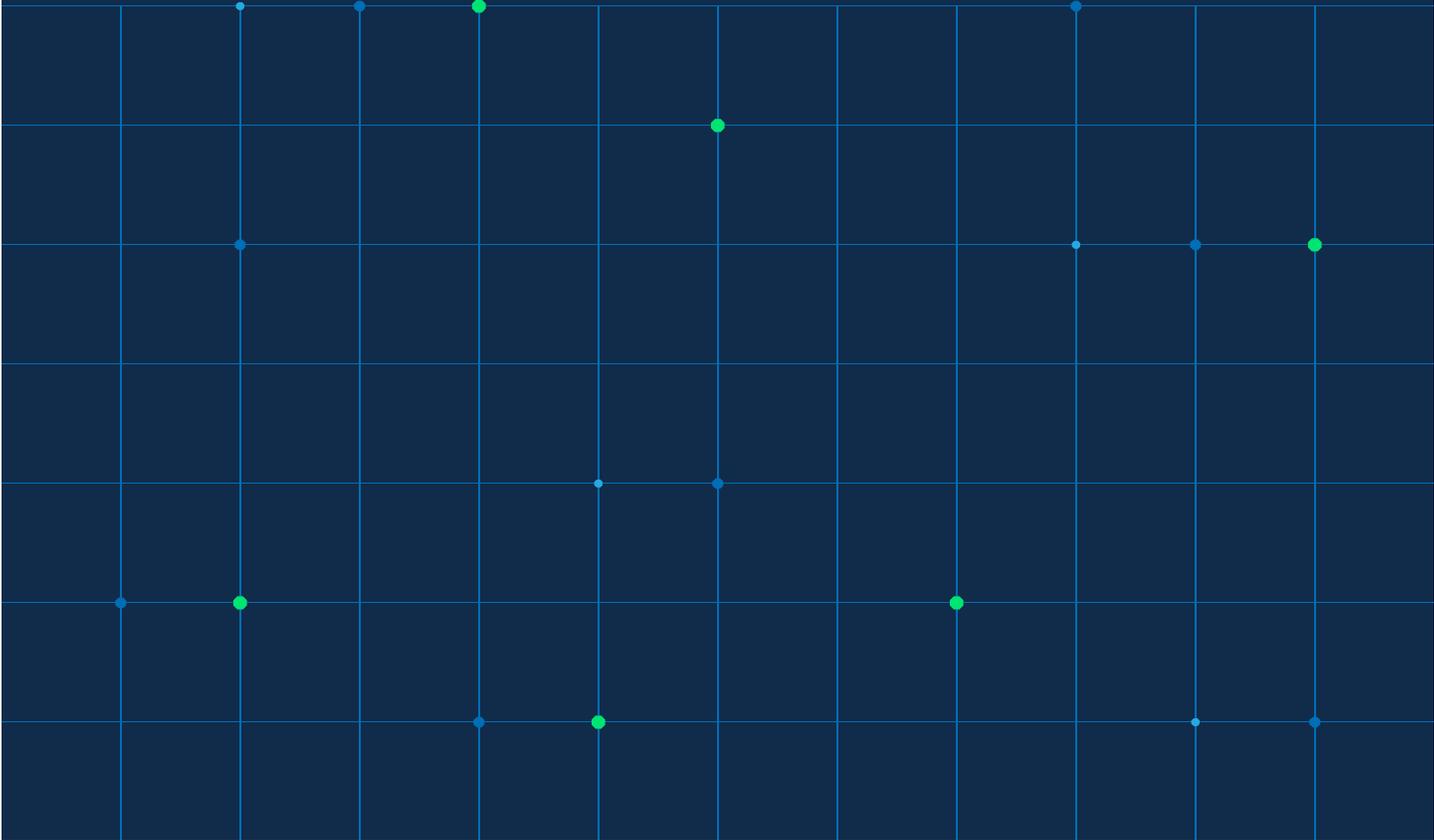


# Manage the Evolution of Credit by Spreading BSBY, ED and SOFR Futures

Interest Rates



# Contents

---

Three-Month SOFR/Three-Month BSBY (SR3/BSB) Spreads	2
Three-Month BSBY/Three-Month Eurodollar (BSB/GE) Spreads	5
Appendix	6
BSBY contract specifications	7
SOFR contract specifications	8
Eurodollar contract specifications	9
Vendor codes	10

The launch of CME Three-Month BSBY (BSB) Futures brings new inter-commodity spreads (ICS) to the Exchange's short-term interest rate (STIR) futures offerings. CME Group developed the Three-Month Bloomberg Short-Term Bank Yield (BSBY) Index Futures to meet client demand for a credit sensitive forward-looking reference rate.

BSBY measures the average yield at which investors are willing to invest USD funds on a senior, unsecured basis to systemically important banks<sup>1</sup>. The rate is based on a robust set of data anchored in aggregated and anonymized transactions and firm executable quotes of Commercial Paper, Certificates of Deposits and Bank Deposits sourced from the Depository Trust and Clearing Corporation (DTCC) and Bloomberg electronic trading solutions.

The Secured Overnight Financing Rate (SOFR) is a broad measure of the cost of borrowing cash overnight collateralized by Treasury securities, also known as the overnight repurchase market. Since it is based on secured overnight rates with virtually no credit sensitivity, SOFR exhibits different liquidity and volatility characteristics that are not aligned with banks' borrowing and funding costs. BSBY has been developed to complement and support SOFR by providing the lending market with an index that can help participants with asset/liability management (ALM) to better ensure transparency as to funding costs during times of market stress.

When BSBY futures are spread against CME's SOFR futures, the pure bank funding spread can be traded. The two new inter-commodity spreads (ICS) which are available as predefined ICS on the CME Globex electronic trading platform (CME Globex) are:

- Three-Month SOFR (SR3)/Three-Month BSBY (BSB) futures
- Three-Month BSBY (BSB)/Three-Month Eurodollar (GE) futures

All such spreads will be cleared by CME Clearing, and will be eligible for margin offsets/spread credits, irrespective of how they are executed.

For more on spreading SOFR futures, visit:

<https://www.cmegroup.com/education/files/trading-us-money-market-spreads-with-sofr-v1.pdf>

## Three-Month SOFR/Three-Month BSBY (SR3/BSB) Spreads

Similar to SR3 and GE Futures, BSB futures have a contract size of \$25 per basis point and have contract critical dates organized around the IMM calendar. Predefined SR3/BSB spreads with 1:1 spread ratios are tradable on CME Globex. [Implied pricing links](#) the liquidity in the SR3/BSB ICS to liquidity in the outright markets for the corresponding BSB futures and SR3 futures.

Initially, BSB futures have been listed for trading in each of the nearest 20 March quarterly delivery months (June, September, and December), from September 2021 through June 2026, inclusive. SR3/BSB ICS are available for trading for each of these 20 months.

The spread price scheme is "SR3 price minus BSB price". Displayed values for SR3/BSB typically will be positive, because the SR3 leg customarily will have a higher price (i.e., a lower contract interest rate) than the BSB leg. Please see the Appendix for technical details of the SR3/BSB spread.

The "contract month" convention for naming BSB futures mirrors the established convention for SR3 futures, in the sense that the three-month period of interest rate exposure is essentially identical for any BSB and SR3 pair with identical contract months.

---

<sup>1</sup> For more about BSBY Futures, visit Understanding BSBY Futures, August 2021, which is available at <https://www.cmegroup.com/education/files/understanding-bsby-futures.pdf>

Consider the June 2024 SR3/BSB spread (i.e., the price spread between SR3M4 minus BSBM4):

- BSBM4's final settlement price will be determined by the USD three-month BSBY Index on Monday, 17 June 2024, corresponding to a three-month unsecured bank funding transaction that settles on the third Wednesday of June, 19 June 2024, and that matures three months later, on Wednesday, 18 September 2024.
- SR3M4's final settlement price will be determined by daily compounding SOFR rates during the interval from (and including) Wednesday, 19 June 2024, through (and not including) Wednesday, 18 September 2024.

Unlike deferred month SR3/BSB spread positions, management of the near dated SR3/BSB spread will require keeping an eye on differences in last trading days between the two legs. For the BSB contract, termination of trading and final settlement occurs on the second New York business day immediately preceding the third Wednesday of the contract month. For the SR3 contract, they occur three months later. The hypothetical September 2021 SR3/BSB spread is shown below.

### Sep 2021 BSB



### Sep 2021 SR3

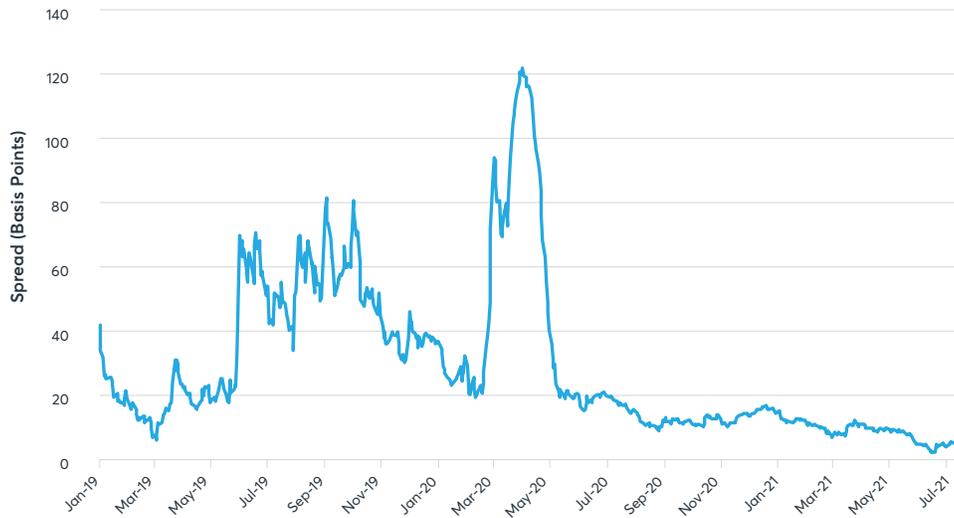


The futures on both legs are referenced as "September" contracts, and their respective intervals of interest rate exposure are approximately the same. Notably, the settlements dates for the rate underlying the BSB contract matches the start date of the SR3 contract's Reference Quarter, the period over which daily SOFR interest is compounded for determination of the contract final settlement price.

The crucial difference is that the SR3 contract remains alive and tradable for three months after the BSB contract has expired. Anyone holding a nearby SR3/BSB spread position must decide how to monitor and manage the SR3 lag. Doing nothing will result in an outright position in an expiring SR3 contract.

**Exhibit 1: Spread Values for Hypothetical BSB Final Settlement Prices versus Actual SR3 Final Settlement Prices, Jan 2019-Jul 2021**

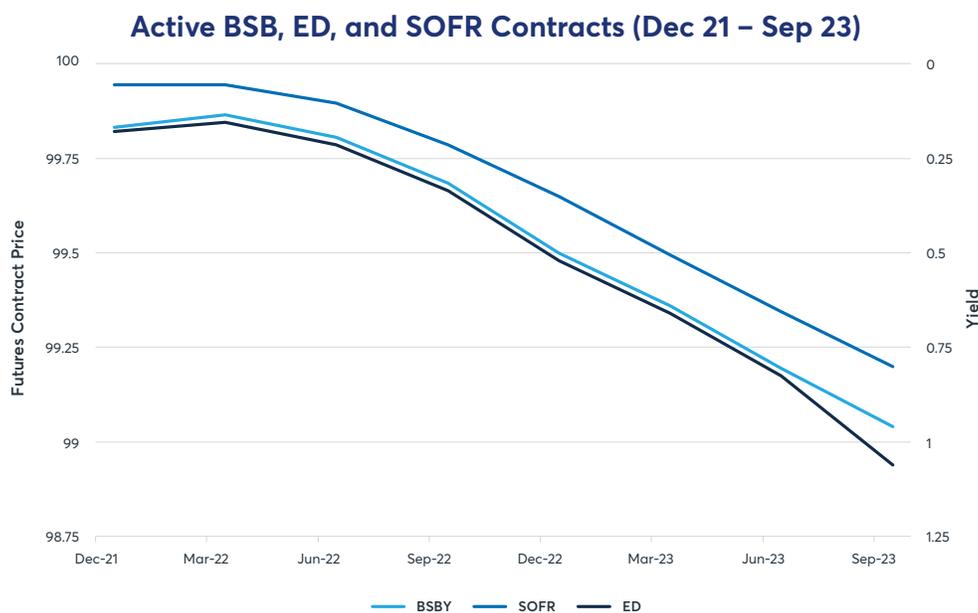
**Three-Month SOFR Price Minus Three-Month BSBY Price**



Sources: CME Group, Bloomberg

There are currently actively quoted prices available for the September 2023 contracts. These are the first SR3/BSB contracts to be priced post cessation of the current reference rate. There is a dynamic credit spread in GE up to June 2023, and after there is a fixed fallback spread of ED futures price plus 26.161. This means that BSBY futures are seeing the true credit spread priced post cessation. Below are the prices of all the active contracts for BSBY, Eurodollars and SOFR. It covers the Dec 21 contracts through the Sep 23 contracts:

**Exhibit 2: Active BSB, ED and SOFR Contracts (Dec 21 to Sep 23)**



Sources: CME Group

## Three-Month BSBY/Three-Month Eurodollar (BSB/GE) Spreads

Three-Month Eurodollar (GE) futures reflect market expectations for interest rates on U.S. dollars deposited in commercial banks outside the United States for specific dates in the future.

The Exchange has also launched a predefined BSB/GE ICS with a 1:1 spread ratio on CME Globex. Implied pricing links the liquidity in the BSB/GE ICS to liquidity in the outright markets for the corresponding BSB futures and GE futures. BSB/GE ICS are available for trading for each of the 20 months that BSBY futures have initially been listed for.

The convention for quoting the spread is “BSB price minus GE price”. Displayed value for BSB/GE will vary between positive and negative values, depending on market conditions. During times of high stress or volatility, BSB/GE will likely be positive because the BSB leg has demonstrated a higher price (i.e., a lower contract interest rate) than the GE leg. Please see the Appendix for technical details of the BSB/GE spread. The three-month period of interest rate exposure will be the same, as both contracts will expire on the same day.

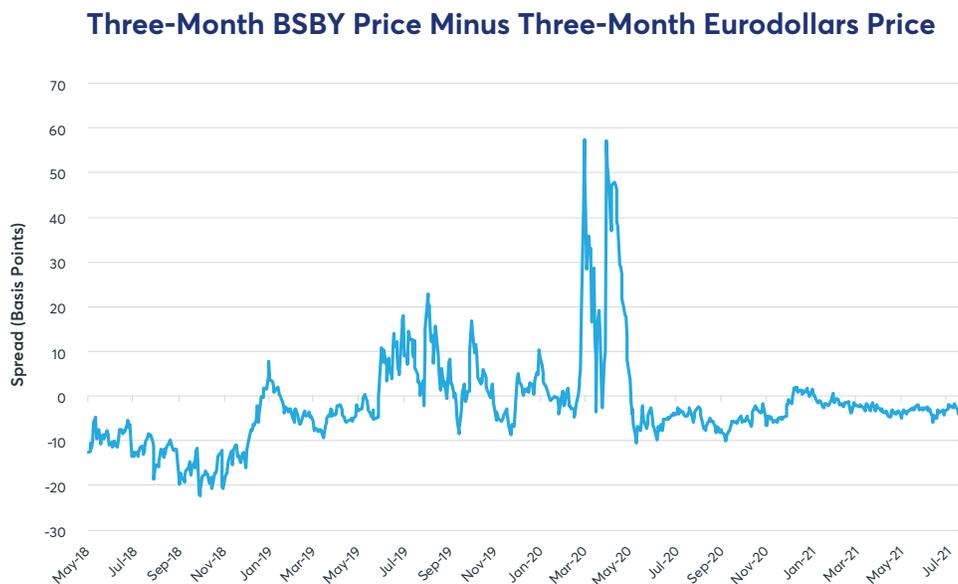
Consider the June 2022 BSB/GE spread (i.e., the price spread between BSBM2 minus GEM2):

BSBM2’s final settlement price will be determined by the USD three-month BSBY Index on Monday, 13 June 2022, corresponding to a three-month unsecured bank funding transaction that settles on the third Wednesday of June, 15 June 2022, and that matures three months later, on Wednesday, 21 September 2022.

GEM2’s final settlement price will be determined by the current benchmark on Monday, 13 June 2022, corresponding to an unsecured USD bank funding transaction that settles on the third Wednesday of June, 15 June 2022, and matures three months later, on Wednesday, 21 September 2022.

As one can see, both contracts have the exact same interest rate exposure due to the shared final settlement date.

### Exhibit 3: Spread Values for Hypothetical BSB Final Settlement Prices versus Actual GE/ED Final Settlement Prices, May 2018-Jul 2021



Sources: CME Group, Bloomberg

The rate that CME Three-Month Eurodollar Futures reference will cease publication on June 30, 2023. The exchange implemented Rule Amendments that ensure open positions in Eurodollar contracts are able to transition away from this reference rate. On the effective date of the Fallback Event with respect to the reference rate, Three-Month Eurodollar contracts will terminate, and CME will convert open positions into positions corresponding to CME Three-Month SOFR contracts. For more details, please refer to the Reference Rate Fallback Event Procedure (45236.) of CME Rulebook Chapter 452. Any Three-Month Eurodollar exposure where the start date is beyond 30 Jun 2023 will start settling to SOFR plus a spread of 26.161 basis points. SOFR-Eurodollar spreads beyond June 2023 are trading in a tight 26-26.5 basis point range, which the fallback conversion spread of 26.161 reflects, thus showing that the futures and options markets have accepted SOFR as the new U.S. interest rate benchmark.

## Appendix

### Technical Details of BSBY Inter-Commodity Spreads on CME Globex

GLOBAL SYMBOL EXAMPLE IPSUM	FRONT LEG	BACK LEG	LEG RATIO	IMPLIED Y/N	MINIMUM TICK	MATCHING ALGORITHM	SPREADS LISTED
SR3M2-BSBM2*	SR3	BSB	1:1	N	0.25	Pro-Rata	1*
				Y	0.5		19
BSBU2-GEU2*	BSB	GE	1:1	N	0.25	Pro-Rata	1*
				Y	0.5		19

\*Implied pricing is disabled when the minimum price increments in the nearby futures and in the spread are reduced from 0.5 basis points to 0.25 basis points.

## Contract specifications

CME THREE-MONTH BSBY FUTURES	
<b>TRADING UNIT</b>	Interest based on the U.S. dollar, three-month tenor, Bloomberg Short-Term Bank Yield Index such that each basis point per annum of interest = \$25 USD per contract.
<b>PRICE BASIS</b>	Contract-grade IMM Index: 100 minus R where: R = Three-month U.S. dollar BSBY Index value for the second New York business day immediately preceding the third Wednesday of the contract's named month of delivery. Example: Contract price of 97.2800 IMM Index points signifies R = 2.7200 percent per annum.
<b>CONTRACT SIZE</b>	\$2500 x contract-grade IMM Index
<b>MINIMUM PRICE INCREMENT</b>	Nearest expiring contract month: 0.0025 IMM Index points (0.25 basis point per annum) equal to \$6.25 per contract All other expiring contract months: 0.005 IMM Index points (0.5 basis point per annum) equal to \$12.50 per contract
<b>LISTING SCHEDULE</b>	20 consecutive IMM months Initial listed month: September 2021
<b>TERMINATION OF TRADING</b>	Termination of Trading: 8.00 am New York time on the second New York business day immediately preceding the third Wednesday of the contract's named month of delivery.
<b>DELIVERY</b>	By cash settlement in USD, by reference to Final Settlement Price, on last day of trading. Final Settlement Price: Contract-grade IMM Index 100 minus R where: R = Three-month U.S. dollar BSBY Index value for the second New York business day immediately preceding the third Wednesday of the contract's named month of delivery.
<b>TRADING AND CLEARING HOURS</b>	<b>CME Globex:</b> Sunday - Friday 5:00 p.m. - 4:00 p.m. Central Time (CT) with a 60-minute break each day beginning at 4:00 p.m. CT <b>CME Globex Pre-Open:</b> Sunday: 4:00 p.m.-5:00 p.m. CT Monday - Thursday: 4:45 p.m. - 5:00 p.m. CT <b>CME ClearPort:</b> Sunday 5:00 p.m. - Friday 5:45 p.m. CT with a 15-minute break each day beginning at 5:45 p.m. CT
<b>POSITION REPORTING AND ACCOUNTABILITY</b>	Reporting Level: 850 contracts Accountability Threshold: 10,000 contracts
<b>BLOCK TRADE MINIMUM</b>	100 contracts reporting window: 5 minutes RTH / 15 minutes ATH and ETH
<b>CME GLOBEX MATCHING ALGORITHM</b>	A-Allocation
<b>COMMODITY CODE</b>	BSB
<b>RULEBOOK CHAPTER</b>	CME <a href="#">454</a>

## Contract specifications

CME THREE-MONTH SOFR FUTURES	
<b>TRADING UNIT</b>	Compounded daily SOFR interest during contract Reference Quarter, such that each basis point per annum of interest = \$25 per contract. Reference Quarter: For a given contract, interval from (and including) third Wed of third month preceding Delivery Month, to (and not including) third Wed of Delivery Month.
<b>PRICE BASIS</b>	Contract-grade IMM Index: 100 minus R. R = compounded daily SOFR interest during contract Reference Quarter. Example: Contract price of 97.2950 IMM Index points signifies R = 2.705 percent per annum.
<b>CONTRACT SIZE</b>	\$25 per basis point per annum (or \$2,500 per contract-grade IMM Index point)
<b>MINIMUM PRICE INCREMENT (MPI)</b>	Contracts with Four Months or Less Until Termination of Trading: 0.0025 IMM Index points (¼ basis point per annum) equal to \$6.25 per contract. All Other Contracts: 0.005 IMM Index points (½ basis point per annum) equal to \$12.50 per contract.
<b>TERMINATION OF TRADING</b>	Last Day of Trading: Exchange Business Day first preceding third Wed of Delivery Month. Termination of Trading: Close of CME Globex trading on Last Day of Trading.
<b>DELIVERY</b>	By cash settlement, by reference to Final Settlement Price, on third Wed of Delivery Month first U.S. government securities market business day following Last Day of Trading. Final Settlement Price: Contract-grade IMM Index (100 minus R) evaluated on the basis of realized SOFR values during contract Reference Quarter: $R = [ \prod_{i=1}^n \{1+(d_i/360) \cdot (r_i / 100)\} - 1 ] \times (360/D) \times 100$ n = Number of US government securities market business days in the Reference Quarter i ~ Running variable indexing U.S. government securities market business days during Reference Quarter $\prod_{i=1}^n$ denotes the product of values indexed by the running variable, $i = 1, 2, \dots, n$ . r <sub>i</sub> = SOFR value for ith US government securities market business day d <sub>i</sub> = Number of calendar days to which r <sub>i</sub> applies D = $\sum d_i$ (i.e., number of calendar days in Reference Quarter)
<b>DELIVERY MONTHS</b>	Quarterly contracts (Mar, Jun, Sep, Dec) listed for 39 consecutive quarters For each contract, Contract Month is the month in which the Reference Quarter begins. Example: For a "Sep" contract, Reference Quarter starts on IMM Wed of Sep and ends with Termination of Trading on first U.S. government securities market business day before IMM Wed of Dec, the contract Delivery Month.
<b>TRADING VENUES AND HOURS</b>	<b>CME Globex and CME ClearPort:</b> 5p.m. to 4p.m., Sun-Fri.
<b>CME GLOBEX ALGORITHM</b>	Allocation (A Algorithm, with Top Order Allocation = 100% and Pro Rata Allocation = 100%)
<b>BLOCK TRADE MINIMUM SIZE</b>	Asian Trading Hours (4p.m.–12a.m., Mon-Fri on regular business days and at all weekend times) 250 contracts European Trading Hours (12a.m.– 7a.m., Mon-Fri on regular business days) 500 Regular Trading Hours (7a.m.–4p.m., Mon-Fri on regular business days) 1,000
<b>PRODUCT CODES</b>	CME: SR3      Bloomberg: SFR Cmdty <GO>
<b>RULEBOOK CHAPTER</b>	CME <b>460</b>

## Contract specifications

CME THREE-MONTH EURODOLLAR FUTURES	
<b>CONTRACT UNIT</b>	\$2,500 x contract IMM Index
<b>PRICE BASIS</b>	Contract IMM Index = 100 minus contract interest rate Contract interest rate = interest rate per annum on three-month unsecured bank borrowing, for spot settlement on Third Wednesday of contract Delivery Month. (e.g., a contract price of 97.45 IMM Index points signifies a contract interest rate of 2.55 percent per annum.)
<b>PRICE INCREMENTS</b>	Nearest Delivery Month ¼ of one interest rate basis point ("bp") = 0.0025 IMM Index points = \$6.25 per contract. (On Last Trading Day in an expiring nearest contract, the next nearest contract begins trading in 0.0025 increments.) All other Delivery Months ½ of one interest rate bp = 0.005 index points = \$12.50 per contract.
<b>DELIVERY MONTHS</b>	Generally, nearest 40 months in March Quarterly cycle. Generally, nearest 4 months not in March Quarterly cycle.
<b>LAST TRADING DAY</b>	Second London bank business day before third Wednesday of Delivery Month
<b>DELIVERY STANDARD</b>	Three-month U.S. dollar ICE LIBOR® set on Last Trading Day, for spot (T+2) settlement on third Wednesday of Delivery Month, rounded to nearest 1/100th of one bp.
<b>DELIVERY METHOD</b>	Cash settlement, by mark-to-market to final settlement price. Final settlement price = Price Basis evaluated at Delivery Standard. Final settlement occurs on Last Trading Day.
<b>TRADING HOURS</b>	5p.m. to 4p.m., Sun-Fri. Trading in expiring contracts terminates at 11a.m. London time on Last Trading Day.
<b>POSITION ACCOUNTABILITY</b>	10,000+ contracts
<b>REPORTABLE POSITIONS</b>	850+ contracts
<b>BLOCK TRADE MINIMUM SIZES</b>	Nearest 20 March Quarterly Delivery Months and all Delivery Months not in March Quarterly cycle:      Farthest 20 March Quarterly Delivery Months:
<b>ATH (4P.M. TO 12A.M.)</b>	1,000 contracts      250 contracts
<b>ETH (12A.M. TO 7AM)</b>	2,000 contracts      500 contracts
<b>RTH (7A.M. TO 4P.M.)</b>	4,000 contracts      1,000 contracts
<b>DESIGNATED CONTRACT MARKET</b>	CME Three-Month Eurodollar futures are listed for trading on, and are subject to the rules and regulations of, CME.
<b>RULEBOOK CHAPTER</b>	CME <a href="#">452</a>

## Vendor codes

	3-MONTH BSBY FUTURES	3-MONTH SOFR VS. 3-MONTH BSBY	3-MONTH BSBY VS. EURODOLLARS
	Outright	1:1 spread	1:1 spread
<b>CME GLOBEX</b>	BSB	SR3	BSB
<b>BLOOMBERG</b>	BSBA Comdty	N/A	N/A
<b>CQG</b>	BSB	SR3BSB	BSBGE
<b>DTN</b>	@BSB	@SR3	@ED
<b>FIDESSA</b>	BSB	SR3	BSB
<b>FIS GLOBAL</b>	BSB	SR3	BSB
<b>ION (PATS &amp; FFASTFILL)</b>	BSB	SR3	BSB
<b>ITIVITI (ORC &amp; TBRICKS)</b>	BSB	SR3	BSB
<b>REFINITIV</b>	BSBY	SRA-BSBY	BSBY
<b>TT</b>	BSB	SR3 BSB	BSB GE
<b>VELA</b>	BSB	SR3	BSB

Bloomberg Index Services Limited and its affiliates (collectively, "Bloomberg") are not affiliated with Chicago Mercantile Exchange Inc. and do not approve, endorse, review or recommend Three-Month Bloomberg Short-Term Bank Yield Index (BSBY) futures. BLOOMBERG and the Bloomberg Short-Term Bank Yield Index are trademarks or service marks of Bloomberg Finance L.P. and have been licensed to Chicago Mercantile Exchange Inc. Bloomberg does not guarantee the timeliness, accurateness, or completeness of any data or information relating to the Bloomberg Short-Term Bank Yield Index.

**New York**  
+1 212 404 1714

**London**  
+44 (0) 20 7818 9000

**Hong Kong**  
+852 2878 6020

**Tokyo**  
+81 3 5511 6678

---

[cmegroup.com](http://cmegroup.com)

Neither futures trading nor swaps trading are suitable for all investors, and each involves the risk of loss. Swaps trading should only be undertaken by investors who are Eligible Contract Participants (ECPs) within the meaning of Section 1a(18) of the Commodity Exchange Act. Futures and swaps each are leveraged investments and, because only a percentage of a contract's value is required to trade, it is possible to lose more than the amount of money deposited for either a futures or swaps position. Therefore, traders should only use funds that they can afford to lose without affecting their lifestyles and only a portion of those funds should be devoted to any one trade because traders cannot expect to profit on every trade.

CME Group, the Globe Logo, CME, Globex, E-Mini, CME Direct, CME DataMine and Chicago Mercantile Exchange are trademarks of Chicago Mercantile Exchange Inc. CBOT is a trademark of the Board of Trade of the City of Chicago, Inc. NYMEX is a trademark of New York Mercantile Exchange, Inc. COMEX is a trademark of Commodity Exchange, Inc. All other trademarks are the property of their respective owners.

The information within this communication has been compiled by CME Group for general purposes only. CME Group assumes no responsibility for any errors or omissions. Additionally, all examples in this communication are hypothetical situations, used for explanation purposes only, and should not be considered investment advice or the results of actual market experience. All matters pertaining to rules and specifications herein are made subject to and superseded by official CME, CBOT, NYMEX and COMEX rules. Current rules should be consulted in all cases concerning contract specifications.