

2026 SFBTA

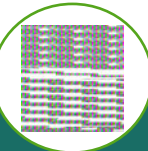
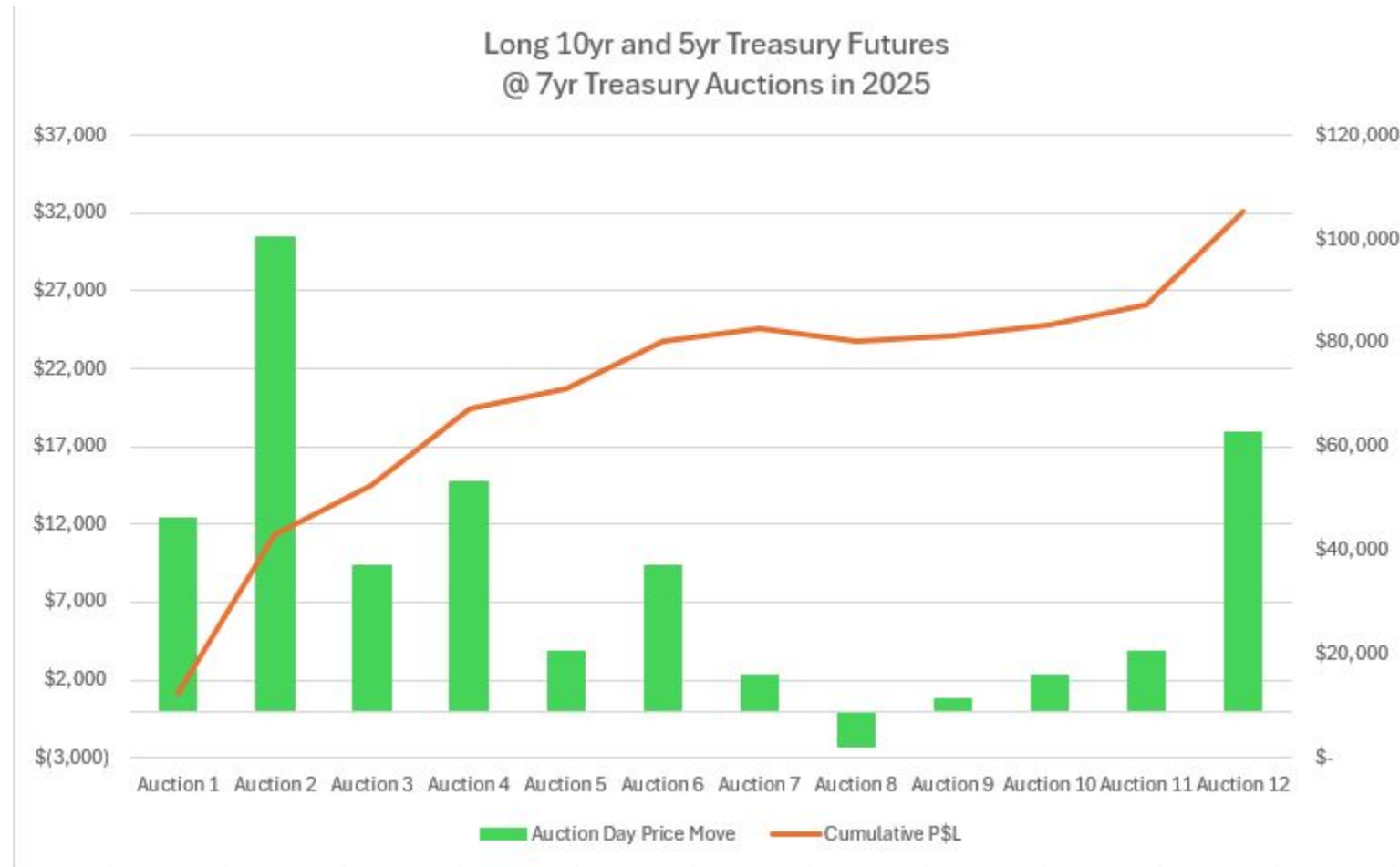
The Fixed Income Group at RJ O'Brien

John Coleman, SVP Managing
Director



Fixed Income Group A Division of RJ O'Brien

Buy Low, Sell High : FV + TY on Auction Days



Liquidity vs. Credit: Why Futures are the Universally Accessible Derivative Market

LIQUIDITY

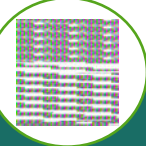
Exchange Cleared

- “Credit” in futures is neutralized by Initial Margin (same for all) and reset by 2-way, next biz day Variation Margin
- Abt 5 days to open an account

CREDIT

OTC Counter-Party

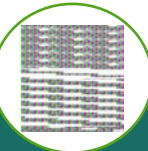
- ISDAs and significant credit evaluation. Still subject to threshold margin calls for variation— often NOT 2-way.
- Account opening is measured in months or quarters



Market Extension: It's not just 10s and Bonds Anymore!

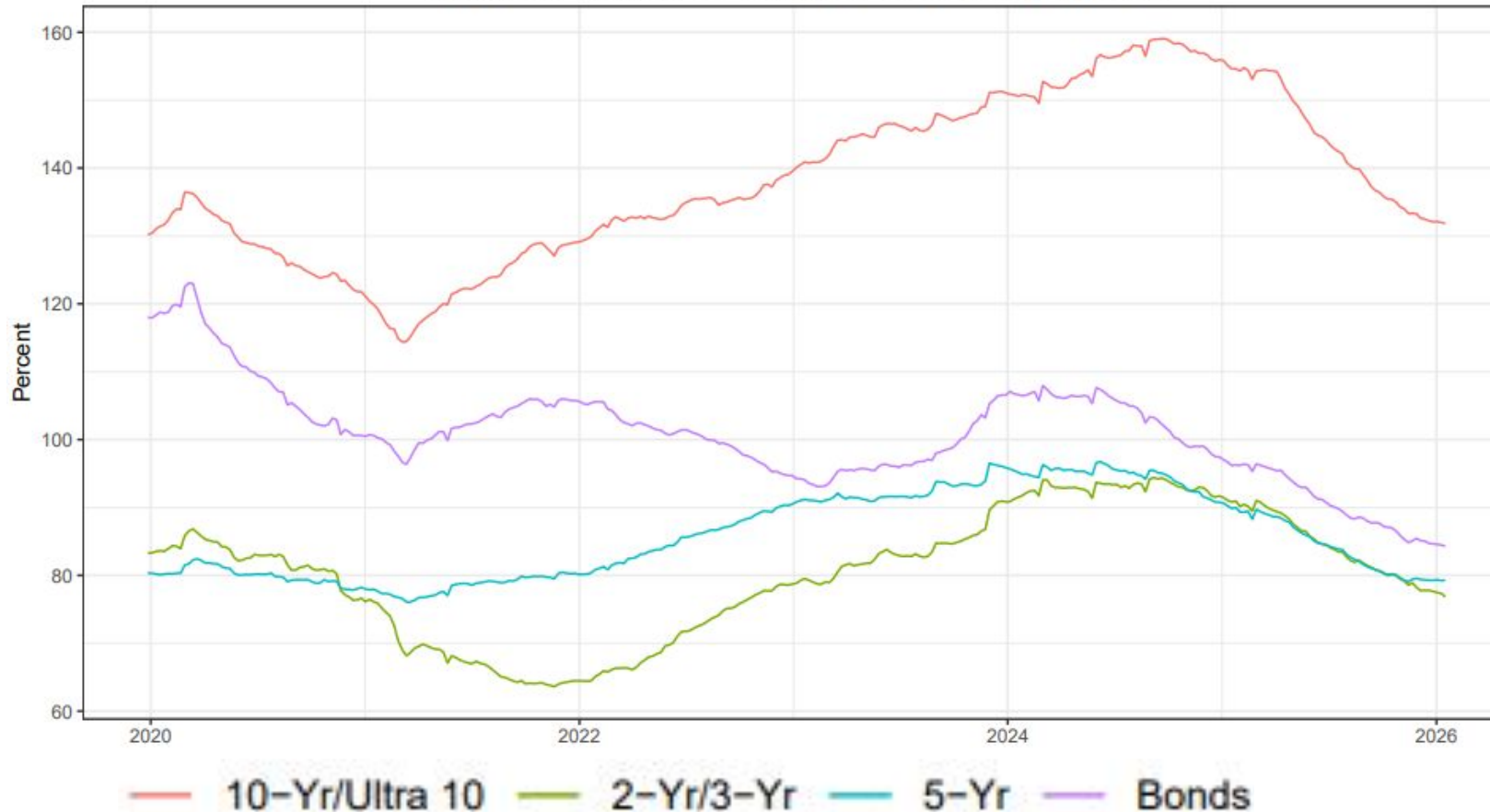
			# of Contracts Open
1 month of Fed Funds	➡	2 years	2.20mm OI
1 month of SOFR futures	➡	1 year+	1.53mm OI
3 month of SOFR futures	➡	3 months - 7 years	12.98mm OI
Treasury	➡	2 year, 3 year, 5 year	11.33mm OI
ERIS	➡	1 - 7 years	551K OI

FUTURES & OPTIONS UNIVERSAL CROSS-MARGINING!



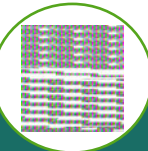
Ratio of UST Futures trade volume to cash UST trade volume (notional not CF adjusted)

Cash Market Penetration Trailing 52-Week Average by Tenor



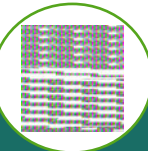
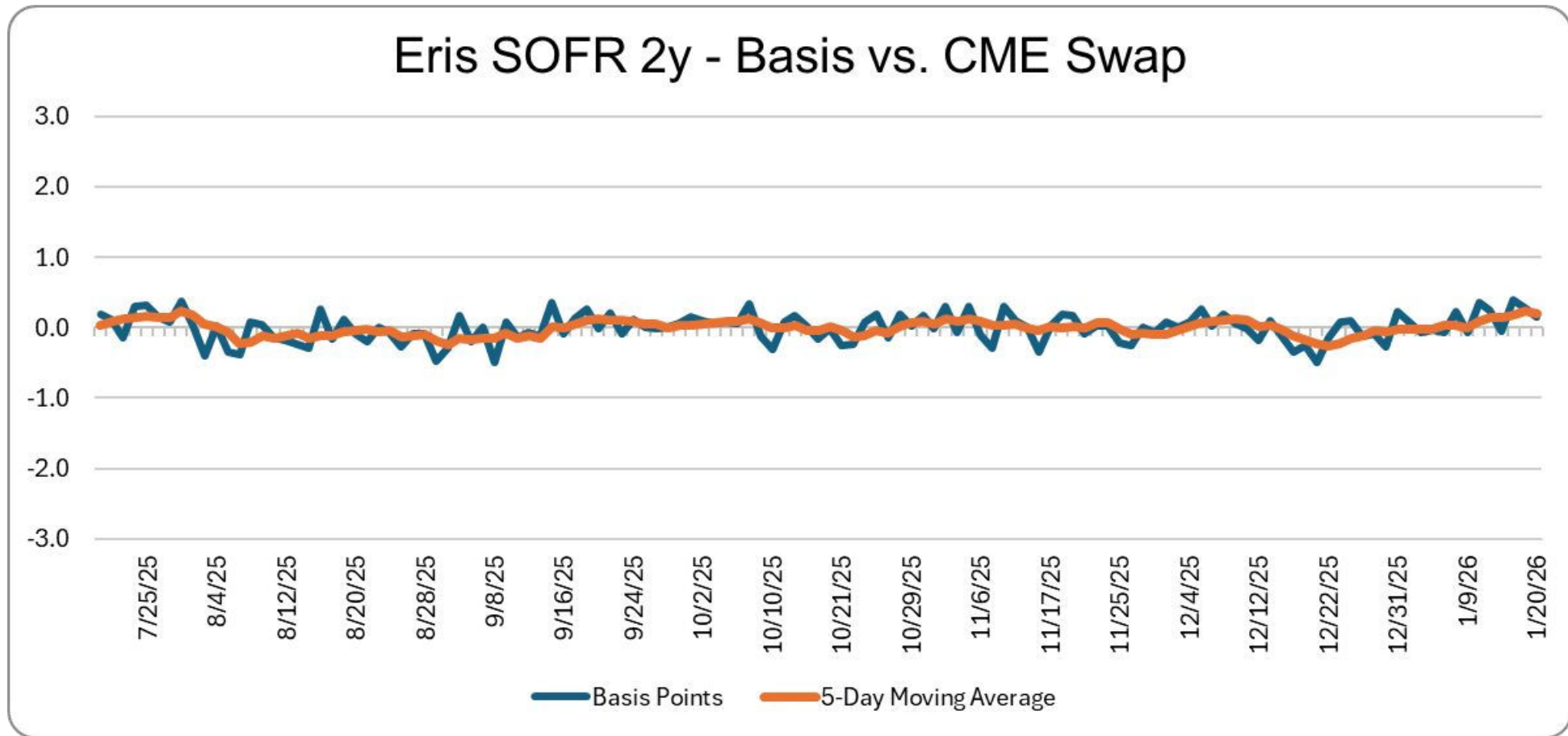
- Record highs seen in 2024
- Despite falling ratio in 2025, futures volume & OI have grown substantially over 2025
- Trade data source: TRACE
- Cash trades from UST Auctions excluded from data set, but resulting spikes in secondary market trading around auctions are included

Tenor	Peak Date	Peak 52-Wk MA	Last Date	Last 52-Wk MA
2-Yr/3-Yr	2024-09-06	94.4	2026-01-16	76.8
5-Yr	2024-06-07	96.7	2026-01-16	79.3
10-Yr/Ultra 10	2024-09-20	159.0	2026-01-16	131.9
Bonds	2020-03-06	123.1	2026-01-16	84.3
Aggregate	2024-06-07	114.2	2026-01-16	93.3



Best Execution: OTC 2yr Swap vs ERIS 2yr Swap Future

ERIS SOFR Futures vs. OTC 2yr SWAP Source: CME



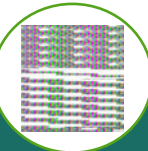
SWAP Future SOFR Margin up to 65% lower than Cleared Interest Rate Swaps

					Initial Margin for \$100 million position (1,000 futures contracts)			
Tenor	Eris Ticker	Swap Start Date	Unadjusted Swap End Date	Coupon (%)	Eris SOFR	Cleared Swap (Pay Fixed)	Cleared Swap (Receive Fixed)	Eris Savings
1-year	YIAH26	2026-03-18	2027-03-18	3.50	\$300,000	\$863,132	\$787,856	62-65%
2-year	YITH26	2026-03-18	2028-03-18	3.50	\$575,000	\$1,547,417	\$1,564,606	63%
3-year	YICH26	2026-03-18	2029-03-18	3.50	\$750,000	\$1,962,987	\$2,033,103	62-63%
4-year	YIDH26	2026-03-18	2030-03-18	3.50	\$925,000	\$2,321,576	\$2,490,696	60-63%
5-year	YIWH26	2026-03-18	2031-03-18	3.50	\$1,050,000	\$2,699,164	\$2,917,287	61-64%
7-year	YIBH26	2026-03-18	2033-03-18	3.75	\$1,350,000	\$3,513,810	\$3,789,276	62-64%
10-year	YIYH26	2026-03-18	2036-03-18	4.00	\$1,700,000	\$4,677,821	\$4,848,507	64-65%
15-year	YILH26	2026-03-18	2041-03-18	4.00	\$2,250,000	\$5,938,031	\$6,268,229	62-64%
30-year	YIEH26	2026-03-18	2056-03-18	4.00	\$3,400,000	\$9,169,266	\$8,139,439	58-63%

Last updated Jan 14, 2026

*Eris data refers to Swap Start Date as "Effective Date" and Unadjusted Swap End Date as "Cash Flow Alignment Date."

Disclaimer: CME Clearing establishes margin levels for Eris SOFR Swap Futures and cleared interest rate swaps, and they are subject to change without notice. CME Clearing offers the [CME Core interactive margin calculator](#).



ICS (Simple to move treas futs to swap futs)



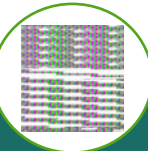
5yr Swap Spreads (Source: Bloomberg)

NOTE: Tighter execution on ICS Spread Market at CMED vs individual legs

Enter Contracts		*Buying Sprd = buy ERIS, sell TSY
ERIS	YIWH26 Comdty	
TSY	FVH6 Comdty	

Implied Spread Price by Individ legs				
	Bid Sprd px	Ask Sprd Px	Sprd Width	
Decimal	-0.0243750	0.0134375	\$37.8125	Implied

Actual ICS Spread Market on CME Direct				
	Bid Sprd px	Ask Sprd Px	Sprd Width	
YIWFVH6	-0.015	0.005	\$20.00	ICS Sprd mkt
				Tighter by \$17.8125



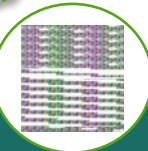
Two Relatively New Resi Mort Futures: Secondary (TBA) and Primary (Rate Lock)

TBA Futures

- Margin mitigation
- Opportunity to provide liquidity– outright and block
- Delivery Into TBA at 72hr

RL Futures (ICE and CME): Good proxy for Premium TBA without squeeze risk

- Another basis to exploit
- Better product for portfolio, rel val or risk manager than trader
- Cash Settled on TBA SIFMA dates
- FIXED DV01 !
- Option-convenient



TBA Futs: Specs Identical to OTC TBA

Coupons from
2.0-7.0
increments
every half
coupon

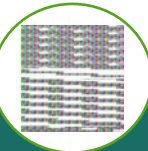
Initial margin
requirements
are 0.925% -
2.1% of face
for production
coupons
*(In line with FICC
requirements for
primaries)*

Up to 75%
gross initial
margin offset
vs other CME
rate futures
*(UST futures, primary
rate mortgage futures,
& Eris Swap futures)*

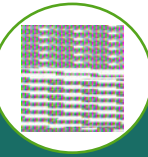
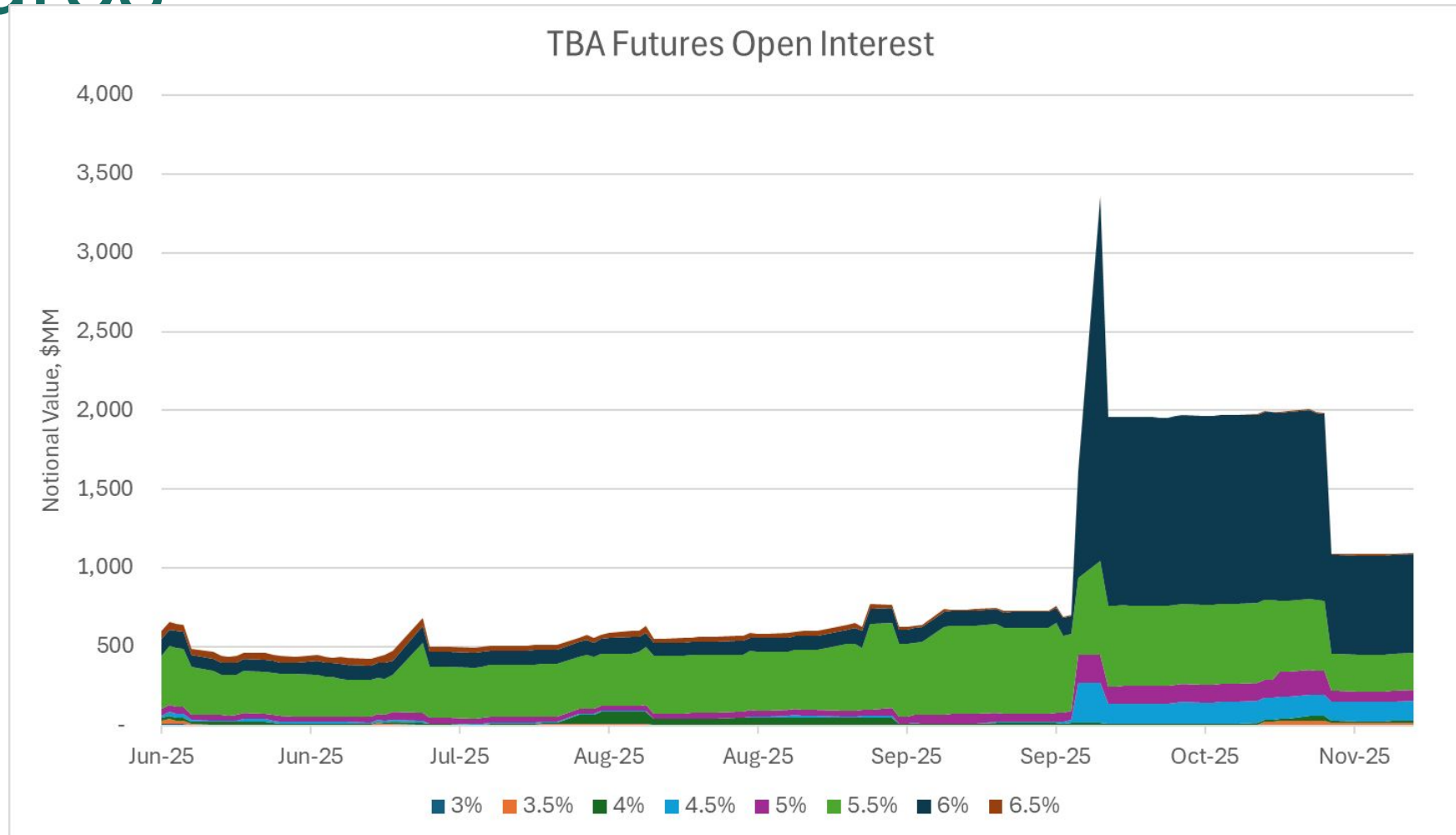
Both primary
and non-bank
market-makers

**No MSFTA
required to
trade**

If you're currently FICC margined on your TBA positions, TBA Futures COULD BE A MAJOR HELP

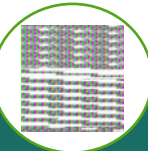


Open Interest Is Growing For TBA Futures



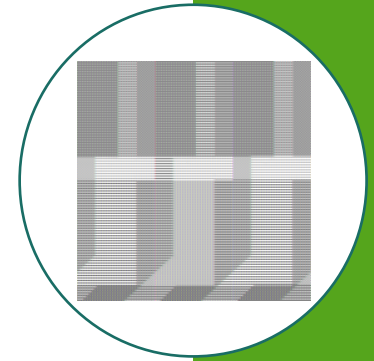
CME and CBOE Credit FUTS (Duration & Spread)

	INVESTMENT GRADE	HIGH YIELD	DURATION HEDGED
PRODUCT CODE	Outright: IQB BTIC: IQBT	Outright: HYB BTIC: HYBT	DHB
UNDERLYING INDEX	Bloomberg U.S. Corporate Investment Grade Index	Bloomberg U.S. Corporate High Yield Very Liquid Index	Bloomberg U.S. Corporate Investment Grade Duration Hedged Index
CONTRACT UNIT	30 x Index Points	150 x Index Points	500 x Index Points
MINIMUM PRICE FLUCTUATION	1/2 of 1 Index Points (0.50 = \$15.00)	1/10 of 1 Index Points (0.10 = \$15.00)	1/20 of 1 Index Points (0.05 = \$25.00)
FINAL SETTLEMENT MINIMUM TICK	0.0001		
PRICE QUOTATION	Index Points		
LISTING SCHEDULE	Nearest 3 March Quarterly Months		



Yield Curve and Spread Changes

What are the impacts?



Roll Up/Roll Down In Current Curve Environment aka “Carry”

Anticipated 30 Day Curve Roll Up/Down (Jan 21, 2026)

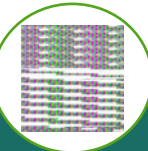
Tenor	2 Year	5 Year	7 Year	10 Year
30 Day Treasury Futures Roll UP/Down per unit of DV'01:	(\$1.14)	(\$0.06)	\$0.45	\$0.30
30 Day Eris Swap Futures Roll UP/Down per unit of DV'01:	(\$0.97)	\$0.46	\$0.66	\$0.83

How about a year ago? Jan'25

Tenor	2 Year	5 Year	7 Year	10 Year
30 Day Treasury Futures Roll UP/Down per unit of DV'01:	(\$0.95)	(\$0.08)	\$0.40	\$0.31
30 Day Eris Swap Futures Roll UP/Down per unit of DV'01:	(\$1.50)	(\$0.79)	(\$0.58)	(\$0.45)
Carry Favors Long in:	Treasury	Treasury	Treasury	Treasury

How about two years ago? Jan'24

Tenor	2 Year	5 Year	7 Year	10 Year
30 Day Treasury Futures Carry per unit of DV'01:	(\$4.97)	(\$3.06)	(\$2.04)	(\$1.53)
30 day Eris Swap Futures Carry per unit of DV'01:	(\$12.38)	(\$4.59)	(\$3.25)	(\$2.22)

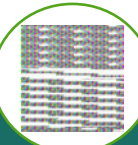
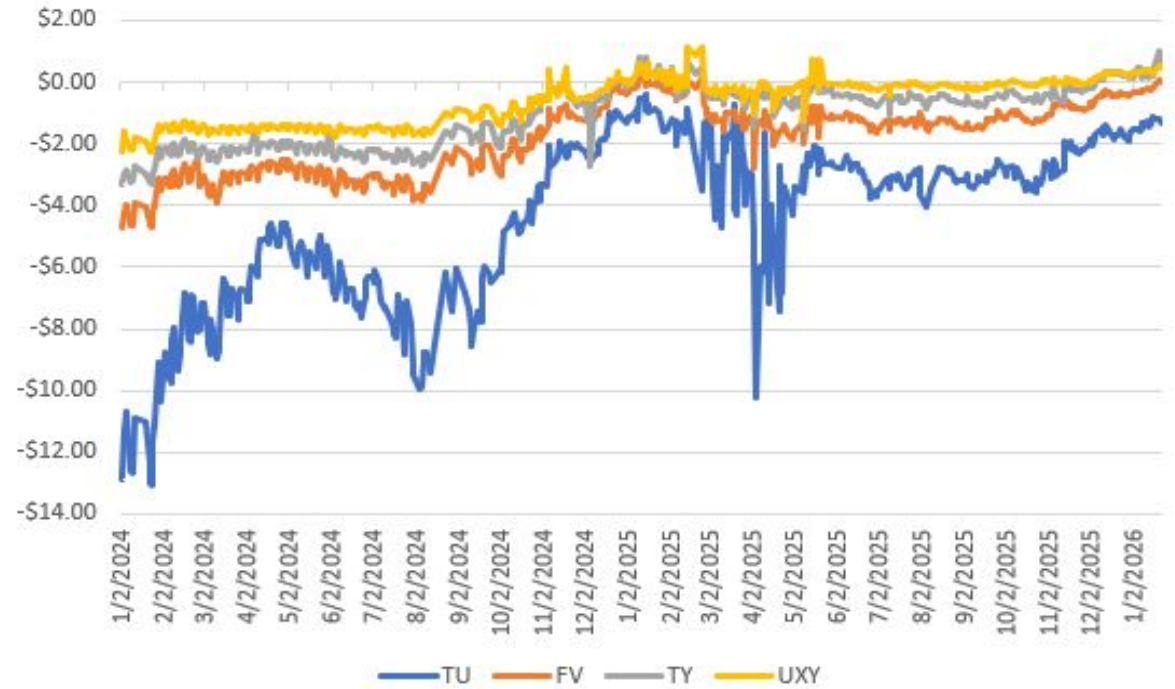


Roll Up/Roll Down In Current Curve Environment aka “Carry”

Hist. Eris Curve Roll Up/Down



Hist. Treasury Curve Roll Up/Down



Index Level Analysis

Primary Rate = Rate Lock Yield (LRC30APR Index)
Secondary Rate = Par TBA Yield (MTGE FNCL Index)

Yield Spread Above 160 bps, favors:

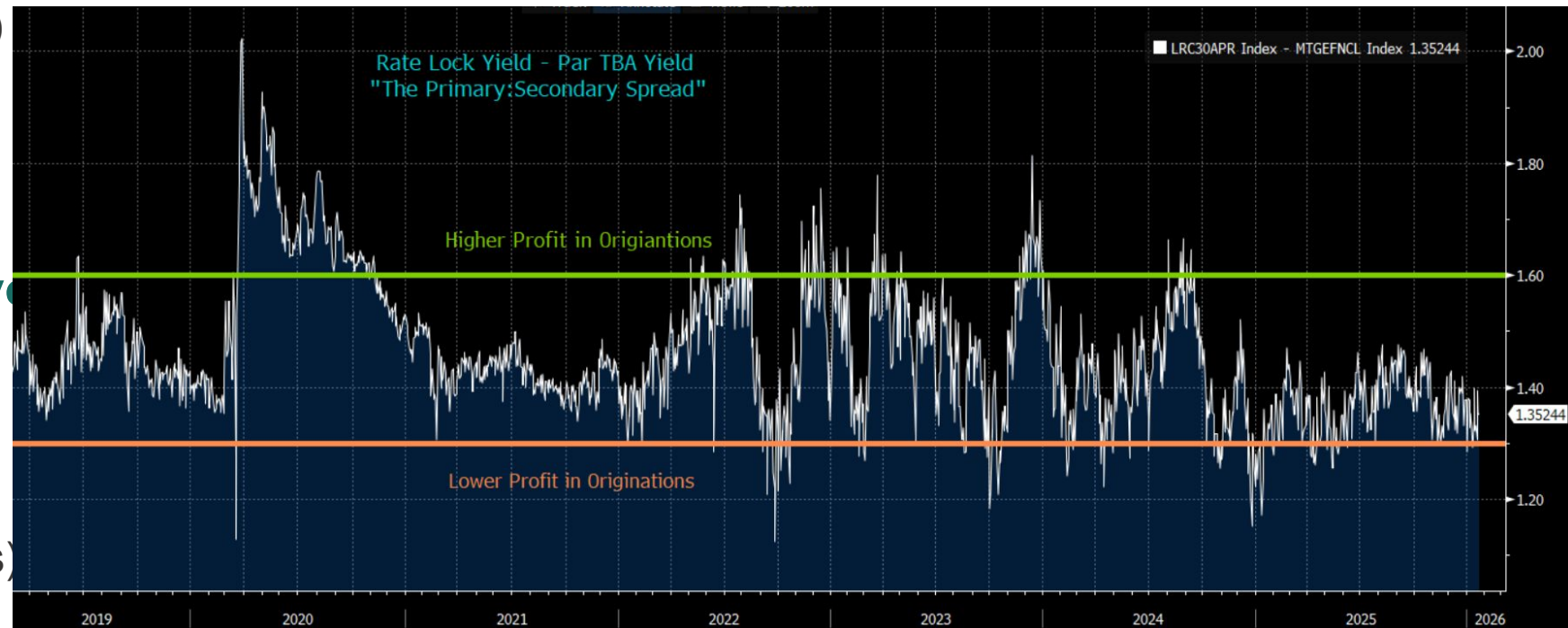
- BUY Primary (RL Futures)
- SELL Secondary (TBA)
- Room to improve pricing

Between 135-160bps, favors:

- Balanced

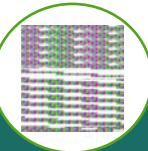
Below 135bps, favors:

- SELL Primary (RL Futures)
- BUY Secondary (TBA)
- Reduce aggressive pricing

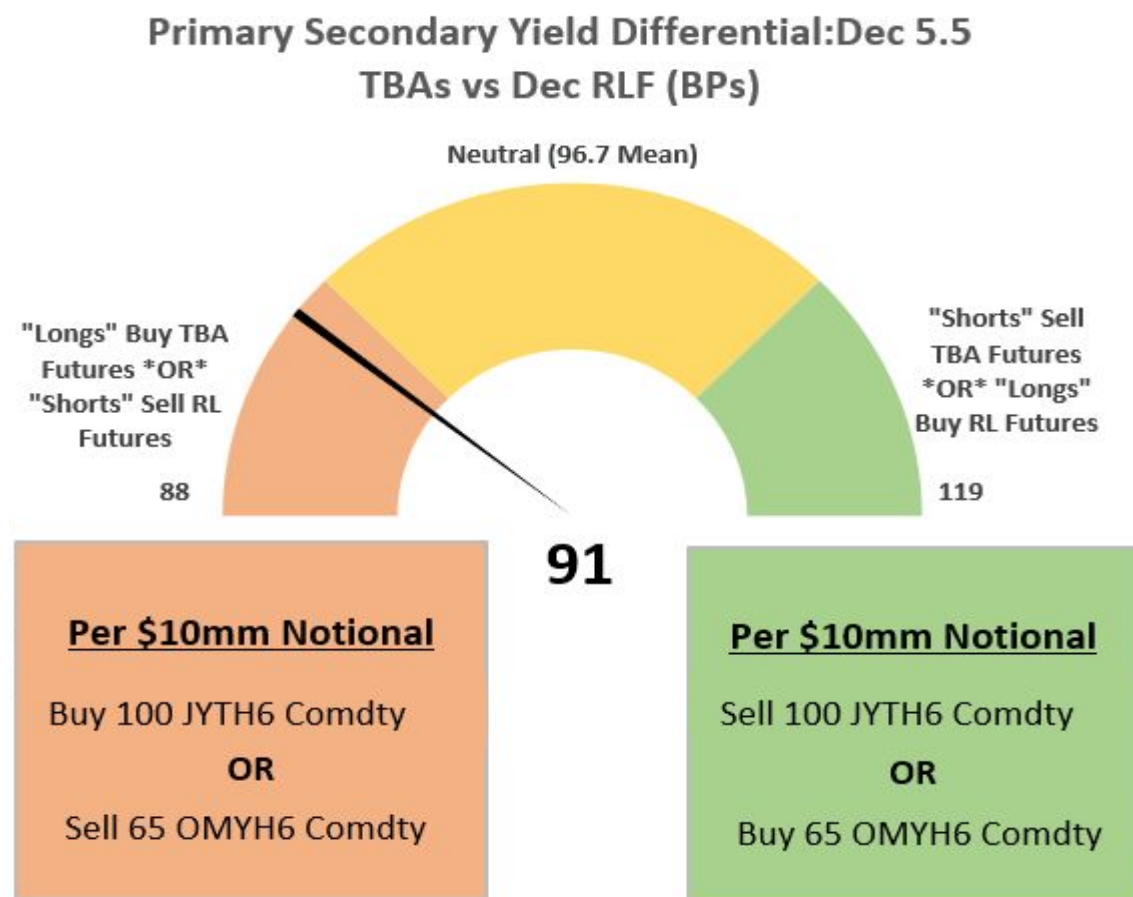


Source: Bloomberg™

Rate Lock Futures offer insight into PRICING and a Hedge Alternative

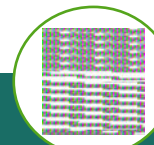


Primary/Secondary Yield Spread



Methodology:

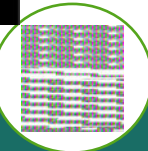
- Take the difference between the implied yield on the Rate Lock Future (Primary) and the YTM on the applicable TBA (Secondary) to give Primary: Secondary Yield Differential
- Using historical data, examine where, in percentile terms, today's level sits among the recent Low-High range
- Given strong tendency towards mean reversion of this Yield Differential (YD)...
 - When the YD level sits in the lower quartile (Orange on "The Meter"), it's likely Yield Differentials will widen and so "Longs" are better served buying TBA Futures (Vs Rate Lock Futures) and vice versa for "Shorts"
 - Conversely, when the YD level sits in the upper quartile (Green), it is likely Yield Differentials tighten and so "Longs" should buy Rate Lock Futures and "Shorts" sell TBA Futures
- Hedge Ratios in green and orange boxes calculated using DV01



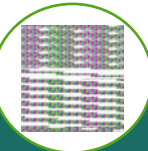
Mortgage Treasury Spreads Since April '25

- Tightened to 4yr lows
- 30-40bps ABOVE 45-year LOWS
- 30-40bps BELOW 45-year AVERAGE
- The only way is wider?

Source: Bloomberg™

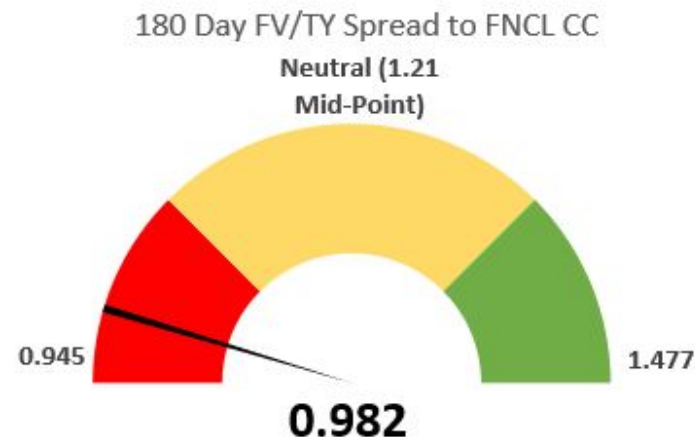
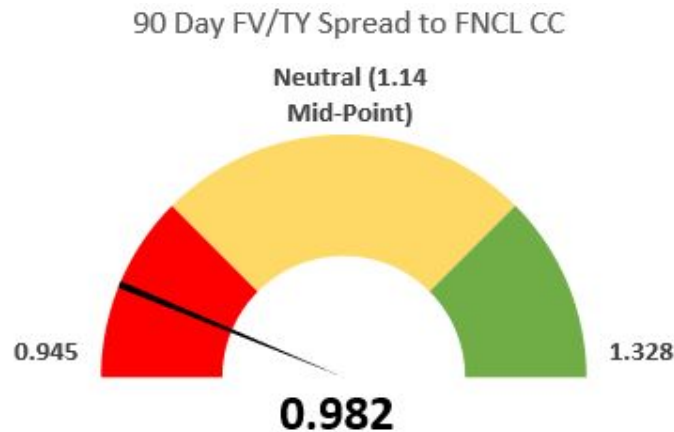


Mortgage Treasury Spreads vs TY iVol



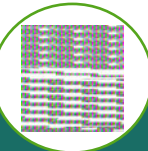
Mortgage : Treasury Yield Spread

Yield Differential on FNCL Index and Blend of 5/10Y UST



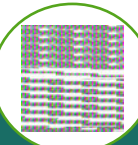
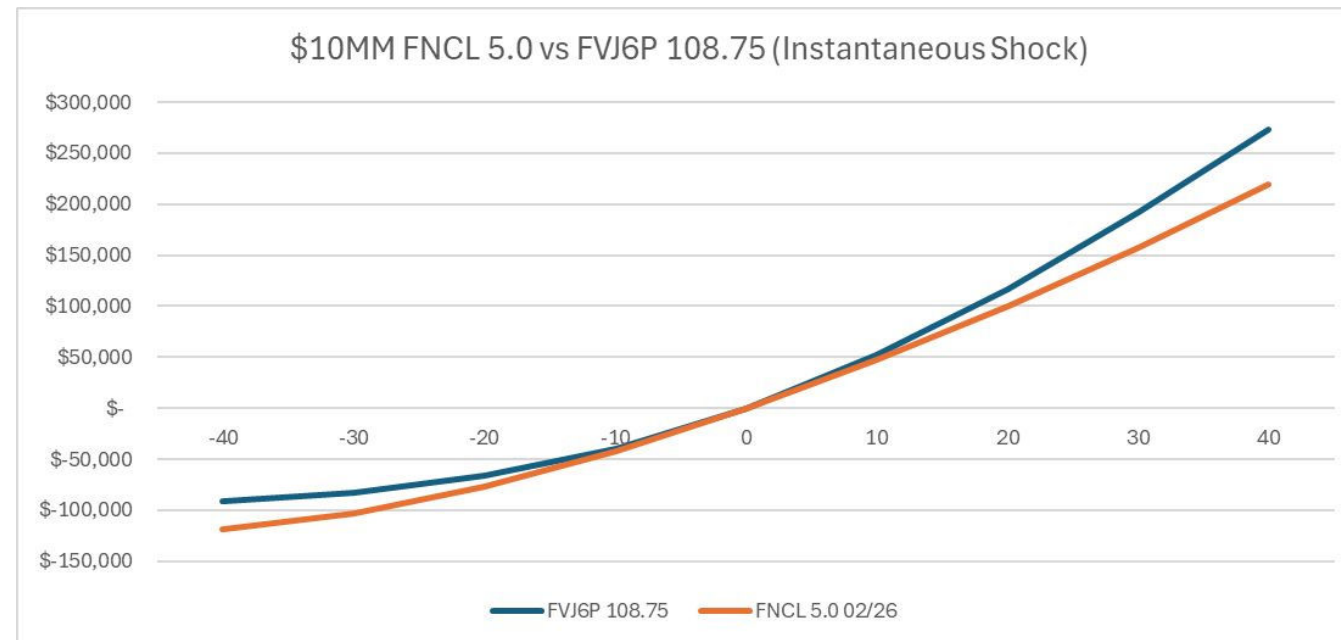
Methodology

- Using INDEX level yields compare Mortgage Treasury Spreads over different time frames
- We expect mean reversion as with Primary-Secondary Spreads.
- When Mortgage Treasury Spreads are **TIGHT**:
Longs prefer to **BUY TREASURIES** and
Shorts prefer to **SELL TBA FUTURES**
- When Mortgage Treasury Spreads are **WIDE**:
Longs prefer to **BUY TBA FUTURES** and
Shorts prefer to **SELL TREASURIES**



UMBS 5.0s vs Long FV Put Options

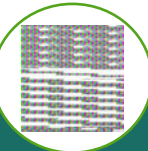
Tkr	Cpn	Mty	<Key>	Price	EqvYld	ModDur	Cvx	Val01	MM	Par	1mInMV	BPV
FNCL	5	2/26		100-00+	4.9770	4.63	.39	.0465	Sel	-10	-10	-4.65M
Futures/Options				Price	Proxy	Issue			Num	Contr		
FVH6				108-25	4	5/30		.0431			n/a	
FVJ6P	108.75			'35	3.04%IV	-.50del		.0237Long		195	n/a	-4.63M



Spreads not the only way to spot value!

FIG	Option DTE 60 Days	J6	1/26/2026
TBA	Relative Value (Synth)	DV01 Per MM	Treasury Hedge Ratio
FNCL 4 3/26 Mtge	-\$58,976	\$622.53	731
FNCL 4.5 3/26 Mtge	-\$73,976	\$603.18	755
FNCL 5 3/26 Mtge	-\$79,560	\$469.82	969
FNCL 5.5 3/26 Mtge	-\$84,840	\$304.75	1493
FNCL 6 3/26 Mtge	-\$26,800	\$236.22	1927
FNCL 6.5 3/26 Mtge	\$76,496	\$208.52	2183

- Trading negatively convex instruments (TBAs) vs positively convex instruments (Treas) may be hazardous to your health
- We have tools to identify the relative value of TBAs vs their equivalent synthetic position (using futures and options)



Menu of Options Offered

SOFR Options

- Highly liquid
- Monthly options out 4 years
- Short Dated/Mid-curve
- Weekly Short Dated/Mid-curve
- 1mo & 3mo SOFR options listed

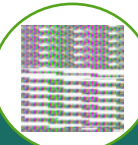
Treasury Options (*Highly Liquid*)

- FV, TY, US
- ATM strikes regularly 100k+ Bid/Offer size
 - Weekly options, with M, W, and F expiries
 - Below example shows expiry tomorrow 01/31, prices as of Tuesday 01/28

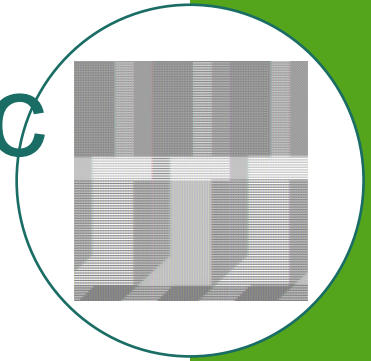
Treasury Options (*Liquid*)

- TU, UXY
- ATM strikes regularly 10k+ Bid/offer size
- Weekly options, with M, W, F expiries

- 10-Year U.S. T-Note Fri W5 Opt Jan26, 4.36 days, F: 111'260									
10-Year U.S. Treasury Note Future Mar26									
686	2		QS	+	759	0'53 0'55	632	111.00	
568			QS	+	639	0'39 0'40	1	111.25	
8,405	898		QS	+	3,250	0'26 0'28	3,505	111.50	
22,654	2,140	- 0'17	QS	+	315,175	0'16 0'18	325,721	111.75	
37,217	3,168	- 0'10	QS	+	555,764	0'09 0'10	420,507	112.00	
25,944	4,788	- 0'06	QS	+	451,897	0'05 0'06	616,278	112.25	
19,866	1,791	0'03	QS	+	599,157	0'02 0'04	527,183	112.50	
9,859	615	0'02	QS	+	619,547	0'01 0'02	522,440	112.75	

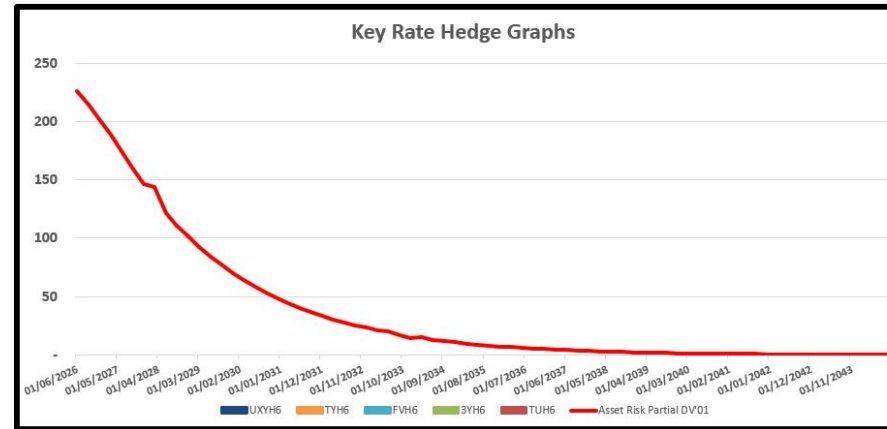


First a Generic, Then Some Specific Mortgage Hedge Examples...

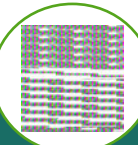
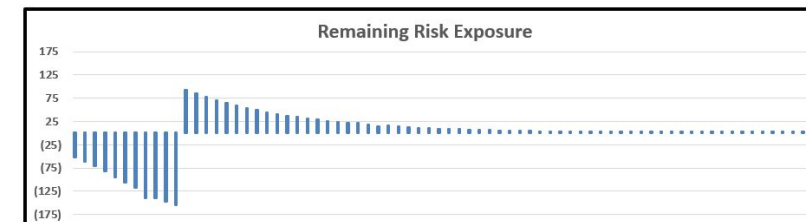
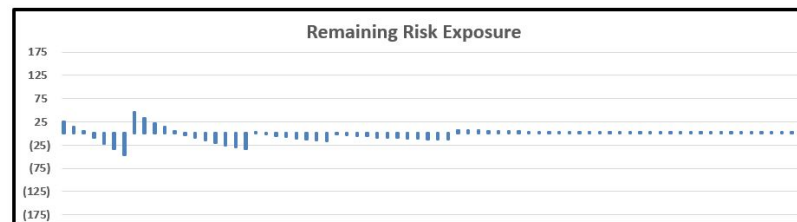
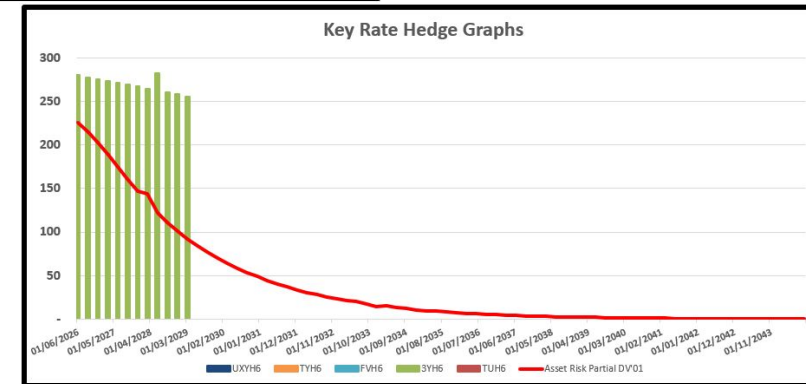
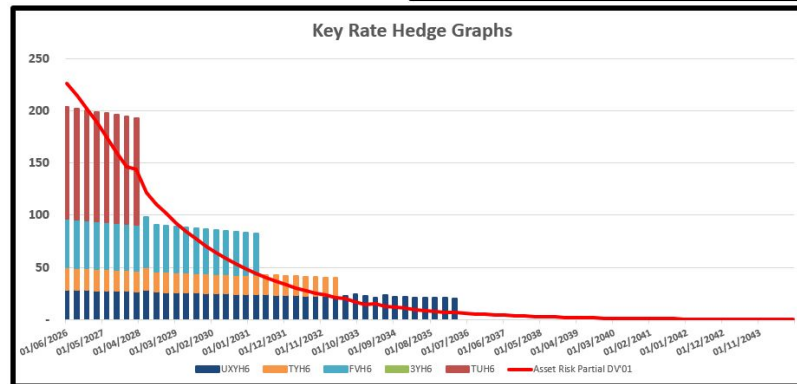


Hedging UMBS (\$10mm FNCL 5.5 02/26)

Treasury Futures		
Amortizing Swap (trade all)		
TU Treas	SELL 22	TUH6
3Y Treas	SELL 0	3YH6
5Y Treas	SELL 20	FVH6
TY Treas	SELL 8	TYH6
UXY Treas	SELL 11	UXYH6



Treasury Futures		
OUTRIGHT/Bullet Hedge (1 curve pnt)		
2yr	SELL 85	TUH6
OR		
3yr	SELL 55	3YH6
OR		
5yr	SELL 74	FVH6
OR		
10yr	SELL 36	UXYH6



SEMT 2025-9 A1 Mtge (NQM) –Hedge w ERIS

SEMT 2025-9 A1100.388 /100.888Yield 5.303/5.133BVAL

As of 23 Jan Prepay 21.39CPRWAL 3.24 Collateral 100.0% WH30 6.8%

SEMT 2025-9 A1 MtgeSend

Page 1/5Security Description

US RMBS WH306.805(353)6CUSIP 81750BAA5Loan Level9% Buy9% Sell

1) Bond Summary2) Group Summary3) Comments4) Structural Summary5) Overview

Issuer Sequoia Mortgage Trust6) Pro | DSCO »7) Docs | DSCO »10) ServicerSelect Portfolio Servicing...

Series 25-9Class A1Mty 10/25/2055 14ISIN US81750BAA5217) Lead MgrWells Fargo Securities LLC

10) Class DescriptionEXCH, AFC, SSNRFIGI BBG01WZT4MT218) TrusteeWilmington Trust Co

Private Placement

Current	Original	Payment Details	Rating	Curr	Orig
Bal USD340,519,060	Bal USD377,100,000	Next Pay02/25/2026	Fitch	AAA	AAA(EX...
Fct (Jan 26)0.902994060	WAL5.13Yrs@ 15 CPR	Rcd Date01/30/2026	KBRA	AAA	AAAP
Cpn (Dec 25)5.50000%	1st Coupon5.50000%	Pay Day25th			
Class/Grp Pct63.36%	Class/Grp Pct63.75%	FrequencyMonthly			
Beg Accrue01/01/2026	1st Pay10/25/2025	Pay Delay24 Days			
End Accrue01/31/2026	1st Settle09/26/2025	Day Count30/360			
	Dated Date09/01/2025	CalendarGT			
Cum LossN/A	Priced09/10/2025	Call10.00% Collat Call			
11) Cr Supp15.52%					

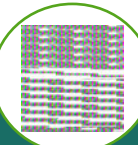
Additional Information

DTC Book Entry, DTC Same Day, ERISA, TRACE, SMMEA, 144A

Min Size100,000

Increment1

	Jan26	Dec	Nov	Oct	Sep25
Fctr	0.90	0.92	0.94	0.98	1.00
Cpn	5.50	5.50	5.50	5.50	
VPR	21.39	16.24	37.62	21.31	
CDR	0.00	0.00	0.00	0.00	
SEV					
D60+	0.0	0.0	0.0	0.0	0.0



SEMT 2025-9 A1 Mtge (NQM) –Hedge \$10mm

ERIS SOFR Swap Futures			
OUTRIGHT/Bullet Hedge (1 curve pnt)			
2yr	SELL 130	YITH26	
	OR		
3yr	SELL 88	YICH26	
	OR		
5yr	SELL 55	YIWH26	
	OR		
10yr	SELL 30	YIYH26	

ERIS SOFR Swap Futures			
Amortizing Swap (trade all)			
1yEris	SELL 36	YIAH26	
2yEris	SELL 7	YITH26	
3yEris	SELL 10	YICH26	
4yEris	SELL 9	YIDH26	
5yEris	SELL 8	YIWH26	
7yEris	SELL 10	YIBH26	
10yEris	SELL 5	YIYH26	

Excl

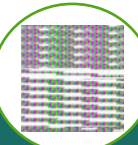
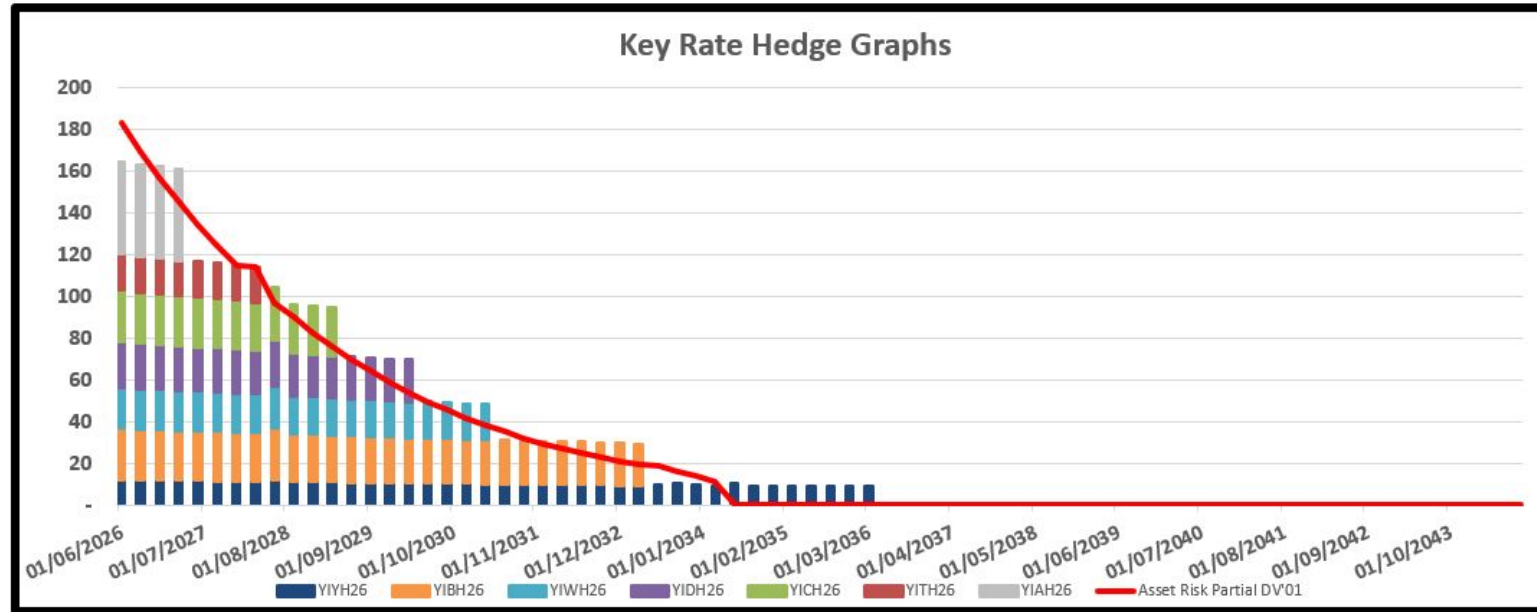
X

Hedge Adjust

ERIS EXISTING HEDGE	
-36	
-7	
-10	
-9	
-8	
-10	
-5	

IM Per Contract	Total IM For Hedge Position
\$ 300	\$10,800
\$ 575	\$4,025
\$ 750	\$7,500
\$ 925	\$8,325
\$ 1,050	\$8,400
\$ 1,350	\$13,500
\$ 1,700	\$8,500
> Total Margin	
\$61,050	

Asset DV'01	\$ 2,494
Asset DV'01 per \$1mm	\$ 282.45



FHR 5607 Mtge –Hedge with TREAS FUTS

FHR 5607 NH

98-30¹₈ / 99-01³₄

Yield 4.998/4.967

BVAL

As of 26 Jan

Prepay 384

PSA WAL 4.48

Collateral 100.0%

FNCL 5.5%

BAM TOAS 17.4

FHR 5607 NH Mtge

Send

Page 1/4

Security Description

100% FNCL 5.5 N

6.418(351)4

CUSIP 3137HPDL4

Pool Level

% Buy

% Sell

Bond Summary

Group Summary

Comments

Deal Summary

Issuer

Freddie Mac

Pro | DSCO »

Docs | DSCO »

Servicer

WELLS FARGO BANK, NATL..

Series

5607

Class

NH

Mty

12/25/2055

ISIN

US3137HPDL46

Lead Mgr

BMO Capital Markets

Class Description

EXCH, PT

FIGI

BBG01YQ4F7S5

Trustee

Freddie Mac

Current

Bal USD

50,182,550

Fct (Jan 26)

0.976776770

Cpn (Jan 26)

4.75000%

Class/Grp Pct

29.34%

Beg Accrue

01/01/2026

End Accrue

01/31/2026

Original

Bal USD

51,375,659

WAL

5.6Yrs@ 300 PSA

1st Coupon

4.75000%

Class/Grp Pct

29.34%

1st Pay

12/25/2025

1st Settle

11/28/2025

Dated Date

11/01/2025

Priced

11/20/2025

Payment Details

Next Pay

02/25/2026

Rcd Date

01/31/2026

Pay Day

25th

Frequency

Monthly

Pay Delay

24 Days

Day Count

30/360

Calendar

US

Call

Non-Callable

CPR

PSA

1m

12.56

1726

3m

14.45

2737

6m

12m

Life

12.15

1935

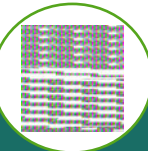
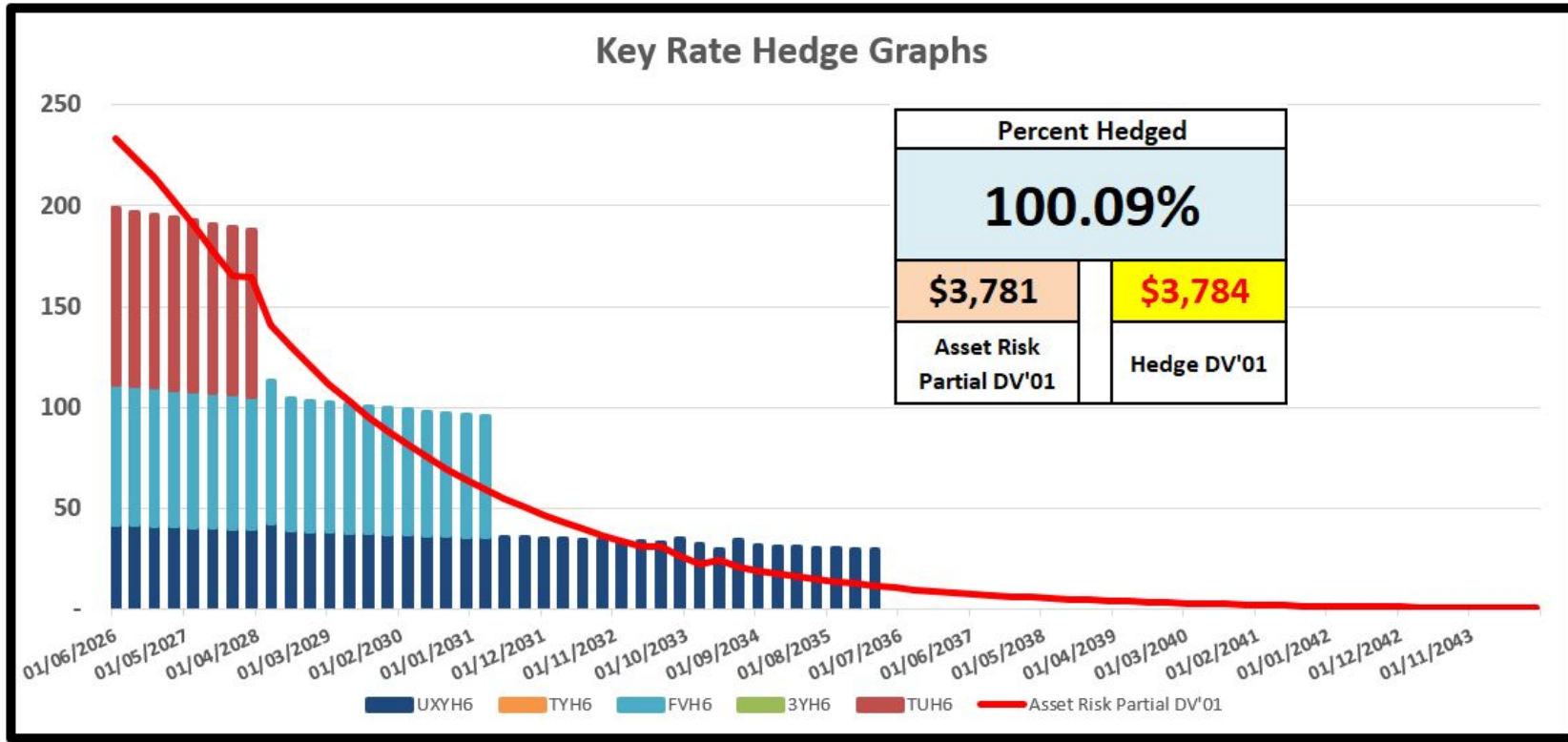
Additional Information

TRACE

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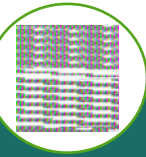
FHR 5607 Mtge - \$10mm Current Amount

Treasury Futures			X	
Amortizing Swap (trade all)				Hedge Adjust
TU Treas	SELL 20	TUH6		-20
3Y Treas	SELL 0	3YH6	x	0
5Y Treas	SELL 34	FVH6		-34
TY Treas	SELL 0	TYH6	x	0
UXY Treas	SELL 18	UXYH6		-18



Expected in the coming year

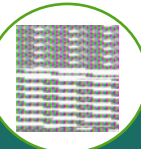
- ERIS Options – Summer 2026
- Increased liquidity in Primary : Secondary Futures Markets?
- CME Span 2 – EVEN more efficient cross margining?



THANK YOU!! Any Questions?

A copy of this presentation can be
downloaded from our website:

www.FixedIncomeGroup.com

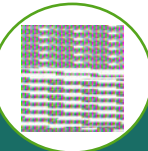


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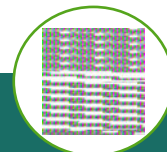
Eris & US Treasury Future Markets

Ticker	Net	Bid	Ask	BidSz	AskSz	Volume	Open Int
			Source: Bloomberg™				
▶ TUH6	+ 00 ¹ / ₄	104-03	104-03 ¹ / ₈	7600	2456	505979	4579282
▶ FVH6	--	108-20 ¹ / ₄	108-20+	744	2948	824381	6709994
▶ TYH6	- 01	111-18	111-18+	1621	5941	1216972	5746254
▶ UXYH6	- 01	114-01+	114-02	2581	280	403924	2595570
▶ USH6	--	115-06	115-07	1536	1077	347353	1827292

\$9Bn Notional in TY calls traded in one clip

\$6.1Bn Notional in ERIS 5yr traded in one clip

Tenor	Ticker	Swap Maturity	Coupon (%)	DV01	TotalBid Qty	Bid Qty	Bid%	Bid	Ask	Ask%	AskQty	TotalAsk Qty	Last Updated
1	YIAH26	18 Mar 2027	3.500	9.74	3511	1010	3.474	100.0225	100.0300	3.466	3010	3511	13:41:41
2	YITH26	18 Mar 2028	3.500	19.26	2911	810	3.430	100.1275	100.1350	3.426	600	3161	13:47:41
3	YICH26	18 Mar 2029	3.500	28.31	2211	600	3.477	100.0550	100.0700	3.472	1360	1961	13:47:41
4	YIDH26	18 Mar 2030	3.500	36.96	1401	1150	3.543	99.8300	99.8700	3.532	1400	1401	13:47:46
5	YIWH26	18 Mar 2031	3.500	45.23	3561	2750	3.608	99.5000	99.5300	3.602	250	3561	13:47:44
7	YIBH26	18 Mar 2033	3.750	61.10	1711	800	3.743	100.0200	100.0700	3.735	1700	1776	13:47:38
10	YIYH26	18 Mar 2036	4.000	82.37	1926	1050	3.916	100.6600	100.7200	3.909	1300	1901	13:47:28

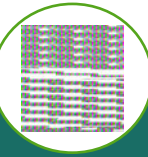


Show me when this worked...2H24



- Mid-Sep to Late-Oct 2024
- Mean reverted until year end

Source: Bloomberg™

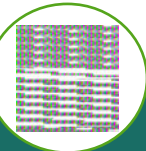


Show me how to trade it

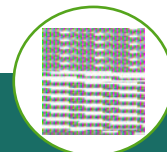
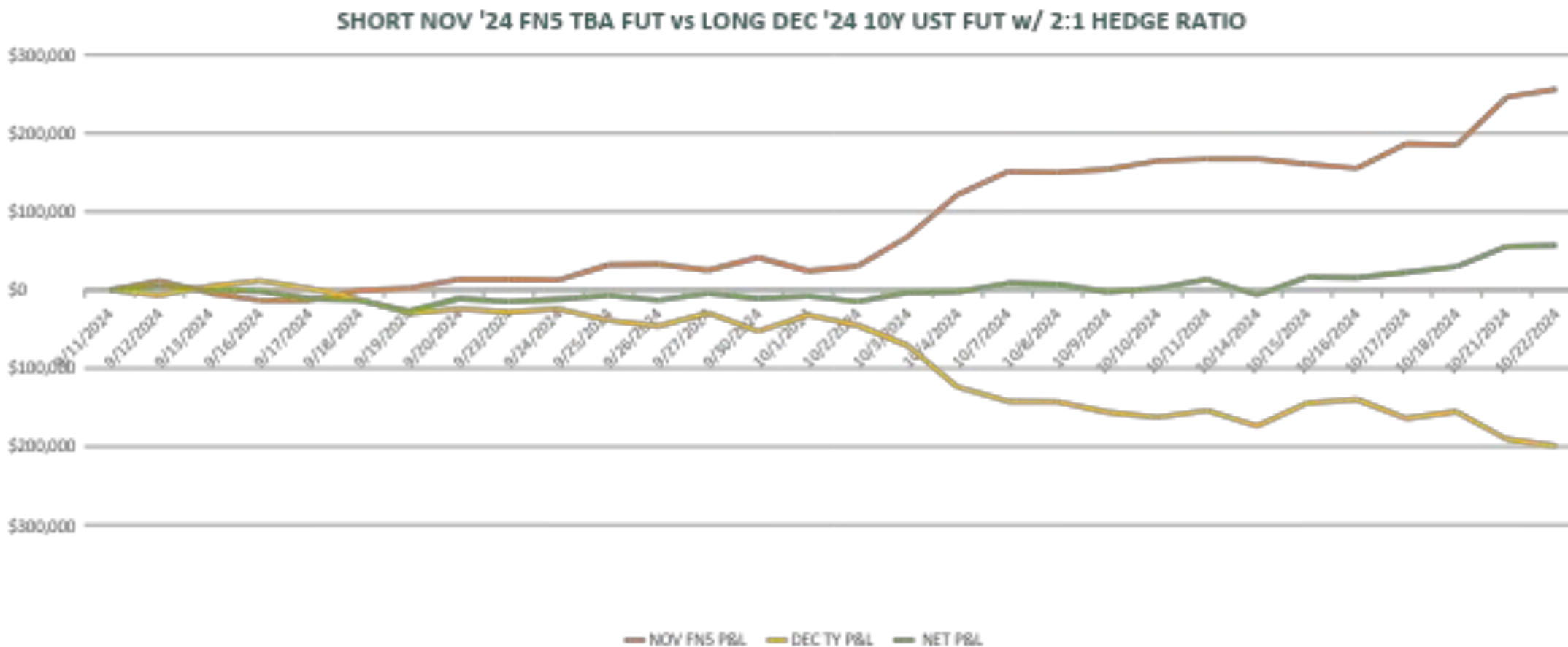
Example: Widening event from first day of short zone until first day of the long zone (9/11 to 10/22) using closing prices

- Short current coupon CME NOV '24 FN5 TBA future (JYPX4) 2X
- Long on-the-run CME DEC '24 10yr UST future (TYZ4) 1X
- Hedge ratio at onset of trade is 2:1
- **Net mort-basis spread P&L over the range on \$10mm = +\$57k**
- Trade is off-balance sheet

Total initial margin required: \$93.8k!!!! (0.93% of notional)

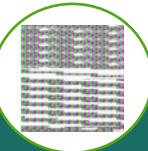


Performance of hedge 9/11-10/22



Market Extension— It's not just 10s and Bonds Anymore!

- 1mo Fed Funds (out to about 2yrs) - 1.95mm OI
- 1mo SOFR futures (out to 1y+) – 1.48mm OI
- 3mo T-Bill futures (out to 2y) - 3.8k OI
- 3mo SOFR futures (out to 7y) - 10.14mm OI
- Treas: 2y, 3y, 5y – 10.46mm OI
- ERIS: 1-5yr – 240k OI
- ERIS NOW WITH CROSS MARGINING

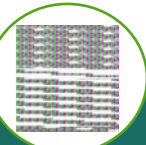


CME TBA Futures

Key Features:

- Transparent Price Discovery
- Expanded Trading Access
- Central Counterparty Clearing
- Inter-Commodity Spread Trading
- \$100k Contract Size
- TBA Market Access Via Futures Contract
- Margin Efficiencies/Margin Offsets

Product	CME Symbol	Bloomberg Ticker
30-Year UMBS TBA Futures - 2.0% Coupon	20U	JYAA Comdty
30-Year UMBS TBA Futures - 2.5% Coupon	25U	JYBA Comdty
30-Year UMBS TBA Futures - 3.0% Coupon	30U	JYCA Comdty
30-Year UMBS TBA Futures - 3.5% Coupon	35U	JYDA Comdty
30-Year UMBS TBA Futures - 4.0% Coupon	40U	JYEA Comdty
30-Year UMBS TBA Futures - 4.5% Coupon	45U	JYIA Comdty
30-Year UMBS TBA Futures - 5.0% Coupon	50U	JYPA Comdty
30-Year UMBS TBA Futures - 5.5% Coupon	55U	JYTA Comdty
30-Year UMBS TBA Futures - 6.0% Coupon	60U	JYWA Comdty
30-Year UMBS TBA Futures - 6.5% Coupon	65U	JYLA Comdty



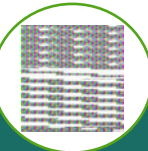
Liquidity vs Credit– Why Futures are the Universally Accessible Derivative Market

Liquidity – Exchange Cleared

- ⇒ “Credit” in futures is neutralized by Initial Margin (same for all) and reset by 2-way, next biz day Variation Margin
- ⇒ Abt 3 days to open an account

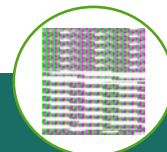
Credit – OTC Counter Party

- ⇒ ISDAs and significant credit evaluation. Still subject to threshold margin calls for variation– often NOT 2-way.
- ⇒ Account opening is measured in months or quarters



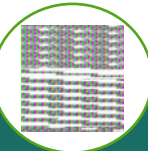
Two Relatively New Resi Mort Futures: Primary (Rate Lock) and Secondary (TBA)

- RL Futures (ICE and CME): Good proxy for Premium TBA without squeeze risk
 - Another basis to exploit
 - Better product for portfolio, rel val or risk manager than trader
 - Cash Settled on TBA SIFMA dates
 - FIXED DV01 !
 - Option-convenient
- TBA futures:
 - Margin mitigation
 - Opportunity to provide liquidity– outright and block
 - Delivery Into TBA at 72hr



Contract Specs Identical to OTC TBA

- Coupons from 2.0-6.5 increments every half coupon
- Initial margin requirements are 1.35% - 1.6% of face for production coupons (in line with FICC requirements for primaries)
- Up to 75% gross initial margin offset vs other CME rate futures (UST futures, primary rate mortgage futures, & Eris Swap futures)
- Both primary and non-primary bank dealers
- No MSFTA required to trade



Menu of Options Offered

SOFR Options:

- Highly liquid
- Monthly options out 4 years
- Short Dated/Mid-curve
- Weekly Short Dated/Mid-curve
- 1mo & 3mo SOFR options listed

Treasury Options (highly liquid):

- FV, TY, US
- ATM strikes regularly 100k+ Bid/Offer size
- Weekly options, with M, W, and F expiries
- Below example shows expiry tomorrow 01/31, prices as of Tuesday 01/28

Treasury Options (liquid):

- TU, UXY
- ATM strikes regularly 10k+ Bid/offer size
- Weekly options, with M, W, and F expiries

Open Int	Volume	Last	QS	+	C Qty	C Bid	C Ofr	C Qty	Strike
- 10-Year T-Note Week5 Opt Jan25, 3.22 days, F: 108'270									ATM
10-Year U.S. Treasury Note Future Mar25									
1,240			QS	+	56	1'07	1'09	59	107.75
3,543	50	1'00	QS	+	437	0'56	0'58	670	108.00
11,113	16	0'46	QS	+	891	0'42	0'44	651	108.25
15,892	212	0'37	QS	+	4,704	0'30	0'32	2,951	108.50
20,102	1,363	0'22	QS	+	25	0'21	0'22	18,686	108.75
23,755	6,026	0'15	QS	+	320,920	0'13	0'14	1,189	109.00
27,257	11,287	0'08	QS	+	273,155	0'08	0'09	414,388	109.25
27,623	12,005	0'08	QS	+	516,102	0'04	0'05	238	109.50
19,499	4,790	0'03	QS	+	573,834	0'02	0'03	305,438	109.75
21,855	9,226	0'02	QS	+	603,639	0'01	0'02	544,392	110.00

