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# EQDerivatives

## What is Dispersion Trading?

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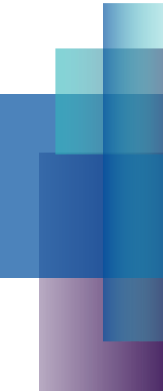
# Dispersion Trading

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head, research and consulting

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# Outline

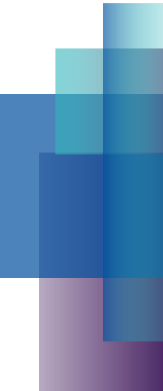
- Index Arbitrage
- What Is Dispersion Trading?
- Historical Dispersion Example
- Questions / Contact



## Index Arbitrage

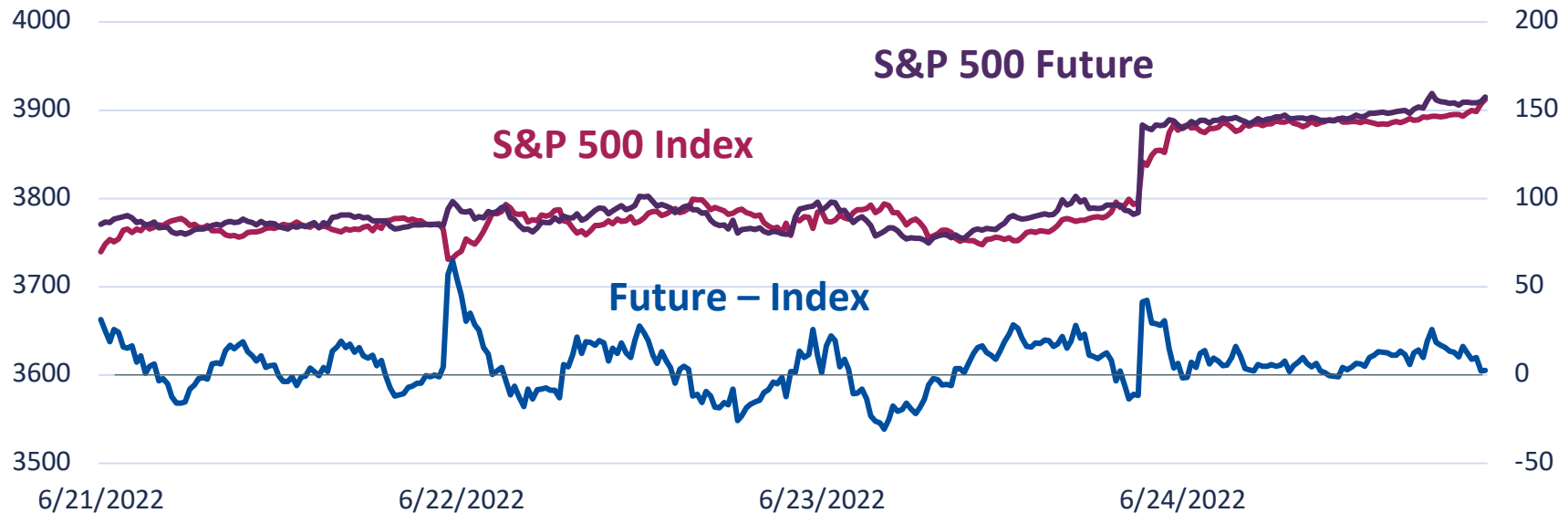
- The possibility of locking in an arbitrage profit when an index and the associated futures deviate
- Firms can sell one and purchase the other when they deviate from 'fair value'

$$\text{Index Future Fair Value} = \text{Index}_0 e^{(\text{risk free} - \text{dividend})_T}$$



# Index Arbitrage

## S&P 500 / S&P 500 Futures 6/21/22 - 6/24/22 (5 Min)



Data Sources: Bloomberg and EQDerivatives Calculations

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# Index Arbitrage

## Two Potential Trades

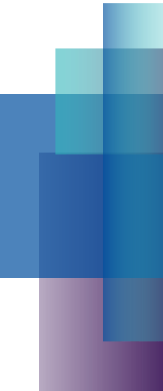
Depending On Future – Index Level

Buy S&P 500 Futures / Sell S&P 500 Index\*

Sell S&P 500 Futures / Buy S&P 500 Index\*

\*The index leg involves trading a basket of stocks or other method of gaining index exposure

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# Dispersion Trading

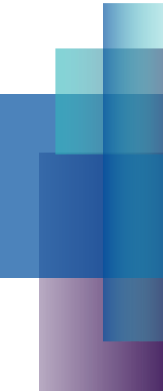
Index Arbitrage

Replicate an **index** using composite stocks

Dispersion Trading

Replicate an **index option** using options  
on component stocks

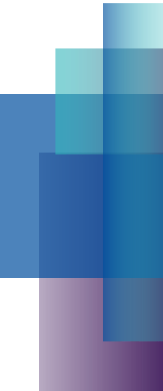
Options involve risk and are not suitable for all investors. Multiple leg strategies, including spreads, will incur multiple transaction costs.



# Dispersion Trading

- Goal is to profit from differences between individual stock and index option implied volatilities
- Any index or ETF that is heavily weighted toward just a few stocks may be a candidate for a dispersion trade

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# Dispersion Trading

## Nasdaq-100 (NDX) Example (Weighting 6/28/22)

Ticker	Company	Weighting
AAPL	Apple Inc.	12.47%
MSFT	Microsoft	10.75%
AMZN	Amazon	6.13%
TSLA	Tesla	4.05%
GOOG	Alphabet Class C	3.98%
GOOGL	Alphabet Class A	3.80%
NVDA	NVIDIA Corp	3.22%
META	Meta Platforms Inc.	3.17%
PEP	PepsiCo Inc	2.08%
COST	Costco Wholesale Corp	1.93%

*Data Sources: Bloomberg and EQDerivatives Calculations*

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# Dispersion Trading

## Energy Select Sector (XLE) Weighting 6/28/22

Ticker	Company	Weighting
XOM	Exxon Mobil Corporation	24.29%
CVX	Chevron Corporation	20.25%
OXY	Occidental Petroleum	4.29%
EOG	EOG Resources	4.29%
COP	ConocoPhillips	4.25%
PXD	Pioneer Natural Resources	4.14%
SLB	Schlumberger NV	4.08%
MRO	Marathon Petroleum	3.75%
VLO	Valero Energy Corporation	3.71%
PSX	Phillips 66	3.34%

*Data Sources: Bloomberg and EQDerivatives Calculations*

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## VOLQ vs. VIX by Month 2014 – May 2021

Month	VIX > VOLQ	VOLQ > VIX
Jan	36.42%	63.58%
Feb	51.63%	48.37%
Mar	51.43%	48.00%
Apr	31.33%	68.07%
May	35.71%	64.29%
Jun	48.00%	52.00%
Jul	28.86%	71.14%
Aug	29.87%	70.13%
Sep	36.36%	63.64%
Oct	22.15%	77.18%
Nov	41.91%	58.09%
Dec	39.46%	60.54%
All Months	37.85%	61.99%

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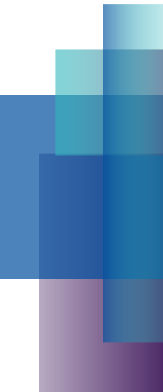
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# Dispersion Trading

February 19, 2021

- **NDX at 13580.78**
- **Weighted component IV at a historical premium relative to NDX IV**
- **Buy ATM NDX straddle / sell individual stock ATM straddles using 3/19 options**
- **Hold until evening (March 18, 2021) before expiration**

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# Dispersion Trading

Stock	Contracts	Strike	Credit / Cost	Exit	P/L	Tot P/L
AAPL	44	130	8.38	9.47	-1.10	-48.18
MSFT	20	240	12.80	9.28	3.52	70.40
AMZN	1	3250	201.75	222.00	-20.25	-20.25
GOOG	2	2100	111.55	63.78	47.77	95.54
GOOGL	2	2090	111.65	68.66	42.99	85.98
META	8	260	18.65	18.62	0.03	0.24
TSLA	2	780	97.73	126.84	-29.12	-58.23
NVDA	2	595	63.85	86.10	-22.25	-44.50
PYPL	3	290	24.93	51.59	-26.67	-80.00
ADBE	1	280	31.03	40.82	-9.79	-9.79
NDX	2	13575	685.50	785.86	100.36	200.72
					<b>Net</b>	<b>191.93</b>

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# Contact / Questions / Suggestions

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Questions?

Topics To Address In The Future?

