

Short-Term Interest Rate (STIR) futures Inter-Commodity Spreads on Globex

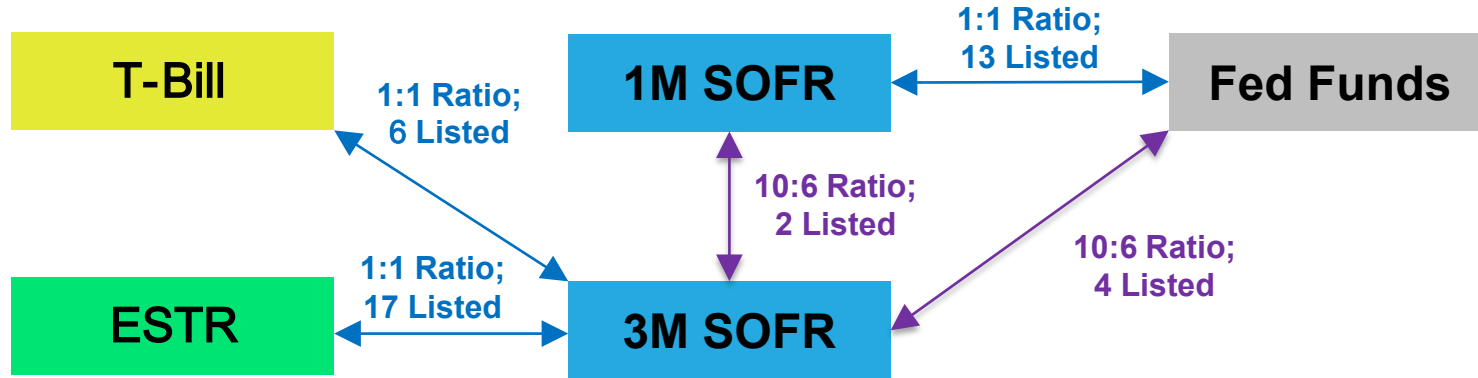
April 2024

STIR ICS – spread examples

Bloomberg Code	Globex Symbol* Example	Spread Symbol	Implied Y/N	Front Leg	Back Leg	Leg Ratio
SERFF <Comdty> CT	SR1M4-ZQM4	IS	Yes	SOFR 1-Month	Fed Funds	1:1
SERSFR <Comdty> CT	SR1N4Q4-SR3M4	EF	No	SOFR 1-Month	SOFR 3-Month	(3+3) : 10
FFSFR <Comdty> CT	ZQN4Q4-SR3M4	EF	No	Fed Funds	SOFR 3-Month	(3+3) : 10
KTRSFR <Comdty> CT	ESRM4-SR3M4	RI	Yes	ESTR 3-Month	SOFR 3-Month	1:1
SFRTZR <Comdty> CT	SR3M4-TBF3M4	IS	Yes	SOFR 3-Month	13Wk T-Bill	1:1

**Globex Codes will be used to reference products in examples for the remainder of this document*

STIR Inter-Commodity Spreads (ICS) - listings and weightings



Spread Weightings

- Fed Funds and 1-Month SOFR futures are \$41.67 DV01 contracts
- 3-Month SOFR futures, 3-Month ESTR futures, and 13-week T-Bill futures are \$25 DV01 contracts
- To balance DV01 weighting, spreads between instruments with different DV01s will be weighted to have 6:10 leg ratios to balance the corresponding \$41.67 : \$25 DV01s
- For weighted spreads, Legs are arranged to match exposures between IMM dates: 1 quarterly 3-Month SOFR Future spread against the next 2 Fed Fund or 1-Month SOFR Futures contract months (i.e. 3 April FF + 3 May FF vs. 10 March SR3)

STIR ICS - Pricing Examples

Pricing Conventions

Spread quoted as the yield difference between the component rates, closely mirroring OTC market conventions

Unbalanced Spread Price Calculation

Spread Price = (Average Front Leg Price) – Back Leg Price

Spread Price = Back Leg Implied Rate* – (Average Front Leg Implied Rate)

Leg Prices

June		July		August	
ZQM4	94.910	ZQN4	94.875	ZQQ4	94.745
SR1M4	94.930	SR1N4	94.880	SR1Q4	94.745
SR3M4	94.7800				
ESRM4	96.4975				
TBF3M4	94.7600				

Spread Prices

Globex Symbol Example	Front Leg	Back Leg	Ratio	Spread Price with Above Leg Prices
SR1M4-ZQM4	SOFR 1-Month	Fed Funds	1:1	0.0200
SR1N4Q4-SR3M4	SOFR 1-Month	SOFR 3-Month	(3+3) : 10	0.0325
ZQN4Q4-SR3M4	Fed Funds	SOFR 3-Month	(3+3) : 10	0.0300
ESRM4-SR3M4	ESTR 3-Month	SOFR 3-Month	1:1	1.7175
SR3M4-TBF3M4	SOFR 3-Month	13Wk T-Bill	1:1	0.0200

* “Implied Rate” means the reference rate R implied by the 100-R quoting convention

STIR ICS - Blocks

STIR Block Rules:

<http://www.cmegroup.com/rulebook/files/cme-group-Rule-526.pdf>

In Short-Term Interest Rate futures, inter-commodity spreads may be executed as block trades provided that each leg of the spread meets the smaller of the threshold requirements for the underlying products. For example, minimum quantity thresholds for block trading outright during RTH are 500 contracts for One -Month SOFR futures and 2,000 contracts for 30 -Day Federal Funds futures. Therefore, a block trade in the One-Month SOFR/30-Day Federal Funds futures spread can be executed provided that the size of each leg is at least 500 contracts, the block trade minimum threshold level applicable to the One -Month SOFR futures leg.

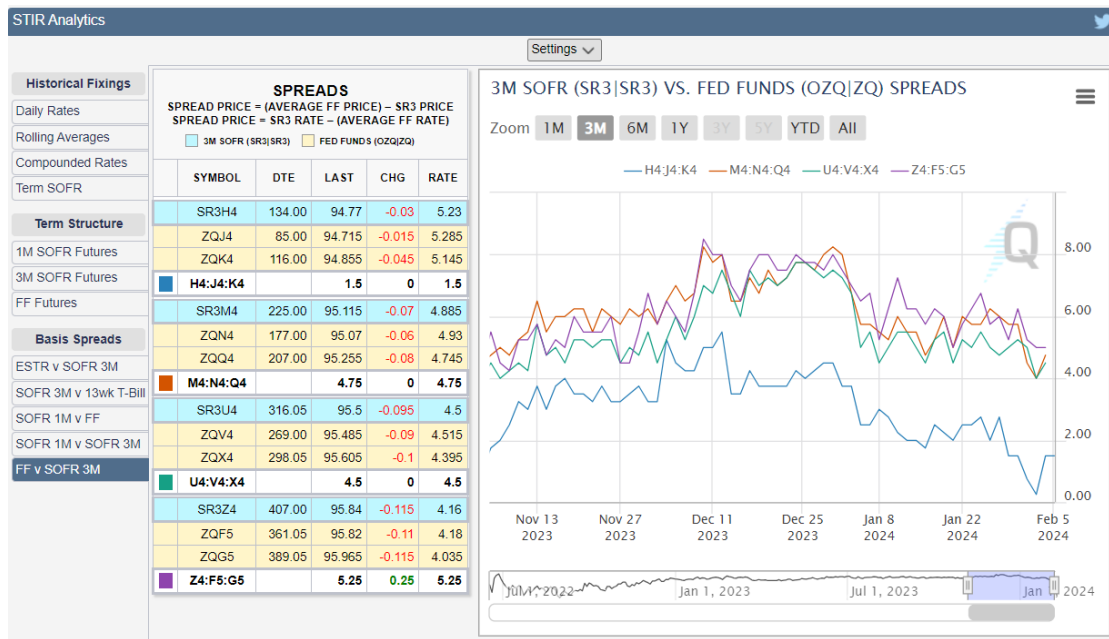
Specifications for Inter-Exchange Blocks:

Participants may conduct blocks between spread instruments on different exchanges (i.e. CME and CBOT) and beginning September 2018 these can be submitted to ClearPort as a single transaction.

STIR ICS - Analytics

STIR Analytics tool:
cmegroup.com/stiranalytics

Access historical fixings for EFR, SOFR, and Term SOFR, view futures pricing curves, and analyze basis spreads.



Spread Design for “EF” Spread Type

Design Principles

- Fed Funds vs 3-Month SOFR ICS: 10:6 ratio achieves DV01-neutrality. \$250 per basis point on both sides of the spread
- Spread weights = 10 by (3+3) for SR3(1) by [FF(2)+FF(3)]
- Legs arranged to match exposures between IMM dates, 1 quarterly 3-Month SOFR Future spread against the next 2 Fed Fund Futures contract months

Pricing Conventions

- Spread quoted as the yield difference between the expected 3-Month compounded SOFR and the implied Fed Funds Rate, closely mirroring OTC market conventions

Spread Price = (Average FF Price) – SOFR Price

Spread Price = SOFR Rate – FF Rate

Expiration Month	Fed Funds Leg Quantity	SR3 Leg Quantity
June		10
July	3	
August	3	
DV01/Contract	\$41.67	\$25.00
Total DV01	\$250.02	\$250.00

Example Trade Structure, Buy 1 Spread

Product	Action	Qty	Month	Price
3-month SOFR	Sell	10	Jun	94.7775
Fed Fund	Buy	3	Jul	94.890
Fed Fund	Buy	3	Aug	94.735

$$\text{Trade spread} = \frac{3.5 \text{ basis points}}{2} = \frac{(94.890 + 94.735) - 94.7775}{2}$$

Prices as of June 20, 2024 settlements

Questions?

For more information, email the Interest Rate Products team at InterestRates@cmegroup.com, or reach out to one of our team members below.

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