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Unboxing SPX Box Spreads: How to Borrow and Lend through Options Markets

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As with all investments, your capital is at risk



Use QR code to
read the white
paper on SPX
box spread

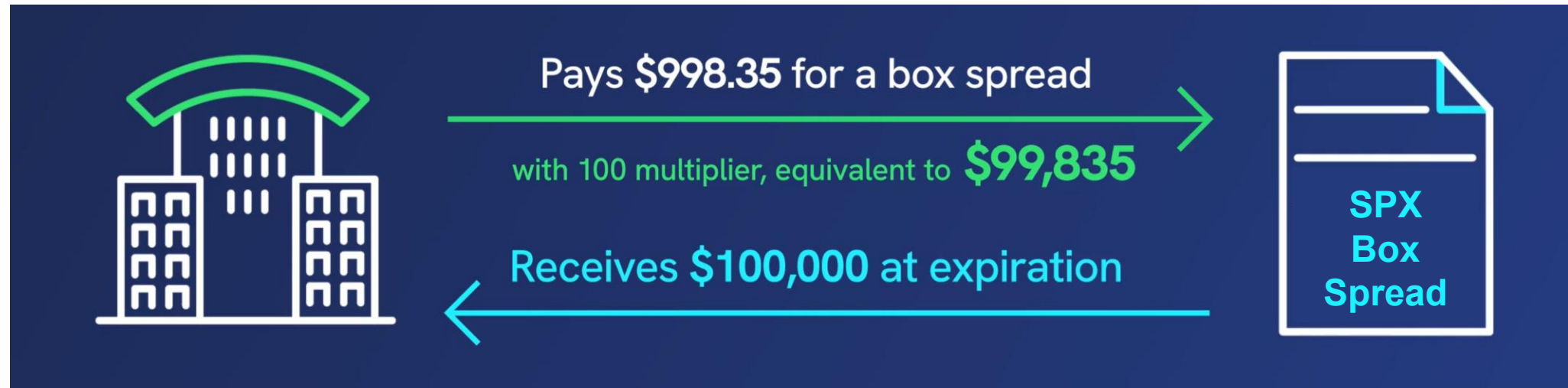


SPX[®] Box Spread Strategy

SPX Box Spread $\approx$ Zero-Coupon Bond

The Basis: Analysis of an SPX Box Spread Cash Flow Example

Example: Lending via Box Spread



$$\text{\$100,000} - \text{\$99,835} = \text{\$165} \rightarrow \text{Implied Interest of } 4.57\%$$

Long Box Spread – Lending Use Cases

Buy a Box Spread to synthetically lend at the SPX box-implied rate

- Convert idle cash into a structured position earning a defined yield — no market exposure.
- Long boxes match the transition horizon, historically earns 6–59 bps above T-Bills and 15–60 bps above SOFR with zero equity exposure.
- Replaces the default money market / T-bill holding with a better risk-free alternative.
- Dividends, coupons, and realized gains accumulate between scheduled distribution dates.
- Align box expiration to distribution schedule — converting the wait into a yield window.

At Expiration SPX = 8,000

At Initial Execution SPX = 7,100

Action	Price	Total Cash Flow
Buy call @ 6,000	\$1,404.50	(\$140,450)
Sell put @ 6,000	\$118.60	\$11,860
Sell call @ 7,000	\$610.10	\$61,010
Buy put @ 7,000	\$292.10	(\$29,210)
Net Cash Flow		(\$96,790)

At Expiration SPX = 5,500

Option	Action	Total Cash Flow
Long call @ 6,000	Exercised	\$8,000 index value - \$6,000 strike price = \$2,000 x 100 units = \$200,000
Short put @ 6,000	Expired	\$0
Short call @ 7,000	Exercised	\$7,000 strike price - \$8,000 index value = (\$1,000) x 100 units = (\$100,000)
Long put @ 7,000	Expired	\$0
Total Cash Flow		\$100,000
Net Profit: (\$96,790) + \$100,000 = \$3,210		
Option	Action	Total Cash Flow
Long call @ 6,000	Expired	\$0
Short put @ 6,000	Exercised	\$5,500 index value - \$6,000 strike price = (\$500) x 100 units = (\$50,000)
Short call @ 7,000	Expired	\$0
Long put @ 7,000	Exercised	\$7,000 strike price - \$5,500 index value = \$1,500 x 100 units = \$150,000
Total Cash Flow		\$100,000
Net Profit: (\$96,790) + \$100,000 = \$3,210		

Short Box Spread – Borrowing Use Cases

Sell a Box Spread to borrow at the SPX box-implied rate

Replace SBLs

Replaces security-based loans (SBLs)

Cuts typical 6–7%+ borrowing cost by 2–3%.

Always tax-deductible. No capital gains triggered.

Long-Term Financing

A 5-year short box spread (2026–2031) provides fixed-rate financing at ~4% vs. 6%+ mortgages.

Long-dated options lock in predictability and fixed cost.

Tax-deductible, uncapped.

Liquidity Without Selling

Access liquidity without triggering capital gains

- Bridge Loan / Capital Call
- Tax Liability Funding
- Real Estate Down Payment / Second Home
- HELOC Replacement / Business Loan
- Working Capital / Lifestyle Purchases

Keep your portfolio invested — borrow instead of sell.

At Expiration SPX = 8,000

At Initial Execution SPX = 7,100

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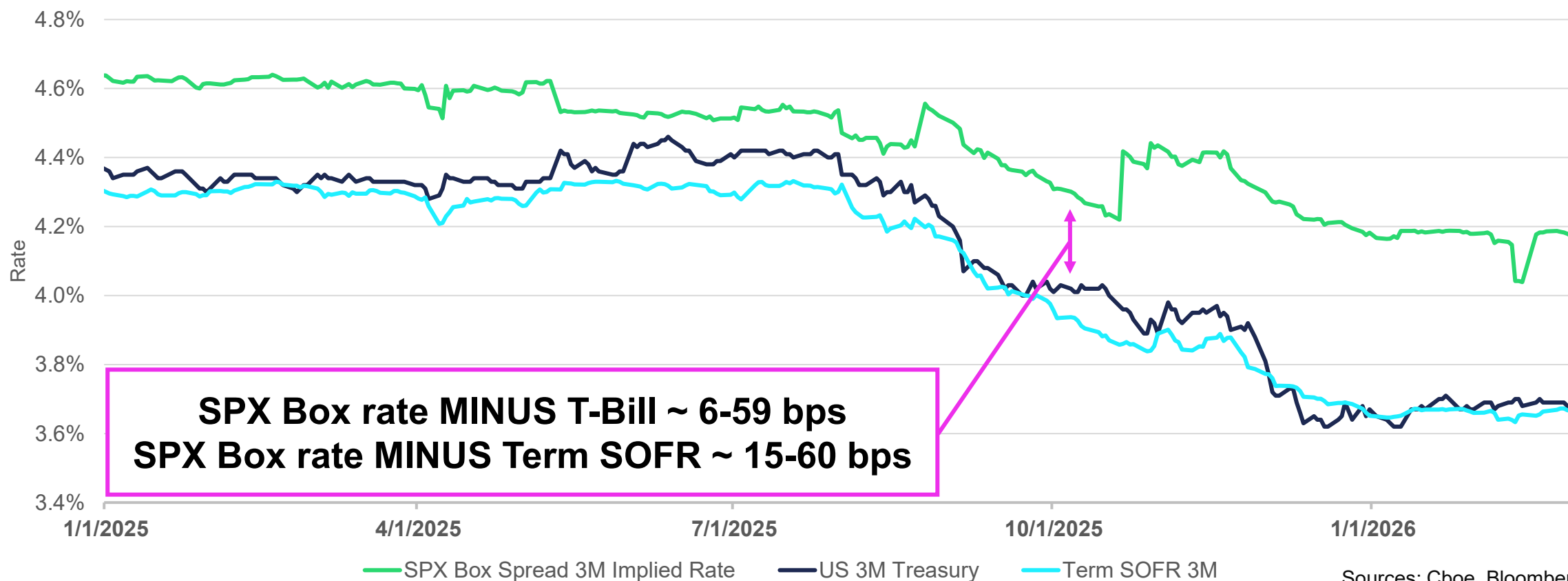
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Total Cash Flow		(\$100,000)
Net Profit: \$96,790 - \$100,000 = (\$3,210)		

SPX Box Spread Implied Yield vs T-Bill and SOFR

As of 27th February 2026

➤ SPX Box Rate 3M	4.17%	<i>spread</i>
➤ T-Bill 3M	3.67%	50bps
➤ SOFR 3M	3.67%	50bps

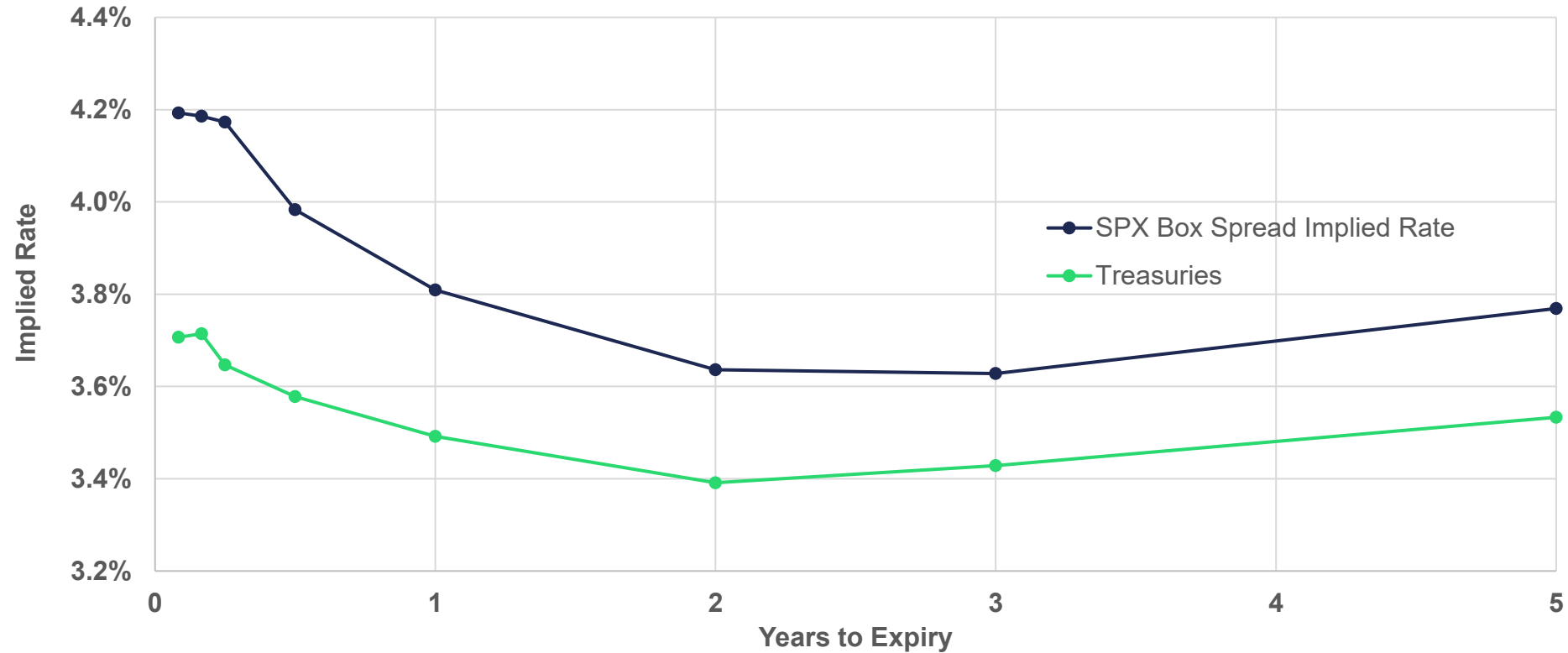
SPX Box Spread 3m Implied rate | TERM SOFR 3M | US 3M Treasury



Sources: Cboe, Bloomberg

Trade up to 15Y expiry

SPX up to 5 years, SPX FLEX up to 15 years



One Day Market Statistic

Example of 2/27/2026

Statistics	Outcry	Electronic
Total Loan Notional	\$2.7 B	\$61 M
Median Loan Notional	\$30 M	\$100 k
# Transaction	37	198

Source: Cboe

SPX Box Market is Liquid and Standardized

Average Daily Loan Notional of **\$1.4 billion**

Large growth

- 53% from 2023 to 2024
- 2.5x from 2022 to 2024

Standardized

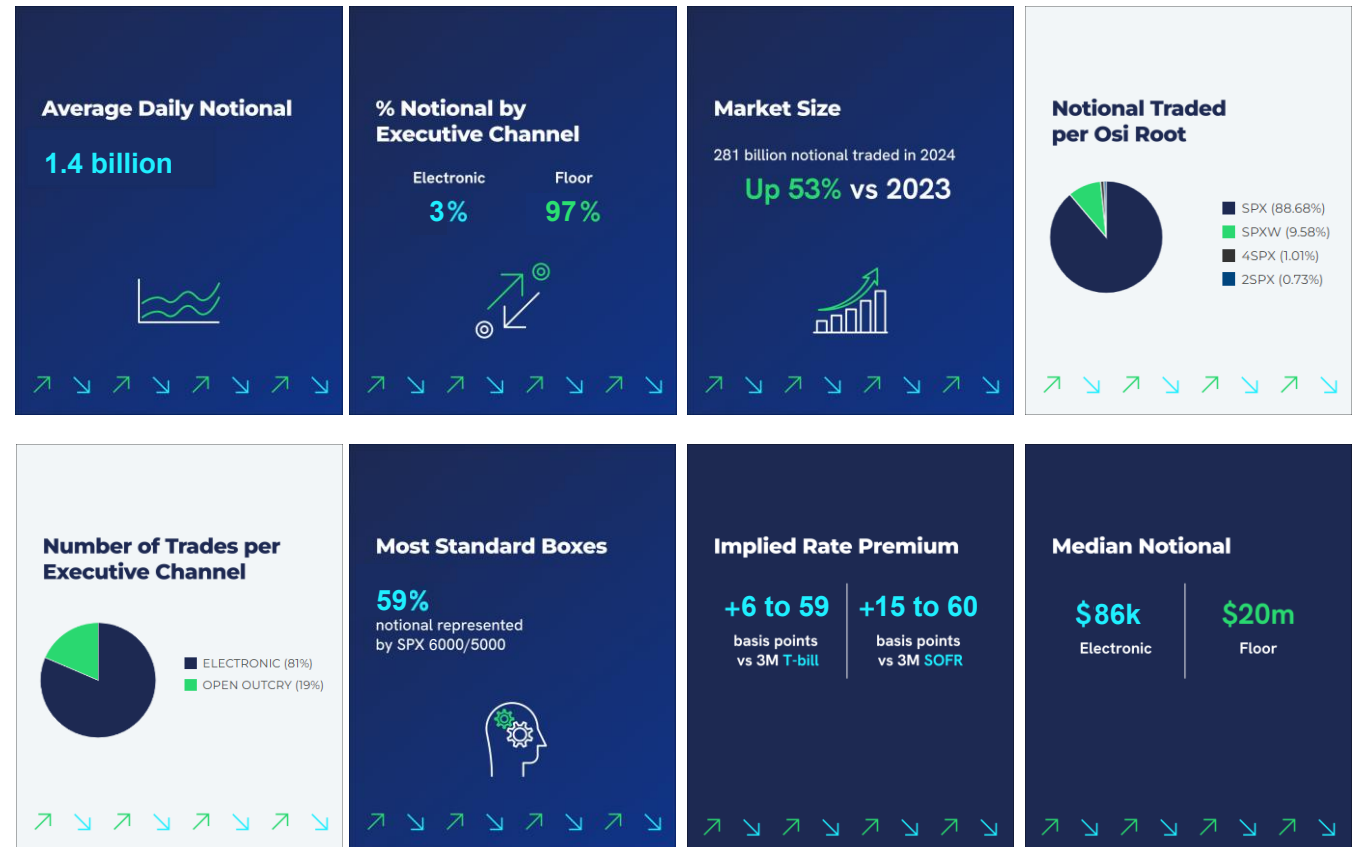
- 88% SPX 3rd Friday
- 89% of Notional in 1000-width box

Two active markets

- Outcry: 97% of Notional traded
- Electronic: 81% of trades

Market Participants

- # Makers: 44 # Firms: 43
- # Customer groups: 44



Market Liquidity by Expiry

Most SPX Boxes are traded within 6 Months

Expiry Bucket (months)	% of Notional Traded	Cumulative %
< 1	23.8%	23.8%
1 to 3	37.1%	60.9%
3 to 6	18.7%	79.6%
6 to 12	12.1%	91.7%
12 to 24	4.9%	96.6%
24 to 36	1.4%	98.0%
36 to 48	0.7%	98.7%
48 to 60	0.9%	99.6%
60+	0.4%	100%

Table: Distribution of notional traded by expiry bucket, for SPX Box Spreads using standard SPX options. Source: Cboe

How to Construct an SPX Box Spread

Standard Option Strategy for Lending and Borrowing

Lend = Buy SPX Box Spread

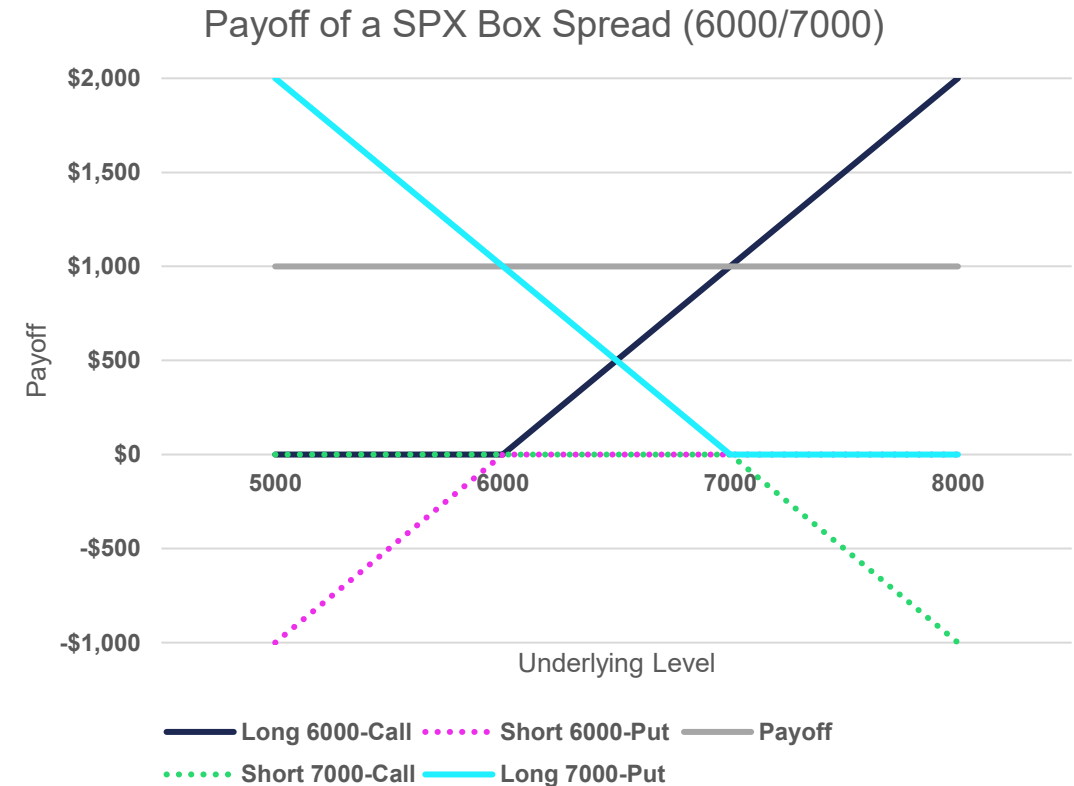


4 options with a same expiry and 2 different strike prices

Important Risks to Consider:

- If non-European Style
- If not traded as a package (4 leg complex order)
- If not cash settlement

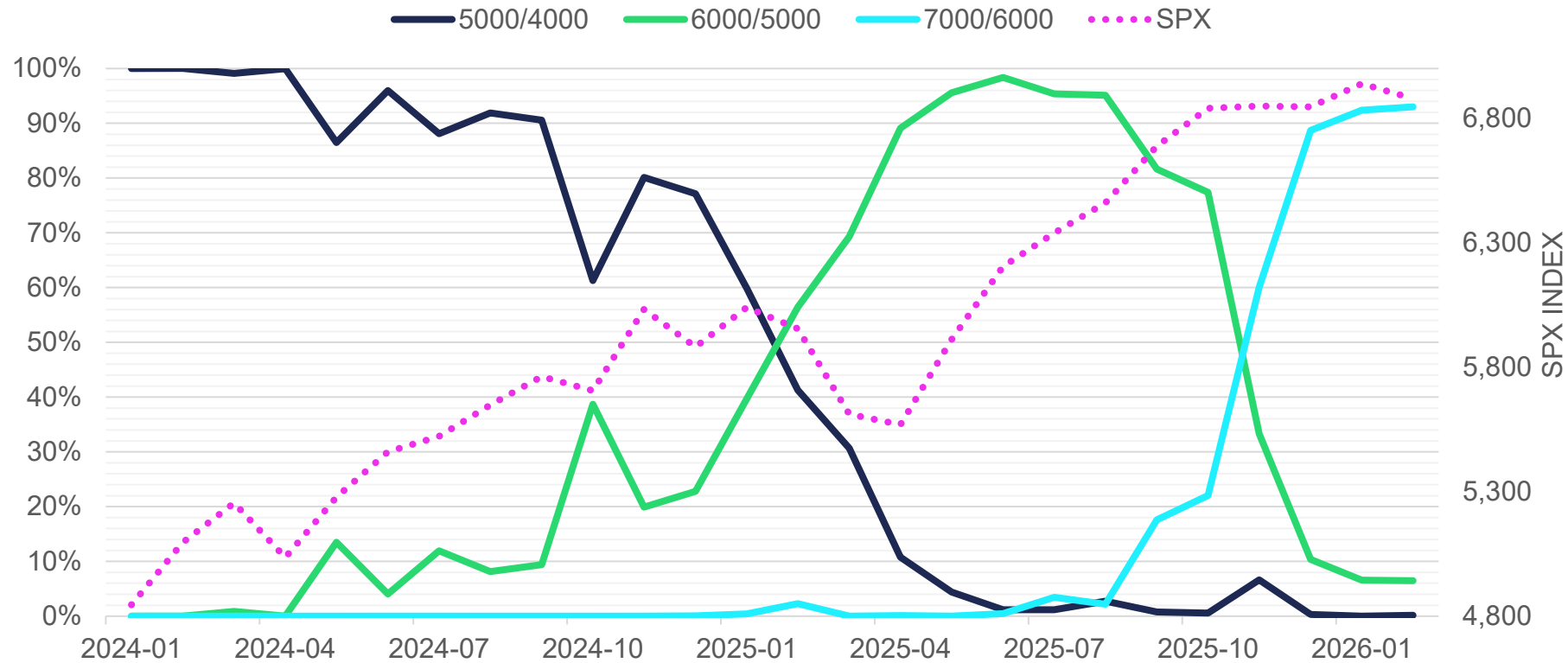
Payoff: A fixed payoff at expiration similar to a **zero-coupon bond**



Evolution of Strike Combination

Standardization of Strikes Allows Open Interest Concentration / Netting

Proportion of Loan Notional Traded by Strike Combination



Source: Cboe

How to Implied Rate From Trade Data

Example From the White Paper

- ▶ Box Spread implied yield formula

$$r = -\frac{1}{T} \ln \left(\frac{\text{Box price at execution}}{\text{Difference in strike prices}} \right)$$

- ▶ Apply the formula to the example, we get:

$$r = -\frac{1}{13/360} \ln \left(\frac{998.35}{1,000} \right) \approx 4.573\%$$

Note: we use 360 day-count convention.

Long Box Spread (Lending)			
Trading Date		07/08/2025	(Tuesday)
Expiration Date		07/18/2025	(Friday)
Days to Settlement*		10 + 3 (weekend) =	13
Box Price		\$998.35	
Implied Rate		4.573%	
Call	Premium	\$-1,592.40	(Long)
	Strike	6,000	
Put	Premium	\$0.15	(Short)
	Strike	6,000	
Call	Premium	\$594.50	(Short)
	Strike	7,000	
Put	Premium	\$-0.60	(Long)
	Strike	7,000	

Review of Benefits of SPX Box Spread

SPX is the Right Contract for Box Spread Trading

European style settlement



No early exercise

Predictable settlement outcome



Certainty of settlement

Centralized clearing by the OCC



Eliminates counterparty risk

Standardized Exchange traded contract



Liquidity, transparency

Developing the Nascent SPX Box Electronic market

Standardized 100k Loan Size

Growth Statistics (2023 vs. 2025)

- **81%** of trades are Electronics
- **+55%** loan notional traded
- **+38%** number of participants

In December 2025, on the Electronic Market, the Average Daily Loan Notional was **up 82%** and the Average Daily Number of Trades **up 88%** compared to January 2025.

Cboe “Quoted Spread Book” Initiative

1. ‘Designating’ 10 Box instruments (standard SPX)
 - first 4 serial,
 - first 3 quarterly, and
 - first 3 December.
2. **Allow market makers to rest** on designated instruments
3. More information on the Quoted Spread Book page:
<http://cboe.com/qsb>

Average Daily Loan Notional

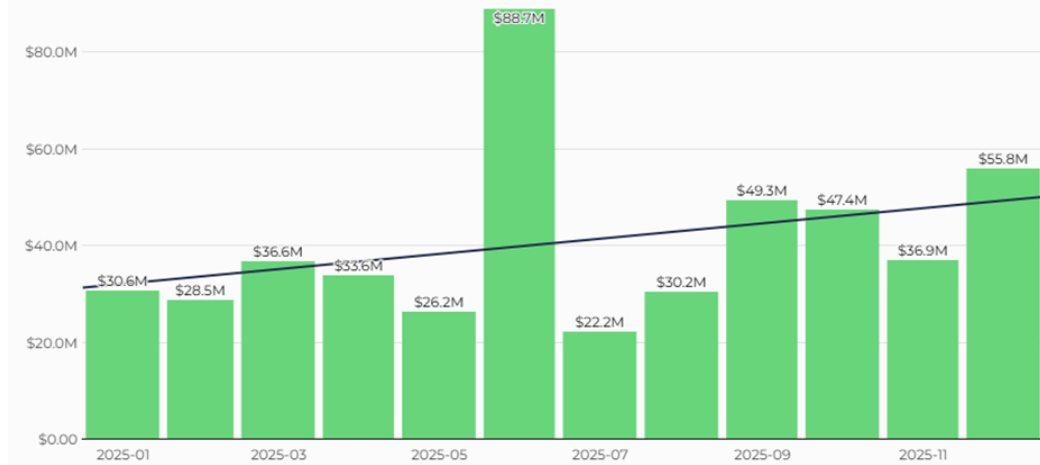


Figure 1: Box Spread – Electronic Market Loan Notional Growth in 2025

Average Daily Number of Trades

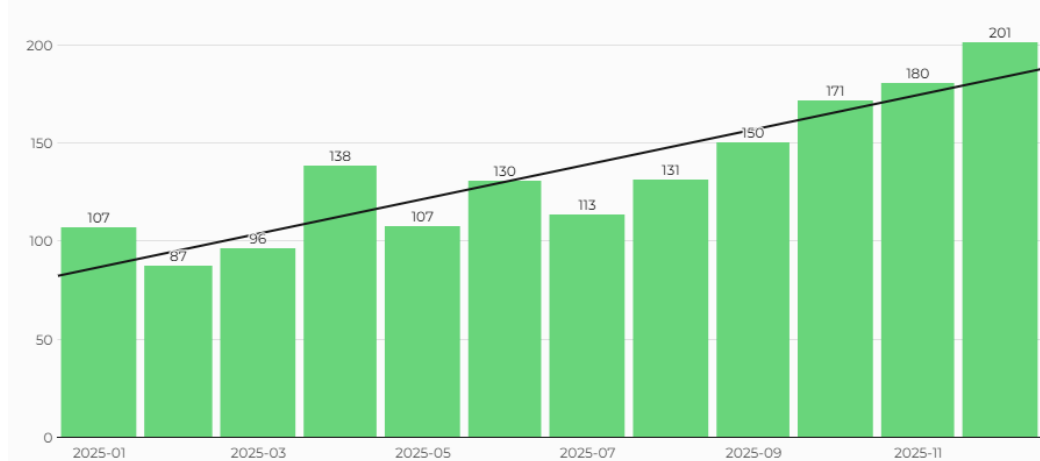


Figure 2: Box Spread – Electronic Market Trade Growth in 2025

Growing the Nascent Electronic Market

How closely do completed trades align with the Synthetic Best Bid Offer Mid?



Box plot of executed price distance to the SBBO mid (in percentage) for 2025. The data includes all SPX Box Spreads with a strike width greater than or equal to 1,000.

How to see SPX Box Spread COB in Action

Currently Available via Silexx and Cboe.com

For real-time streaming data, customers can

- 1. Consume Complex PITCH and TOP data feeds.
- 2. Log on to Silexx Trading Platform
- 3. Go to Cboe.com's [book viewer](#)

Silexx Complex Order Book – Tab Box Spread (filtering SPX + 5000/6000)

SSPX									
S&P 500 INDEX LAST: 6,656.50 BID: .00 ASK: .00									
Strategy (All) ALL 51,548 BOX SPREAD 28,828 BOX SWAP 0 BUTTERFLY 3,009 CALENDAR 433 COMBO 4 CONDOR 777 COVERED 0 CUSTOM 10,442 DIAGONAL 0 SHOW ONLY QUOTED STRATEGIES									
DESCRIPTION	STRATEGY	SYMBOL	EXPIRATION	DAYS TO EXP	STRIKE	COMPLEX BID SIZE	COMPLEX BID	COMPLEX ASK	COMPLEX ASK SIZE
BOX SPREAD SPX Dec-19-25 5000/6000	Box Spread	SPX-T1P8d3	12/19/2025	31	5000/6000	1	995.70 DR	995.80 DR	2
BOX SPREAD SPX Jan-16-26 5000/6000	Box Spread	SPX-T1P8kW	1/16/2026	59	5000/6000			993.40 DR	1
BOX SPREAD SPX Feb-20-26 5000/6000	Box Spread	SPX-T1P8kX	2/20/2026	94	5000/6000			995.00 DR	1
BOX SPREAD SPX Apr-17-26 5000/6000	Box Spread	SPX-T1P8kY	4/17/2026	150	5000/6000			982.70 DR	1
BOX SPREAD SPX Aug-21-26 5000/6000	Box Spread	SPX-T1P83u	8/21/2026	276	5000/6000	2	968.00 DR	969.65 DR	1
BOX SPREAD SPX Sep-18-26 5000/6000	Box Spread	SPX-T1P8CZ	9/18/2026	304	5000/6000	2	965.50 DR	967.50 DR	1
BOX SPREAD SPX Nov-20-26 5000/6000	Box Spread	SPX-T1PAxH	11/20/2026	367	5000/6000	10	958.05 DR		
BOX SPREAD SPX Dec-18-26 5000/6000	Box Spread	SPX-T1P87E	12/18/2026	395	5000/6000	2	956.70 DR	958.20 DR	11
BOX SPREAD SPX Jun-17-27 5000/6000	Box Spread	SPX-T1P8g1	6/17/2027	576	5000/6000			950.00 DR	1
BOX SPREAD SPX Dec-17-27 5000/6000	Box Spread	SPX-T1P8CQ	12/17/2027	759	5000/6000	10	922.00 DR	935.00 DR	1
BOX SPREAD SPX Dec-15-28 5000/6000	Box Spread	SPX-T1DTuT	12/15/2028	1123	5000/6000	3	865.00 DR		
BOX SPREAD SPX Dec-21-29 5000/6000	Box Spread	SPX-T1DBzh	12/21/2029	1494	5000/6000	2	851.50 DR	888.00 DR	4
BOX SPREAD SPX Dec-20-30 5000/6000	Box Spread	SPX-T1P9HN	12/20/2030	1858	5000/6000	15	819.50 DR	821.50 DR	14

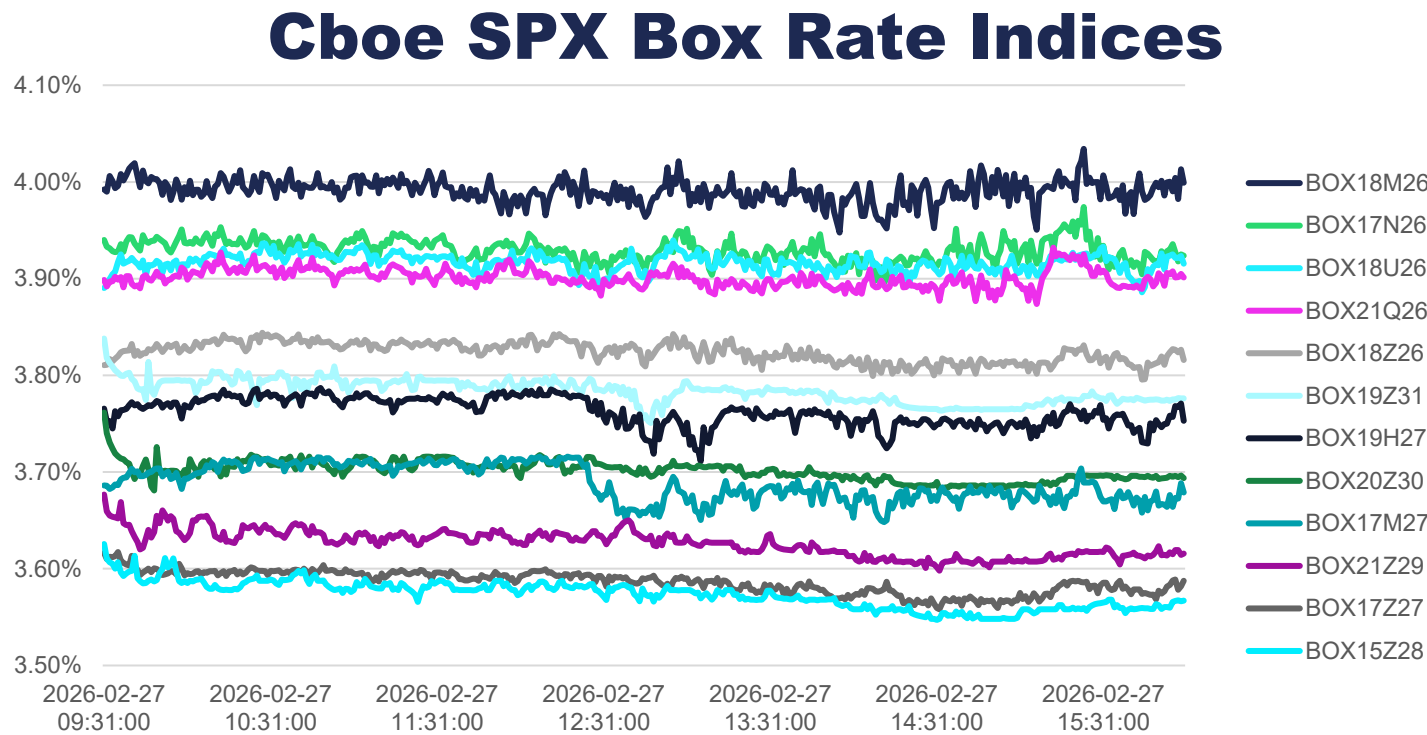
Cboe.com's book viewer

Quoted Spread Book				
2025-11-18, T1P8d3, QSB, BOX_SPREAD				
TOP OF BOOK		LAST 10 TRADES		
SIZE	PRICE	PRICE	VOLUME	TIME
		995.60	1	11:17:31.927016436
ASKS				
	2	995.80		
BIDS	1	995.70		
	9	950.00		
	10	900.00		

Cboe SPX Box Spread Rates Indices

Available on Cboe Global Indices and soon available with other Data Vendors

Box Symbol	Expiration
BOX18M26	2026-06-18
BOX17N26	2026-07-17
BOX21Q26	2026-08-21
BOX18U26	2026-09-18
BOX18Z26	2026-12-18
BOX19H27	2027-03-19
BOX17M27	2027-06-17
BOX17Z27	2027-12-17
BOX15Z28	2028-12-15
BOX21Z29	2029-12-21
BOX20Z30	2030-12-20
BOX19Z31	2031-12-19



Month	January	February	March	April	May	June	July	August	September	October	November	December
Character	F	G	H	J	K	M	N	Q	U	V	X	Z

SPX Box Swap Market is Liquid and Standardized

Average Daily Loan Notional of \$730 million

Large growth

- 101% from 2024 to 2025
- 4.5x from 2023 to 2025

Standardized

- 79% of Notional in 1000-width box
- Match strikes combination of SPX Box Spread

An Outcry market

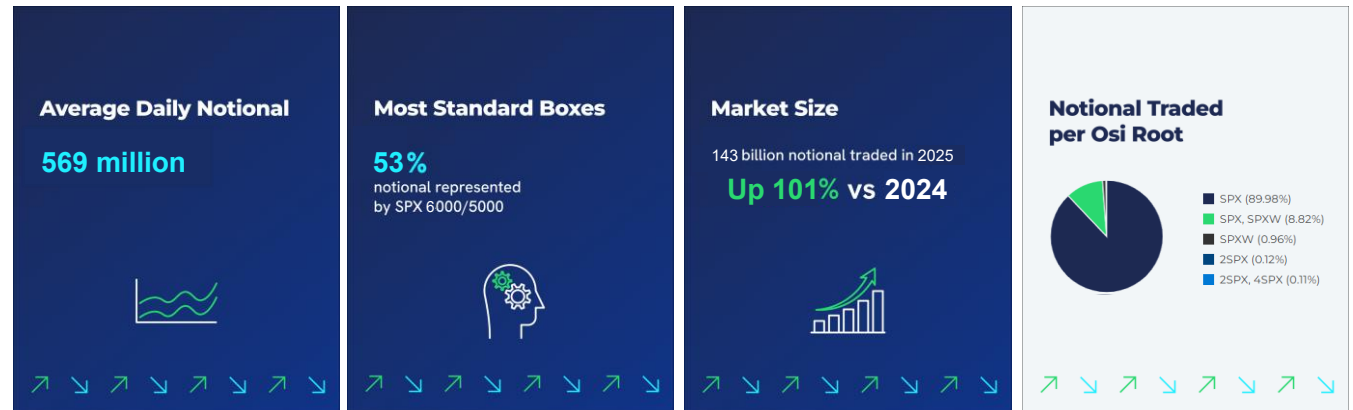
- Outcry: 100% of Notional traded

Market Participants

- # Makers: 27 # Firms: 28
- # Customer groups: 30

SPX Box Swap is the roll market for SPX Box Spread

- Buy box swap = sell long expiry, buy short expiry (of box spreads)
- 42% market is traded less than 10-days to expiry



Source: Cboe

Margin Requirements

Margin 101

Long Box Spread in a Reg. T Margin Account

- Margin requirement of 100% of the debit (full cash payment)

Short Box Spread in a Reg. T Margin Account

- Margin requirement of 100% of the box value at expiry (**proceeds may be applied**)
- The credit generated cannot be used for trading unless marginable securities with collateral value are available to meet the margin requirements
- If collateral is used, there is a risk of a margin call if the value of the collateral declines

\$998.35 Box Spread	Margin Requirement	Available
Long Box Spread	\$99,835 (100% of debit)*	\$0
Short Box Spread	\$100,000 (100% of expiry value)*	\$0

Figures shown are examples based on regulatory minimum margin requirements. A clearing broker may have higher requirements. Contact a clearing broker for full details. Also, confirm regulatory minimum margin requirements with FINRA, the examining authority for all U.S. clearing brokers.

Margin Requirements

Good Practices When It Comes To Short Box Spreads

- To utilize short box spread sale proceeds, deposit marginable stocks worth not less than twice the short box spread margin requirement (50% of the value of the marginable stocks can be used to meet the box spread initial regulatory minimum margin requirement).
- To mitigate margin call risk, deposit more collateral than necessary. See below an example with Margin Account Equity of 70% market value.

Examples after proceeds of a 1000-width box withdrawn

	Collateral Market Value	Cash Balance	Margin Requirement	Margin Account Equity
Minimum Initial Margin - Reg. T margin account	\$200,000	\$0	\$100,000*	\$100,000 (50% of market value)
Example of Initial Margin to Mitigate Margin Call Risk	\$333,334	\$0	\$100,000	\$233,334 (70% of market value)

*Figures shown are examples based on initial minimum regulatory margin requirements. A clearing broker may have higher requirements. Contact a clearing broker for full details. Also, confirm initial minimum regulatory margin requirements with FINRA, the examining authority for all U.S. clearing brokers. While marginable stocks have a loan value of 50%, Treasury bills have a value greater than 90% for most brokers.

SPX Box Spread Monthly Report

SPX Box Spread - Monthly Report March 2026



Box Spread Yield

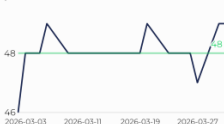
Spread over SOFR in bps

In green is the median spread over the period.

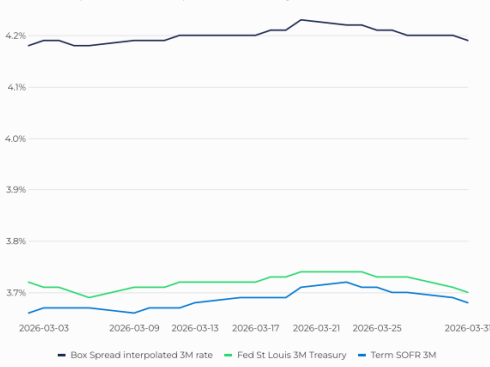


Spread over Treasury in bps

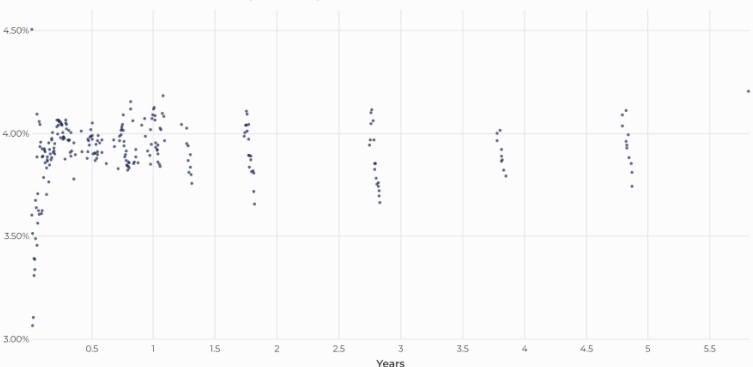
In green is the median spread over the period.



Yield Comparison: Box Spread, Treasury Yield and Term SOFR



Term Structure of Executed Box Spread Implied Rates



Market Statistics

Average Daily Loan Notional

\$1.66B

21.7% Mar vs Feb, 2026



Notional Traded per OSI Root



Notional per Execution Channel



Trades per Execution Channel



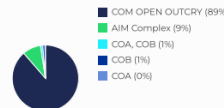
Notional Distribution by Expiry Bucket

Expiry Bucket	% of Notional Traded	Cumulative %
0-1 months	22.54%	22.54%
1-3 months	28.11%	50.66%
3-6 months	18.88%	69.53%
6-12 months	20.67%	90.21%
12-24 months	5.55%	95.76%
24-36 months	3.03%	98.80%
36-48 months	0.75%	99.54%
48-60 months	0.36%	99.91%
60+ months	0.09%	100.00%

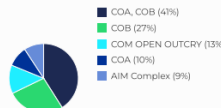
Loan Notional and Transactions by Execution

	Execution Channel	
	ELECTRONIC	OPEN OUTCRY
Total Loan Notional	\$4.15B	\$32.36B
Median Loan Notional	\$100k	\$25M
# Transaction	4,305	664

Notional per Channel



Trades per Channel



9 rows - 3 columns

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