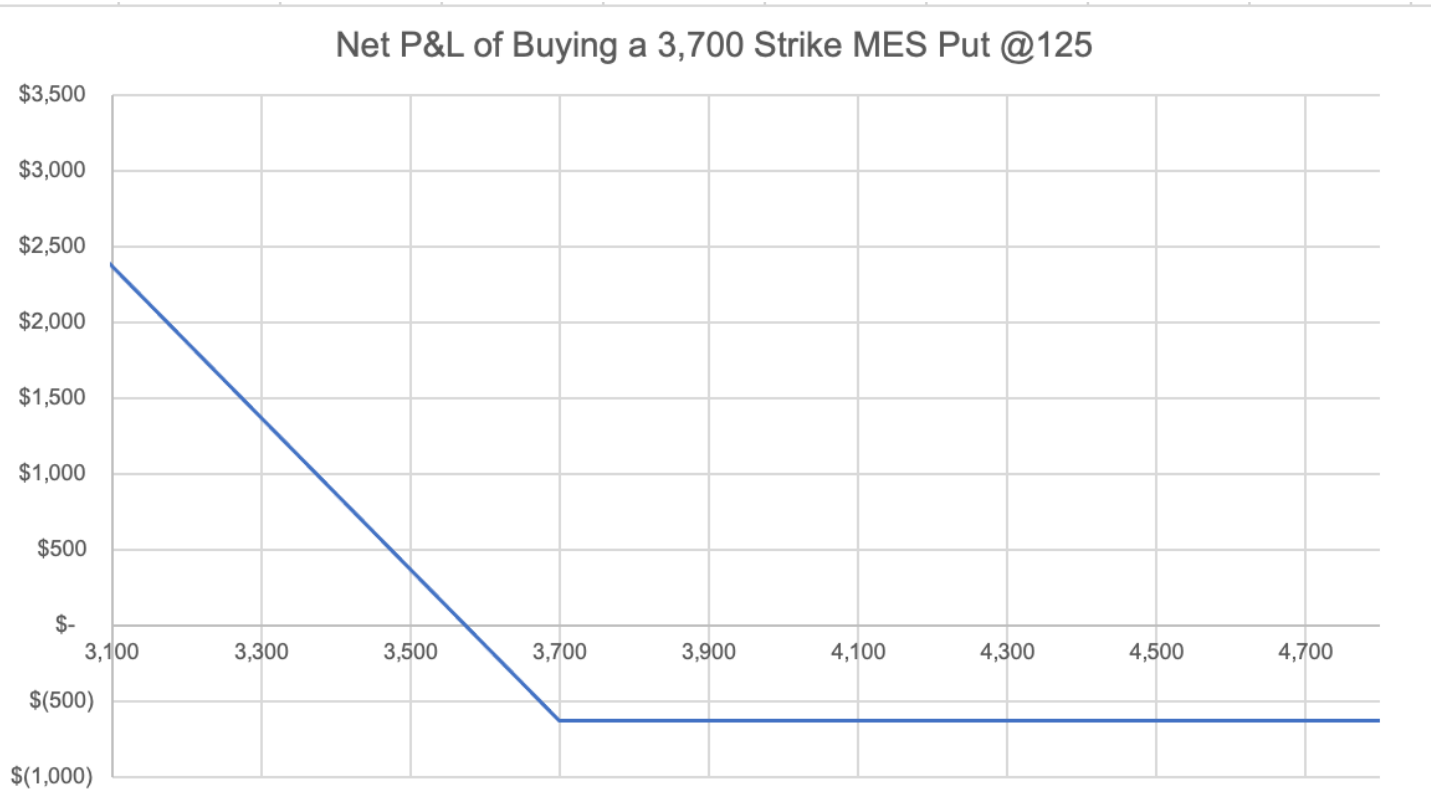


Source: Author's calculation

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Sample payoff diagram: Buying a put

Final Index Level	P&L
4,800	\$ (625)
4,700	\$ (625)
4,600	\$ (625)
4,500	\$ (625)
4,400	\$ (625)
4,300	\$ (625)
4,200	\$ (625)
4,100	\$ (625)
4,000	\$ (625)
3,900	\$ (625)
3,800	\$ (625)
3,700	\$ (625)
3,600	\$ (125)
3,500	\$ 375
3,400	\$ 875
3,300	\$ 1,375
3,200	\$ 1,875
3,100	\$ 2,375
3,000	\$ 2,875



Source: Author's calculation

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Probability Lab

The screenshot shows the IBKR TWS trading platform. On the left, a navigation menu is visible with the following sections:

- For You**
 - Option Chain
 - OptionTrader
 - Strategy Builder
- General Tools**
 - Order Entry
 - Portfolio
 - Watchlist
 - Quote Details
 - Trade History
 - Alerts
 - Market Depth (Level II)
 - BookTrader
 - Toolbox
 - Chart
 - Order Management
 - Time & Sales
 - Scanners
 - Forex
- Information System**
 - Fundamentals Explorer
 - Impact Dashboard
 - Financial Lens
 - Calendar
 - Daily Lineup
 - News
 - Analyst Research and Market Commentary
 - Templates
- Option Tools**
 - Option Chain
 - OptionTrader
 - Option Analysis** (highlighted)
 - Advanced Option Tools
- Education**
 - Video Tutorials
 - FAQs
 - News@IBKR
- Other Tools**
 - IBot - type to trade
 - Templates
 - Portfolio Tools

The 'Option Analysis' menu is expanded, showing the following sub-menu:

- Option Strategy Scanners**
 - Probability Lab (highlighted)
 - Option Strategy Lab
- Option Analytics**
 - Volatility Skew
 - Volatility Over Time
 - Option Activity
 - Interactive Analytics
 - Strategy Performance Graph
 - Performance Profile

The main window displays a candlestick chart for 'MES Mar17'23 @CME' with a price of 3985.75 and a 'New!' badge. The chart shows price movement from October to November. The top of the window shows a search bar, a menu with 'New Window', 'IBot', 'FYI', and 'Advisor Setup', and a 'Search' field. The chart area includes a toolbar with various icons and a search bar at the bottom.

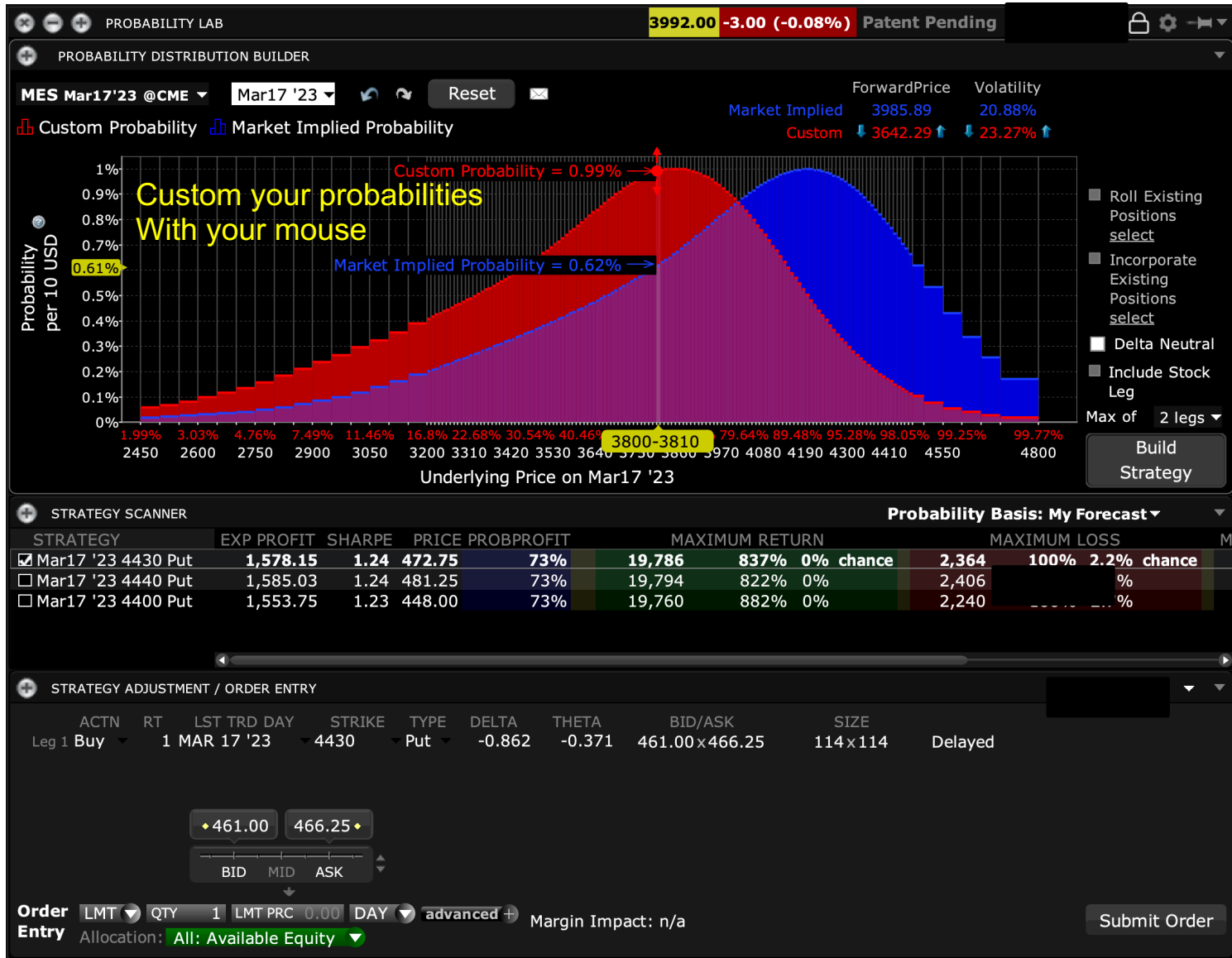
Source: IBKR TWS

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Source: TWS

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About those “greeks”

* **Delta** = Change in option price vs change in index

* **Theta** = “Time Decay” = Change in option price vs passage of time

Not a greek, but “implied volatility” is a key variable in option pricing, and “volatility skew” is the reason the probability curves above are not symmetrical.

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Spread / Multi-leg Option Strategies

Sample MNQ put spread

MNQ Mar17'23 @CME PUT/CALLS (Side by Side) 11655.50 +16.00 (+0.14%) ?

JAN'23 MQE / MAR'23 MQE 2 62 DAYS FEB'23 MQ3 / MAR'23 MQ3 2 79 DAYS MAR'23 / MAR'23 MNQ 2 107 DAYS MORE

TABBED VIEW PUT/CALL STRIKES CME TRADING CLASS 2

CALLS							PUTS									
OPTN	VOLUME	BID	SI...	BID x ASK	DELTA	IMPLD...	ASK S...	STRIKE	OPTN	VOLUME	BID	SI...	BID x ASK	DELTA	IMPLD...	ASK S...
		25	♦	2724.00 x 2738.25	0.918	37.1%	25	9000	10	1	50	♦	91.75 x 99.50	-0.082	37.2%	200
2		25	♦	2272.25 x 2287.25	0.880	35.1%	25	9500	37		50	♦	138.50 x 146.25	-0.121	35.2%	50
1		25	♦	1845.25 x 1859.75	0.827	33.3%	25	10000	27	8	50	♦	208.00 x 215.50	-0.173	33.4%	50
2		25	♦	1449.25 x 1462.75	0.758	31.6%	25	10500	11		50	♦	307.50 x 314.75	-0.242	31.6%	50
7		25	♦	1091.50 x 1103.00	0.670	30%	25	11000	35	1	50	♦	443.75 x 451.75	-0.331	30%	50
15		25	♦	777.50 x 787.75	0.566	28.5%	25	11500	23	1	50	♦	624.00 x 634.25	-0.435	28.5%	50
54	2	50	♦	516.50 x 526.75	0.449	26.8%	50	12000	32	5	50	♦	858.00 x 868.25	-0.553	26.8%	50

IV: 27.8%

Strategy Builder Strategies

ACTN	RT	LST TRD DAY	STRIKE	TYPE	DELTA	THETA	BID/ASK	SIZE	
× Leg 1 Buy	1	MAR 17 '23	11000	Put	-0.331	-3.130	443.75 x 451.75	50 x 50	Delayed
× Leg 2 Sell	1	MAR 17 '23	10000	Put	-0.173	-2.468	208.00 x 215.50	50 x 50	Delayed
Mar17 '23 11000/10000 Bear Put					-0.157	-0.662	228.25 x 243.75	50 x 50	Delayed

Clear All Legs + PROFILE + Add to Watchlists

♦ 228.25 243.75 ♦

BID MID ASK

Order Entry LMT QTY 1 LMT PRC 0.00 DAY advanced + Margin Impact: n/a Allocation: All: Available Equity Submit Order

Source: TWS

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Put spread strategy: lower Delta and Theta than outright put

Final Index Level	P&L
12,000	\$ (440)
11,750	\$ (440)
11,500	\$ (440)
11,250	\$ (440)
11,000	\$ (440)
10,750	\$ 60
10,500	\$ 560
10,250	\$ 1,060
10,000	\$ 1,560
9,750	\$ 1,560
9,500	\$ 1,560
9,250	\$ 1,560
9,000	\$ 1,560
8,750	\$ 1,560
8,500	\$ 1,560
8,250	\$ 1,560
8,000	\$ 1,560
7,750	\$ 1,560
7,500	\$ 1,560



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Source: Author's calculation

Sample "1x2" costless / credit put spread

PUT/CALLS (Side by Side) ▾
11662.00 +22.50 (+0.19%) ? ⚙️ 🔗

JAN'23 MQE /
MAR'23 MQE

2
62 DAYS

FEB'23 MQ3 /
MAR'23 MQ3

2
79 DAYS

MAR'23 / MAR'23
MNQ

2
107 DAYS

MORE ▾

TABBED VIEW ▾
PUT/CALL ▾
STRIKES ▾
CME ▾
TRADING CLASS ▾ 2

CALLS								PUTS										
OPTN ...	VOLUME	BID	SI...	BID x ASK	DELTA	IMPLD...	ASK S...	STRIKE	OPTN ...	VOLUME	BID	SI...	BID x ASK	DELTA	IMPLD...	ASK S...		
		25	♦	2732.25 x 2747.50	♦	0.918	37.1%	25	9000	10	1	50	♦	91.50 x 99.50	♦	-0.082	37.2%	200
2		25	♦	2281.50 x 2296.25	♦	0.880	35.1%	25	9500	37		50	♦	137.50 x 146.25	♦	-0.121	35.2%	50
1		25	♦	1854.00 x 1868.00	♦	0.827	33.3%	25	10000	27	8	50	♦	206.50 x 215.50	♦	-0.173	33.4%	50
2		25	♦	1457.00 x 1470.50	♦	0.758	31.6%	25	10500	11		50	♦	305.50 x 314.75	♦	-0.242	31.6%	50
7		25	♦	1097.75 x 1109.75	♦	0.670	30%	25	11000	35	1	50	♦	440.75 x 450.25	♦	-0.331	30%	50
15		25	♦	782.75 x 793.75	♦	0.566	28.5%	25	11500	23	1	50	♦	620.25 x 630.00	♦	-0.436	28.5%	50
54	2	50	♦	521.50 x 531.50	♦	0.449	26.8%	50	12000	32	5	50	♦	853.00 x 863.50	♦	-0.554	26.8%	50

Strategy Builder Strategies ▾

ACTN	RT	LST TRD DAY	STRIKE	TYPE	DELTA	THETA	BID/ASK	SIZE	
× Leg 1 Buy	1	MAR 17 '23	11000	Put	-0.331	-3.131	440.75 x 450.25	50 x 50	Delayed
× Leg 2 Sell	2	MAR 17 '23	10000	Put	-0.173	-2.469	206.50 x 215.50	50 x 50	Delayed
Total					0.016	1.807	9.75 x 37.25	25 x 25	Delayed

♦ 9.75
37.25 ♦

BID
MID
ASK

Order Entry 1 0.00

Allocation: All: Available Equity

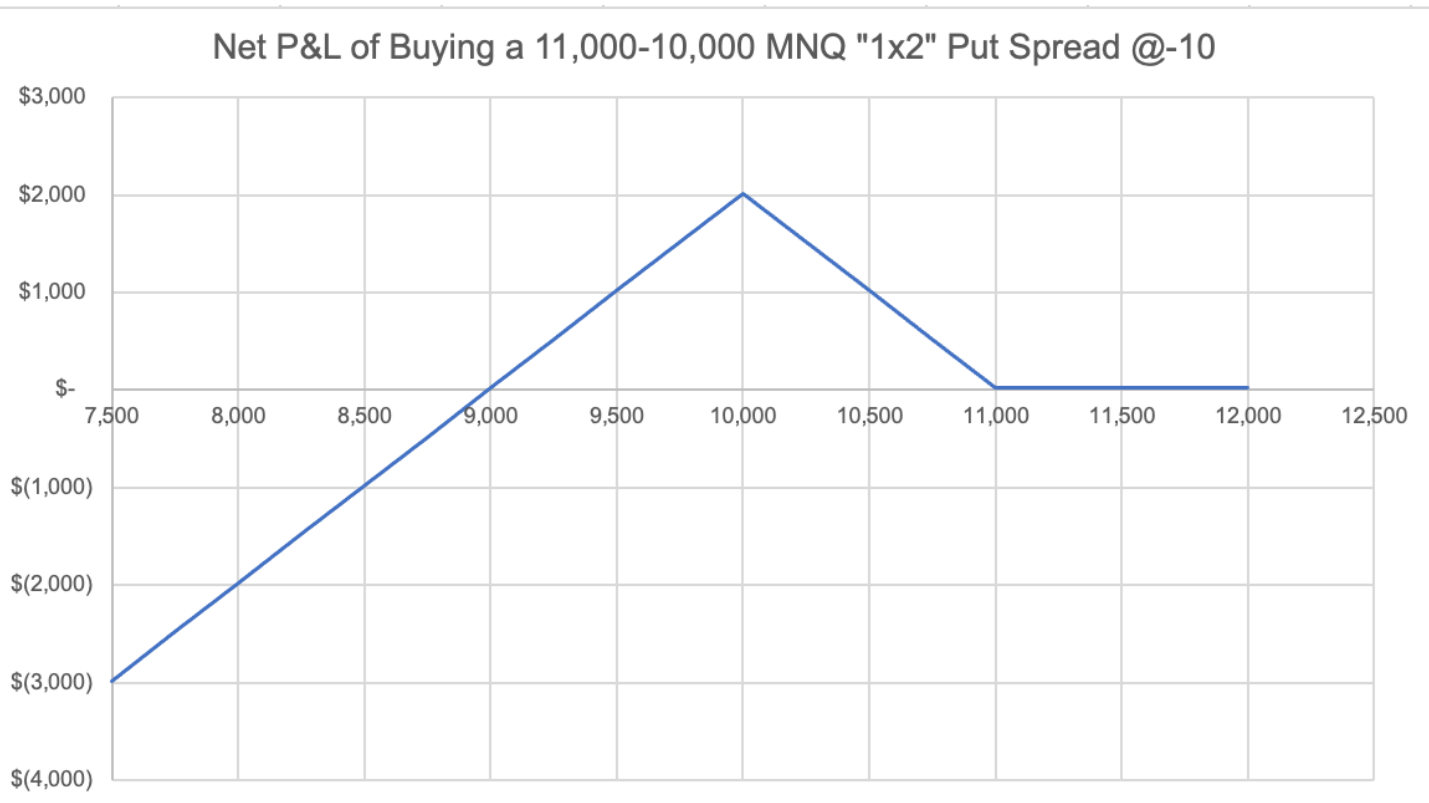
Margin Impact: n/a

Source: TWS

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Sample payoff diagram: Delta and theta initially positive, can flip negative

Final Index Level	P&L
12,000	\$ 20
11,750	\$ 20
11,500	\$ 20
11,250	\$ 20
11,000	\$ 20
10,750	\$ 520
10,500	\$ 1,020
10,250	\$ 1,520
10,000	\$ 2,020
9,750	\$ 1,520
9,500	\$ 1,020
9,250	\$ 520
9,000	\$ 20
8,750	\$ (480)
8,500	\$ (980)
8,250	\$ (1,480)
8,000	\$ (1,980)
7,750	\$ (2,480)
7,500	\$ (2,980)



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Source: Author's calculation

Sample "Straddle"

MES Mar17'23 @CME PUT/CALLS (Side by Side)
3982.00
-13.00 (-0.33%)

JAN'23 EX3 / MAR'23 EX3
5
51 DAYS

JAN'23 EX3 / MAR'23 EX3
5
62 DAYS

FEB'23 EX3 / MAR'23 EX3
5
79 DAYS

MAR'23 / MAR'23
MES
5
107 DAYS

MORE ▾

TABBED VIEW ▾
PUT/CALL ▾
STRIKES ▾
CME ▾
TRADING CLASS ▾ 5

IV: 22.0%

CALLS							PUTS								
OPTN	VOLUME	BID	ASK	DELTA	IMPLD	ASK S...	STRIKE	OPTN	VOLUME	BID	ASK	DELTA	IMPLD	ASK S...	
3	131	451.50	456.00	0.784	26.1%	131	3600	108	2	534	73.50	74.75	-0.217	26.2%	122
9	136	412.25	416.75	0.758	25.6%	136	3650	28	115	84.00	85.25	-0.243	25.7%	486	
13	141	374.25	378.50	0.729	25.1%	141	3700	71	7	100	95.50	96.75	-0.272	25.1%	436
1	148	337.50	341.00	0.698	24.7%	148	3750	264	9	86	108.25	109.50	-0.303	24.7%	392
114	155	302.25	306.25	0.665	24%	155	3800	60	4	79	122.25	123.50	-0.336	24.1%	79
17	163	268.25	271.50	0.629	23.6%	163	3850	418	64	137.75	139.00	-0.372	23.6%	64	
461	174	236.00	239.00	0.591	22.9%	174	3900	40	57	154.75	156.25	-0.410	22.9%	57	
20	1	206.25	207.75	0.551	22.4%	50	3950	591	50	173.75	175.00	-0.451	22.5%	50	
94	8	177.50	179.00	0.509	21.8%	253	4000	62	2	50	194.50	196.00	-0.493	21.8%	50

Strategy Builder Strategies ▾

ACTN	RT	LST TRD DAY	STRIKE	TYPE	DELTA	THETA	BID/ASK	SIZE	
✗ Leg 1	Buy	1 MAR 17 '23	3900	Put	-0.410	-0.876	154.75x156.25	57x57	Delayed
✗ Leg 2	Buy	1 MAR 17 '23	3900	Call	0.591	-0.861	236.00x239.00	174x174	Delayed
Mar17 '23 3900 Straddle					0.181	-1.737	390.75x395.25	57x57	Delayed

◆ 390.75 395.25 ◆

BID MID ASK

Order Entry QTY 1 LMT PRC 0.00 DAY Margin Impact: n/a

Allocation: All: Available Equity ▾

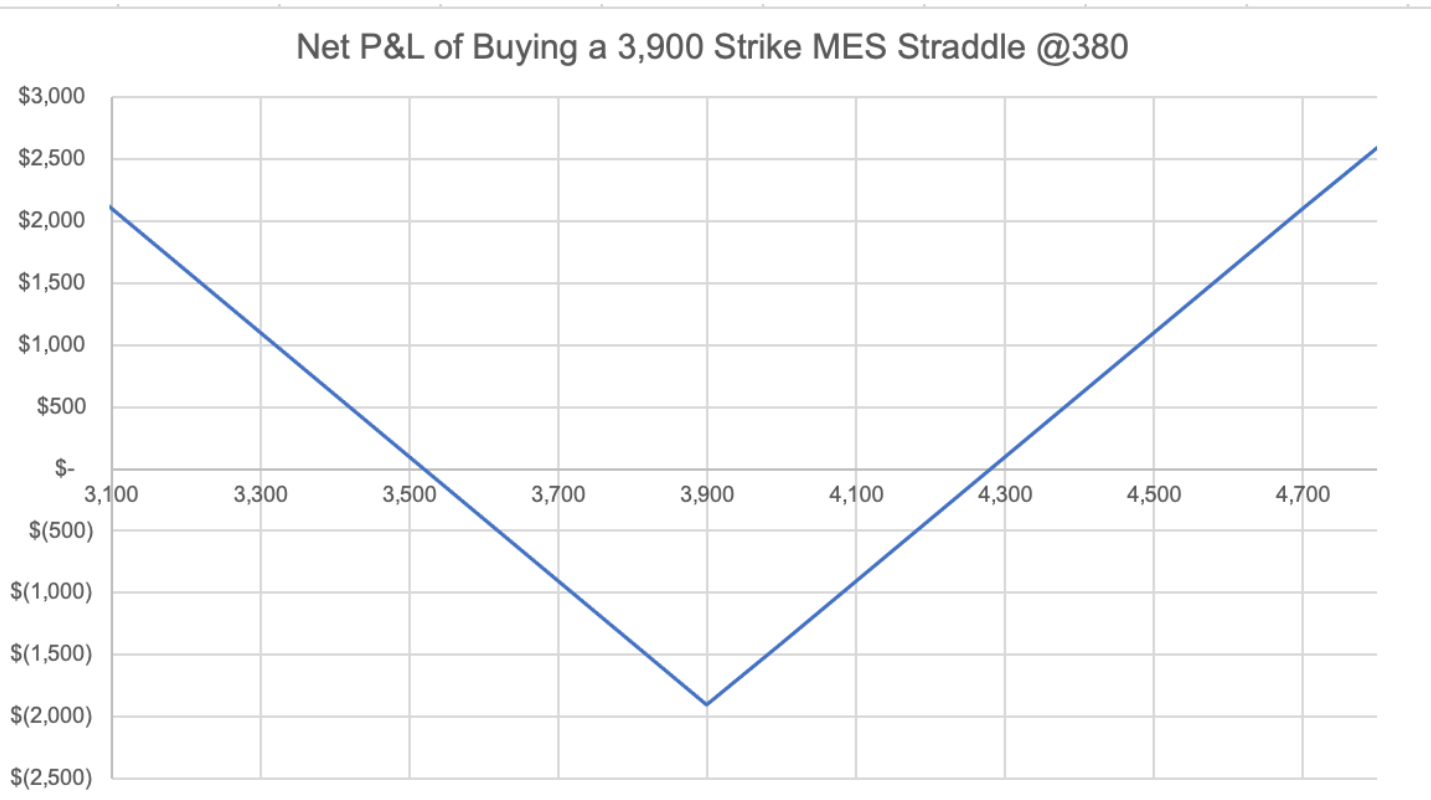
Source: TWS

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Sample payoff diagram: Near-zero initial delta, high theta

Final Index Level	P&L
4,800	\$ 2,600
4,700	\$ 2,100
4,600	\$ 1,600
4,500	\$ 1,100
4,400	\$ 600
4,300	\$ 100
4,200	\$ (400)
4,100	\$ (900)
4,000	\$ (1,400)
3,900	\$ (1,900)
3,800	\$ (1,400)
3,700	\$ (900)
3,600	\$ (400)
3,500	\$ 100
3,400	\$ 600
3,300	\$ 1,100
3,200	\$ 1,600
3,100	\$ 2,100
3,000	\$ 2,600



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Source: Author's calculation

Sample spread: Buy 10,800 MNQ Put + Sell 3,700 MES Put, @~Zero

S500 \ N100	9,550	9,800	10,050	10,300	10,550	10,800	11,050	11,300	11,550
4,800	\$ 2,500	\$ 2,000	\$ 1,500	\$ 1,000	\$ 500	\$ -	\$ -	\$ -	\$ -
4,700	\$ 2,500	\$ 2,000	\$ 1,500	\$ 1,000	\$ 500	\$ -	\$ -	\$ -	\$ -
4,600	\$ 2,500	\$ 2,000	\$ 1,500	\$ 1,000	\$ 500	\$ -	\$ -	\$ -	\$ -
4,500	\$ 2,500	\$ 2,000	\$ 1,500	\$ 1,000	\$ 500	\$ -	\$ -	\$ -	\$ -
4,400	\$ 2,500	\$ 2,000	\$ 1,500	\$ 1,000	\$ 500	\$ -	\$ -	\$ -	\$ -
4,300	\$ 2,500	\$ 2,000	\$ 1,500	\$ 1,000	\$ 500	\$ -	\$ -	\$ -	\$ -
4,200	\$ 2,500	\$ 2,000	\$ 1,500	\$ 1,000	\$ 500	\$ -	\$ -	\$ -	\$ -
4,100	\$ 2,500	\$ 2,000	\$ 1,500	\$ 1,000	\$ 500	\$ -	\$ -	\$ -	\$ -
4,000	\$ 2,500	\$ 2,000	\$ 1,500	\$ 1,000	\$ 500	\$ -	\$ -	\$ -	\$ -
3,900	\$ 2,500	\$ 2,000	\$ 1,500	\$ 1,000	\$ 500	\$ -	\$ -	\$ -	\$ -
3,800	\$ 2,500	\$ 2,000	\$ 1,500	\$ 1,000	\$ 500	\$ -	\$ -	\$ -	\$ -
3,700	\$ 2,500	\$ 2,000	\$ 1,500	\$ 1,000	\$ 500	\$ -	\$ -	\$ -	\$ -
3,600	\$ 2,000	\$ 1,500	\$ 1,000	\$ 500	\$ -	\$ (500)	\$ (500)	\$ (500)	\$ (500)
3,500	\$ 1,500	\$ 1,000	\$ 500	\$ -	\$ (500)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)
3,400	\$ 1,000	\$ 500	\$ -	\$ (500)	\$ (1,000)	\$ (1,500)	\$ (1,500)	\$ (1,500)	\$ (1,500)
3,300	\$ 500	\$ -	\$ (500)	\$ (1,000)	\$ (1,500)	\$ (2,000)	\$ (2,000)	\$ (2,000)	\$ (2,000)
3,200	\$ -	\$ (500)	\$ (1,000)	\$ (1,500)	\$ (2,000)	\$ (2,500)	\$ (2,500)	\$ (2,500)	\$ (2,500)
3,100	\$ (500)	\$ (1,000)	\$ (1,500)	\$ (2,000)	\$ (2,500)	\$ (3,000)	\$ (3,000)	\$ (3,000)	\$ (3,000)
3,000	\$ (1,000)	\$ (1,500)	\$ (2,000)	\$ (2,500)	\$ (3,000)	\$ (3,500)	\$ (3,500)	\$ (3,500)	\$ (3,500)

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Source: Author's calculation

Forming your Index Option Strategy

- Start by comparing your expected “probability distribution” for the index vs where options imply.
- Options opportunities are where you think moves are likely and the market doesn’t, or vice versa
- Outright puts can look expensive, because the market tends to have an aggregate demand for insurance against crashes.

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Questions?

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