A Bloomberg Professional Services Offering

Bloomberg Professional Services

Indices

# Bloomberg Short-Term Bank Yield Index

**Bulletin**

Underlying Volumes, Resiliency in Periods of Stress and Current Landscape

July 2023

Bloomberg

## Contents

## Introduction

The aim of this bulletin is to provide an account of the performance of the Bloomberg Short-Term Bank Yield Index (BSBY) from the beginning of 2022 to publication as well as during historic and recent periods of market stress, most notably the March 2023 banking crisis. This includes daily underlying volumes across published tenors and details of the waterfall process that can be utilized if liquidity is challenged. This bulletin will also highlight the existing BSBY user and product landscape, to include usage across lending markets.

## Underlying Volumes

### Average Volumes in 2022

BSBY is calculated from a set of transaction related data and executable quotes from primary markets in commercial paper (CP), certificates of deposit (CD), bank deposits and short-term corporate bonds. Data is currently sourced from the Depository Trust & Clearing Corporation (DTCC), Bloomberg's electronic trading solutions and FINRA's reports via the Trade Reporting and Compliance Engine (TRACE).

Each BSBY tenor's rate is generated from transaction-based volumes and executable market quotes that ensures an accurate representation of the USD marginal wholesale, unsecured funding market at a given maturity. As shown in Figure 1, data from CP and CD instruments were the largest contributors to each BSBY tenor in 2022, with short-term corporate bonds being the lowest contributor.

Each BSBY tenor calculation window must meet a minimum, daily volume threshold before a rate can be published[1] using the standard calculation model. At the time of inception, the standard historical three-day rolling window averaged about $200 billion of underlying data. However, as shown in Figure 2, aggregate daily underlying volumes used to construct BSBY increased in 2022, averaging more than $400 billion driven by an increase in volumes across all underlying instruments, primarily CP/CD and bank deposit markets.

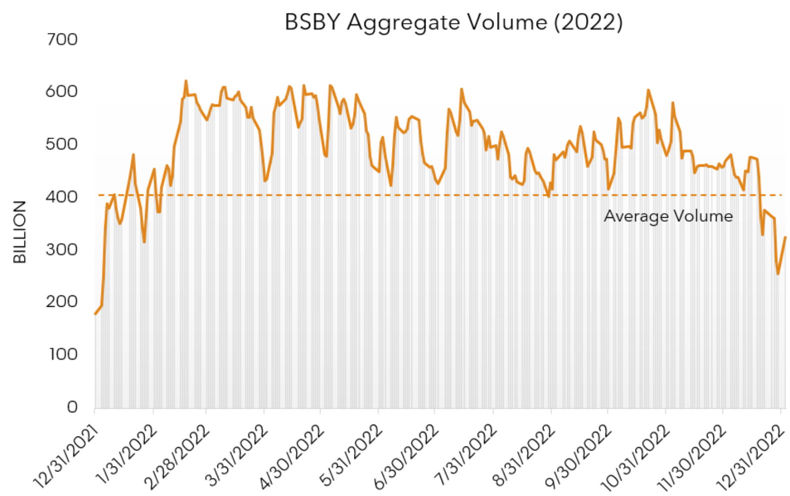



**Figure 2**: Aggregate underlying volume for BSBY in 2022
**Source**: Bloomberg Index Services Limited

Various macroeconomic factors and market stresses contributed to this volume surge including the Russian invasion of Ukraine in February 2022, geopolitical tensions, persistent inflation, and global rate hikes, particularly in the U.S. As shown in Figure 3, underlying volumes have remained robust in 2023, due to the volatility driven by U.S. regional bank stress which began in March.

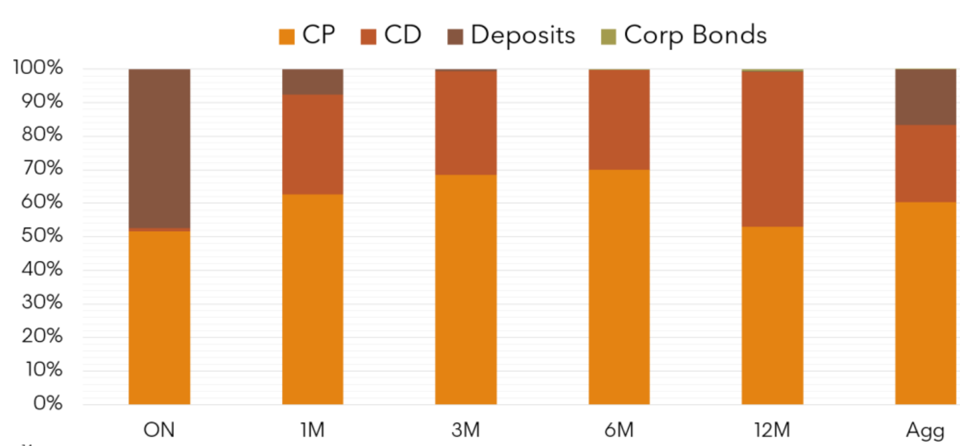
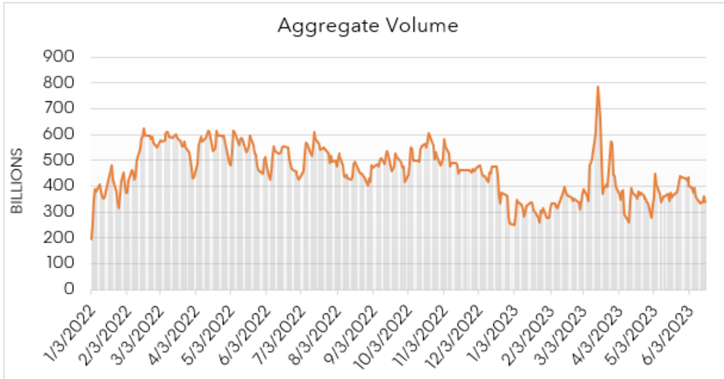
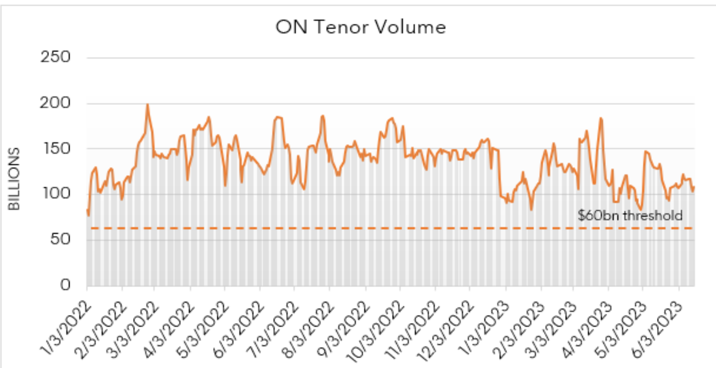


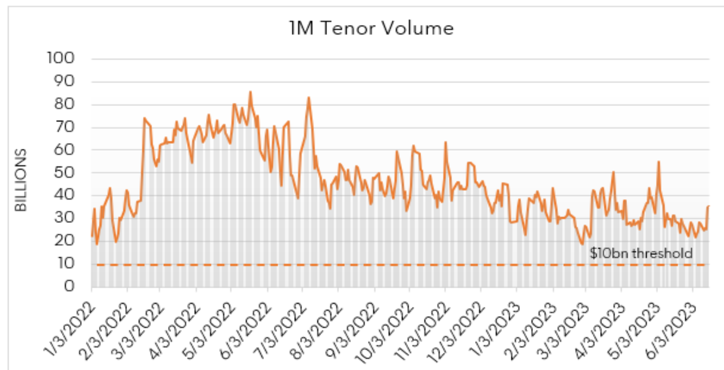

**Figure 1**: Instrument contribution per BSBY tenor and in aggregate for 2022
**Source**: Bloomberg Index Services Limited

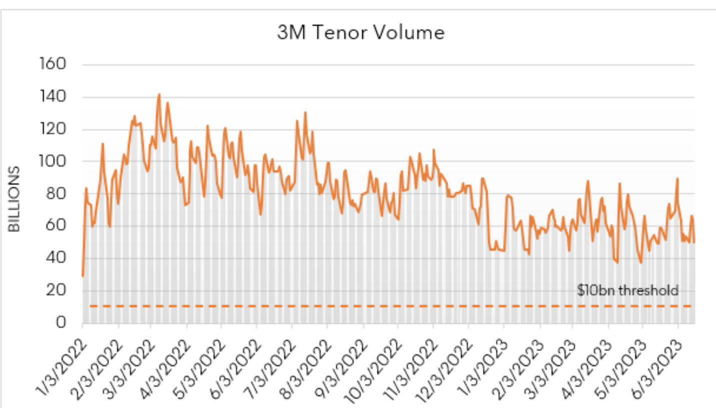
[1] The daily minimum volume thresholds for each index tenor are as follows: $60bn (O/N), $10bn (1M, 3M, 6M) and $9bn (12M)

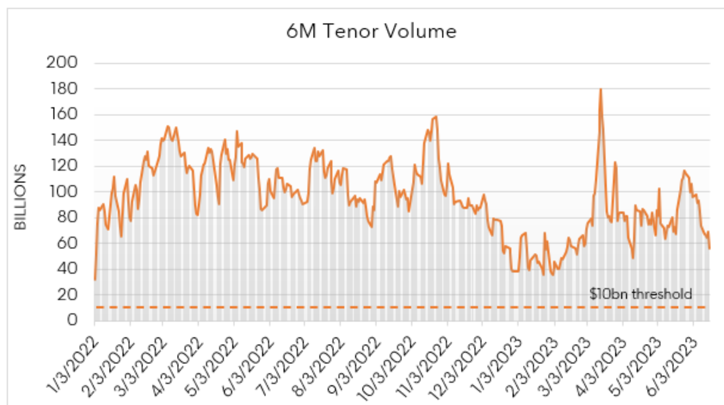
## BSBY Daily Underlying Volumes: 2022 to mid-June 2023



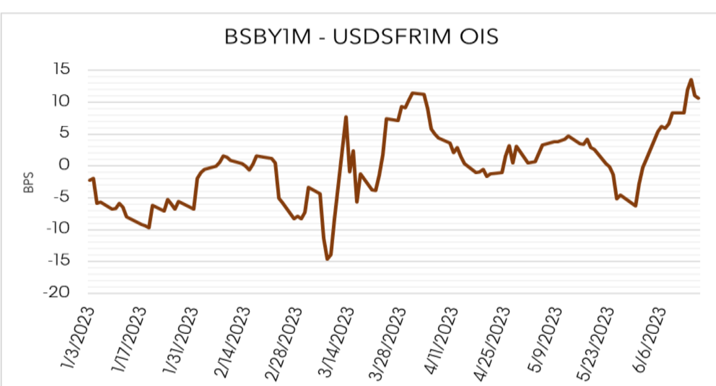




## BSBY-USD SOFR OIS Spreads: 2023 Year-to-Date



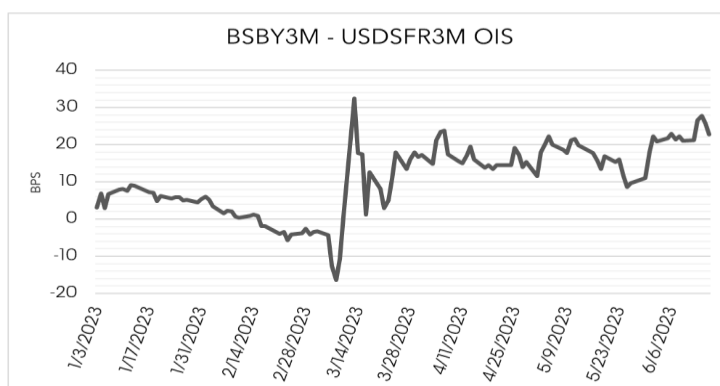




**Figure 3**: Daily underlying volumes (USD bln) based on three-day rolling window and BSBY-USD SOFR OIS Spreads (bps) in 2023 YTD
**Source**: Bloomberg Index Services Limited

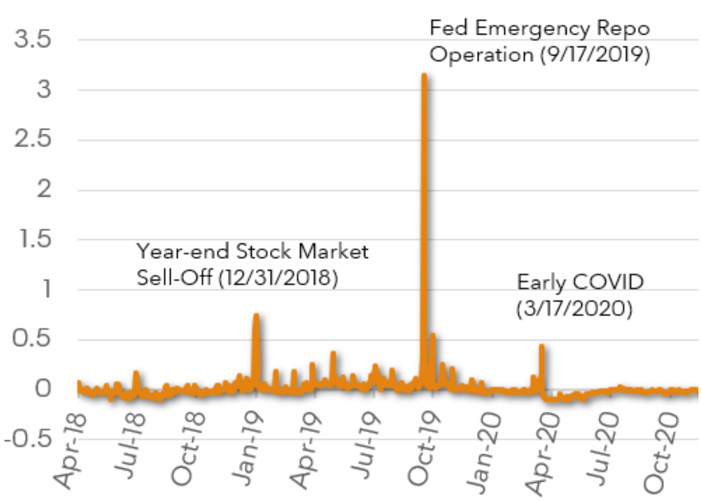
### Volumes During Recent Crises

The spread between SOFR, a broad measure of overnight Treasury repo, and IOER (Interest on Overnight Excess Reserves) is considered an important measure of market stress as they are both 'risk-free' overnight instruments available to banks. Figure 3 highlights this spread widening during the three most significant periods of stress over the past five years. These include:

- Year-end Stock Market Sell-off (December 2018)
- Fed Emergency Repo Operation (September 2019)
- Early COVID (March 2020)

During each one of these extreme market crises, the three-day rolling BSBY volumes exceeded the index tenor thresholds, as shown in the table provided.

**SOFR – IORB Spread**




BSBY Volumes (USD mln)

| | ON | 1M | 3M | 6M | 12M | Totals |
|---|---|---|---|---|---|---|
| Threshold | 60,000 | 10,000 | 10,000 | 10,000 | 9,000 | |
| 12/31/2018 | 72,928 | 51,062 | 63,246 | 50,134 | 51,253 | 288,623 |
| 9/17/2019 | 66,961 | 40,105 | 37,558 | 62,428 | 67,489 | 274,542 |
| 3/17/2020 | 85,535 | 19,478 | 35,066 | 26,846 | 50,900 | 217,825 |

**Figure 4**: SOFR minus Interest on Reserve Balances (IORB) in basis points; three-day rolling BSBY volumes (USD bn)

**Source**: Bloomberg Index Services Limited

BSBY volumes also exhibited a jump across all tenors during the Russian invasion of Ukraine on February 24, 2022, as shown in the next table.

BSBY Volumes (USD mln)

| | ON | 1M | 3M | 6M | 12M | Totals |
|---|---|---|---|---|---|---|
| Threshold | 60,000 | 10,000 | 10,000 | 10,000 | 9,000 | |
| 2/24/2022 | 199,462 | 60,945 | 110,189 | 115,532 | 104,354 | 590,482 |

**Source**: Bloomberg Index Services Limited

Market tensions did not abate in 2023. The first quarter was marked by the biggest bank failure since the 2008 financial crisis when on March 10th, as reported by the Federal Deposit Insurance Corporation (FDIC) in their *Banking Failures in Brief – 2023* [2], Silicon Valley Bank (SVB) was closed with the FDIC appointed as receiver.

Further, as noted in the brief, Signature Bank was closed by the New York State Department of Financial Services on March 12th with the FDIC subsequently appointed as receiver. At the same time, the Federal Reserve Board announced it would make additional funding available to eligible depository institutions through a new Bank Term Funding Program (BTFP) to further safeguard deposits and ease ongoing liquidity pressures.

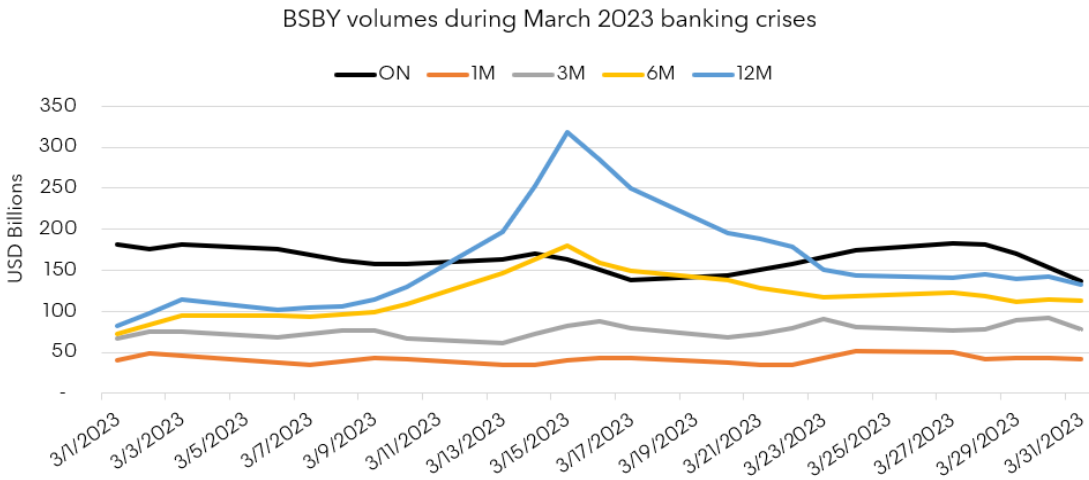
The banking crisis continued in the days that followed with SVB filing for bankruptcy on March 17th and First Citizens BancShares agreeing to acquire the bank on March 26th. Throughout this turbulent period, the robustness of BSBY's underlying volumes were exhibited once again, particularly in the period between the closure and bankruptcy filing of SVB and during its subsequent acquisition.

| | BSBY Volumes | | | | |
|---|---|---|---|---|---|
| Date | ON | 1M | 3M | 6M | 12M |
| 3/8/2023 | 161,285 | 39,461 | 76,406 | 96,618 | 106,535 |
| 3/9/2023 | 157,363 | 42,495 | 76,828 | 99,303 | 114,411 |
| 3/10/2023 | 157,775 | 41,600 | 66,844 | 108,965 | 130,301 |
| 3/13/2023 | 162,776 | 34,683 | 61,898 | 146,385 | 196,941 |
| 3/14/2023 | 169,886 | 34,726 | 72,254 | 162,872 | 252,910 |
| 3/15/2023 | 162,851 | 40,725 | 82,890 | 179,391 | 318,753 |
| 3/16/2023 | 150,535 | 42,807 | 87,914 | 159,589 | 284,144 |
| 3/17/2023 | 138,661 | 43,467 | 80,068 | 148,666 | 249,159 |
| … | … | … | … | … | … |
| 3/27/2023 | 183,234 | 50,438 | 76,372 | 123,353 | 141,294 |
| 3/28/2023 | 181,537 | 41,352 | 77,789 | 118,130 | 145,131 |

**Figure 5**: BSBY volumes (USD mln) during March 2023 banking crises

**Source**: Bloomberg Index Services Limited

[2] Bank Failures in Brief – 2023 available here: https://www.fdic.gov/bank/historical/bank/bfb2023.html




**Source**: Bloomberg Index Services Limited

## Resiliency in Periods of Stress

### Waterfall Process

As evidenced from these historic episodes of market stress and liquidity challenges, BSBY transaction volumes increased due to a robust primary issuance market that performed well for both issuers and investors. However, we must ensure BSBY is resilient and can be published in all market scenarios and, as such, we utilize a 'Calculation Waterfall Process'.

In the event that the minimum thresholds are not met using the 'Standard Calculation' (Level 1 or L1), the BSBY construction algorithm employs a waterfall process that expands the look-back window by incremental days (with a maximum of five days) to meet the required thresholds per index tenor (L2 to L3).

In the event the five-day window of data fails to meet the tenor threshold, particularly in times of extreme stress or during locked markets, the algorithm automatically switches to an index 'resiliency waterfall process' to ensure that a daily BSBY rate is published for each tenor (L4 to L5). This process expands the index corridors. Further details can be found in the methodology document on the website.

If this 'Global Fit' (L5) is unsuccessful at meeting the minimum thresholds for a given tenor, the waterfall will move to Level 6.  Under this market crisis scenario, BSBY will produce a rate by calculating a per tenor 'Spread Adjustment'[3] which will be added to SOFR. If L6 is triggered, a notification will be published to the market. Certain industry documentation from LSTA (for which ISDA has produced a hedging template) contain a fallback trigger based on L6 notification of the waterfall.

The figure below illustrates the waterfall process. Please note that, since launch, BSBY has always used the 'Standard Calculation'. The Calculation Waterfall Process has never been triggered.

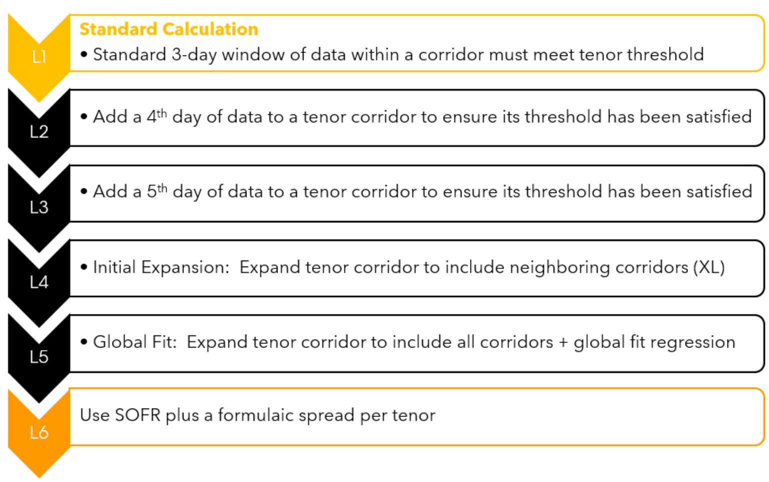



**Figure 6**: BSBY Calculation Waterfall

## Current Landscape

### User Community

As noted above, BSBY was primarily created to address the needs of the U.S. lending markets, providing a series of forward-looking reference rates that is intended to reflect their cost of funding. In addition, lenders/borrowers can use BSBY derivatives to hedge their exposure or swap to fixed rate, a common risk management practice in the lending marketplace.

[3] Spread Adjustments are published daily at: https://www.bloomberg.com/professional/product/indices/bsby/

**Trading Environment**

In alignment with lending market practices and at the request of users, BISL has collaborated with other providers to make BSBY available as part of the current landscape. Market participants can enjoy operational efficiencies and manage their risk efficiently via the use of trading venues, tradable products, clearing, valuation and settlement of BSBY related products. There are now a wide variety of providers and products that support the BSBY user community.

**Trading & Affirmation**

- Bloomberg, MarkitServ, ICAP, Tullett Prebon, Tradition, BGC, Dealerweb

**Lending Products**

- Business & commercial loans and trade finance
- Syndicated loans
- FRN, bank notes and bond issuances

**Derivative Products**

- Futures: Three-Month BSBY Futures, Inter-commodity spreads (vs. SOFR, Fed Funds), Eris BSBY Swap Futures
- Cleared Swaps: IRS (outright, basis (vs. SOFR) with various economic terms
- Bilateral Swaps: Caps-Floors, Swaptions

**Exchanges & CCPs**

- SwapClear – LCH Group, CME Group

**Curve Instruments**

- CME BSBY Futures
- BSBY IRS (1M and 3M)
- BSBY Tenor Basis (1M v 3M, 3M v 6M)
- BSBY vs SOFR and BSBY vs FF Basis
- Swap Spread vs U.S. Treasury

In addition, as highlighted in our most recent Fact Sheet[4]:

- BSBY is reflected in ISDA's 2021 Floating Rate Option Definitions and the Loan Syndications and Trading Association (LSTA)'s 'Credit-Sensitive Rate Slot-in Rider for Fallback Language'.
- BSBY has been designed for use in both fair value and cash flow hedge accounting.
- Bloomberg Terminal functions, including the swap pricing manager (SWPM) and the yield analysis function (YAS) now support BSBY products.

**Debt Markets Usage**

The main use case for BSBY is a reference rate for the USD lending market, more specifically commercial loans. As a forward-looking term rate, BSBY has been designed to respond to changes in financial markets that affect short-term funding. BSBY rates aim to reflect lenders' cost of funding, which helps reduce the mismatch between a bank's own cost of funding and the interest rate on loans they've issued.

Since BSBY's launch, we've observed corporate lending, primarily syndicated loans, the majority of which are revolvers and term loans. The vast majority of issuances reference the 1-month BSBY tenor with an average maturity between four and five years. Based on user feedback, we understand bilateral loans referencing BSBY in the US loan market are multiples of the syndicated loan market.

**Derivative Markets Usage**

The derivatives market benchmarked to BSBY, while modest, continues on the back of the need to hedge risk. The 3-month BSBY futures are listed at CME with sustained open interest around 12,000 contracts.

The interest rate swap markets referencing BSBY began in April 2021, with the first trades taking place bilaterally. In Q4, 2021 both CME and LCH began offering clearing services for BSBY swaps. This resulted in over $40 billion of BSBY swaps reported to DTCC by the end of the first quarter of 2022.

To date, the aggregate notional tied to BSBY swaps, across both bilateral and cleared markets, is approaching $64 billion. Whilst the bulk of this risk is comprised of vanilla fixed-float interest rate swaps (90%), around 7% are swaptions with the remaining risk is in basis and exotic swaps. In alignment with the lending markets, the 1-month BSBY tenor is most commonly referenced with an average swap maturity between four and five years. This usage seems consistent with market practice around the use of swap hedging activity tied to lending.

## Conclusion

As demonstrated, BSBY's underlying volumes have remained robust over the life of the index and, in particular, during the recent regional bank stresses in March of this year. BSBY has remained resilient without the need to trigger the calculation waterfall and is well positioned to complement the primary and predominant benchmark, SOFR, as we move into a new interest rate environment.

[4] BSBY Fact Sheet available here: https://assets.bbhub.io/professional/sites/10/BSBY-Fact-Sheet_231025.pdf

## Disclaimer

The data included in these materials are for illustrative purposes only. None of Bloomberg Index Services Limited ("BISL"), Bloomberg Finance L.P. ("BFLP") or any of their affiliates guarantees or makes any claim, prediction, warranty, or representation whatsoever, express or implied, regarding the timeliness, accuracy, completeness of, or fitness for a particular purpose with respect to, BSBY and each shall have no liability in connection therewith. None of BISL, BFLP, or any of their affiliates makes any representations regarding whether the Index would be appropriate for any financial instruments. Market participants are encouraged to consider and analyze BSBY and determine independently whether it would be appropriate for any such use.

BSBY is not sponsored, endorsed, sold or promoted by DTCC Solutions LLC or any of its affiliates (collectively, "DTCC"). DTCC makes no representation or warranty, express or implied, to any member of the public with respect to BSBY or any financial product based on BSBY. DTCC shall not responsible for any errors or omissions in, or delays or interruptions to the delivery of, BSBY, regardless of the cause. In no event, shall DTCC be liable for any direct, indirect, special or consequential damages, costs, expenses, legal fees, or losses (including lost income or lost profit, trading loses and opportunity costs) in connection with BSBY or any financial product based on BSBY.