

# TRANSITION TO RFRs REVIEW: First Half of 2023 and the Second Quarter of 2023

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The Transition to Risk-free Rates (RFRs) Review analyzes the trading volumes of over-the-counter (OTC) and exchange-traded interest rate derivatives (IRD) that reference selected RFRs, including the Secured Overnight Financing Rate (SOFR), the Sterling Overnight Index Average (SONIA) and the Euro Short-Term Rate (€STR).

Global data is collected from all major central counterparties (CCPs) that clear OTC and exchange-traded derivatives (ETD) in eight currencies, including the Australian Securities Exchange, CME Group, Eurex, Intercontinental Exchange (ICE), Japan Securities Clearing Corporation, LCH, the Tokyo Financial Exchange and TMX. Only cleared transactions are captured in this data.

US data is collected from the Depository Trust & Clearing Corporation (DTCC) swap data repository (SDR). It covers only transactions that are required to be disclosed under Commodity Futures Trading Commission regulations and includes cleared and non-cleared OTC IRD.

## CONTENTS

<b>Key Highlights for the First Half of 2023 and the Second Quarter of 2023 .....</b>	<b>03</b>
Global Trading Activity .....	03
Trading Activity in the US.....	03
 <b>Global RFR-linked OTC and Exchange-traded Derivatives .....</b>	 <b>06</b>
 <b>RFR-linked OTC IRD in the US .....</b>	 <b>08</b>
SOFR .....	10
SONIA .....	12
€STR.....	14
 <b>IBOR-linked OTC IRD in the US .....</b>	 <b>19</b>
 <b>SOFR and SONIA Futures.....</b>	 <b>21</b>

## KEY HIGHLIGHTS FOR THE FIRST HALF OF 2023 AND THE SECOND QUARTER OF 2023

### Global Trading Activity<sup>1</sup>

The ISDA-Clarus RFR Adoption Indicator tracks how much global trading activity (as measured by DV01) is conducted in cleared OTC and exchange-traded IRD that reference RFRs in eight major currencies<sup>2</sup>.

#### In the first half of 2023:

The ISDA-Clarus RFR Adoption Indicator rose to a monthly average of 56.2% compared to 50.5% in the second half of 2022<sup>3</sup>. RFR-linked IRD traded notional accounted for 52.3% of total IRD traded notional in the first half of 2023 versus 44.9% in the second half of 2022.

#### In the second quarter of 2023:

The ISDA-Clarus RFR Adoption Indicator increased to a monthly average of 59.1% versus 54.0% in the first quarter of 2023. RFR-linked IRD traded notional accounted for 54.9% of total IRD traded notional in the second quarter of 2023 versus 50.4% in the prior quarter.

### Trading Activity in the US<sup>4</sup>

#### In the first half of 2023:

US-reported OTC IRD traded notional referencing RFRs increased by 49.1% to \$89.5 trillion in the first half of 2023 compared to \$60.1 trillion in the second half of 2022. RFR transactions accounted for 48.5% of total OTC IRD traded notional in the first half of 2023, up from 43.5% in the second half of 2022.

<sup>1</sup> The global data is collected from all major central counterparties (CCPs) that clear over-the-counter (OTC) and exchange-traded derivatives (ETD) in eight currencies, including the Australian Securities Exchange, CME Group, Eurex, Intercontinental Exchange (ICE), Japan Securities Clearing Corporation, LCH, the Tokyo Financial Exchange and TMX. Only cleared transactions are captured in this data

<sup>2</sup> ISDA-Clarus RFR Adoption Indicator White Paper [www.isda.org/a/SlmTE/ISDA-Clarus-RFR-Adoption-Indicator-Whitepaper.pdf](https://www.isda.org/a/SlmTE/ISDA-Clarus-RFR-Adoption-Indicator-Whitepaper.pdf)

<sup>3</sup> The RFR Adoption Indicator was 58.1% in June 2023. ISDA-Clarus RFR Adoption Indicator, June 2023 [www.isda.org/a/7oogE/ISDA-Clarus-RFR-Adoption-Indicator-June-2023.pdf](https://www.isda.org/a/7oogE/ISDA-Clarus-RFR-Adoption-Indicator-June-2023.pdf)

<sup>4</sup> The US data is collected from the Depository Trust & Clearing Corporation (DTCC) swap data repository (SDR). It covers only transactions that are required to be disclosed under Commodity Futures Trading Commission regulations and includes cleared and non-cleared OTC IRD transactions

- OTC IRD traded notional referencing SOFR rose by 44.9% to \$41.7 trillion in the first half of 2023 from \$28.8 trillion in the second half of 2022. SOFR transactions comprised 51.7% of US dollar-denominated OTC IRD traded notional in the first half of 2023 compared to 44.9% in the second half of 2022.
- SONIA-linked OTC IRD traded notional grew by 42.4% to \$17.1 trillion in the first half of 2023 versus \$12.0 trillion in the second half of 2022. SONIA transactions made up 97.7% of sterling-denominated OTC IRD traded notional in the first half of 2023 compared to 97.2% in the second half of 2022.
- OTC IRD traded notional referencing €STR increased by 59.7% to \$27.0 trillion in the first half of 2023 compared to \$16.9 trillion in the second half of 2022. €STR-linked transactions represented 43.4% of euro-denominated OTC IRD traded notional in the first half of 2023, up from 37.5% in the second half of 2022.
- OTC IRD traded notional referencing LIBOR denominated in US dollars, sterling, Swiss franc, yen and euro, as well as EURIBOR and TIBOR, fell by 10.3% to \$42.4 trillion in the first half of 2023 from \$47.3 trillion in the second half of 2022. These interbank offered rates (IBORs) represented 23.0% of total OTC IRD traded notional in the first half of 2023 compared to 34.3% in the second half of 2022.

#### **In the second quarter of 2023:**

US-reported OTC IRD traded notional referencing RFRs dropped by 17.3% to \$40.5 trillion in the second quarter of 2023 versus \$49.0 trillion in the previous quarter. RFR transactions comprised 52.8% of total OTC IRD traded notional compared to 45.4% in the first quarter of 2023.

- SOFR-linked OTC IRD traded notional declined by 12.8% to \$19.4 trillion in the second quarter of 2023 from \$22.3 trillion in the previous quarter. SOFR transactions made up 59.0% of US dollar-denominated OTC IRD traded notional versus 46.6% in the first quarter of 2023.
- OTC IRD traded notional referencing SONIA fell by 16.0% to \$7.8 trillion in the second quarter of 2023 versus \$9.3 trillion in the first quarter of 2023. SONIA transactions accounted for 98.1% of sterling-denominated OTC IRD traded notional compared to 97.4% in the first quarter of 2023.

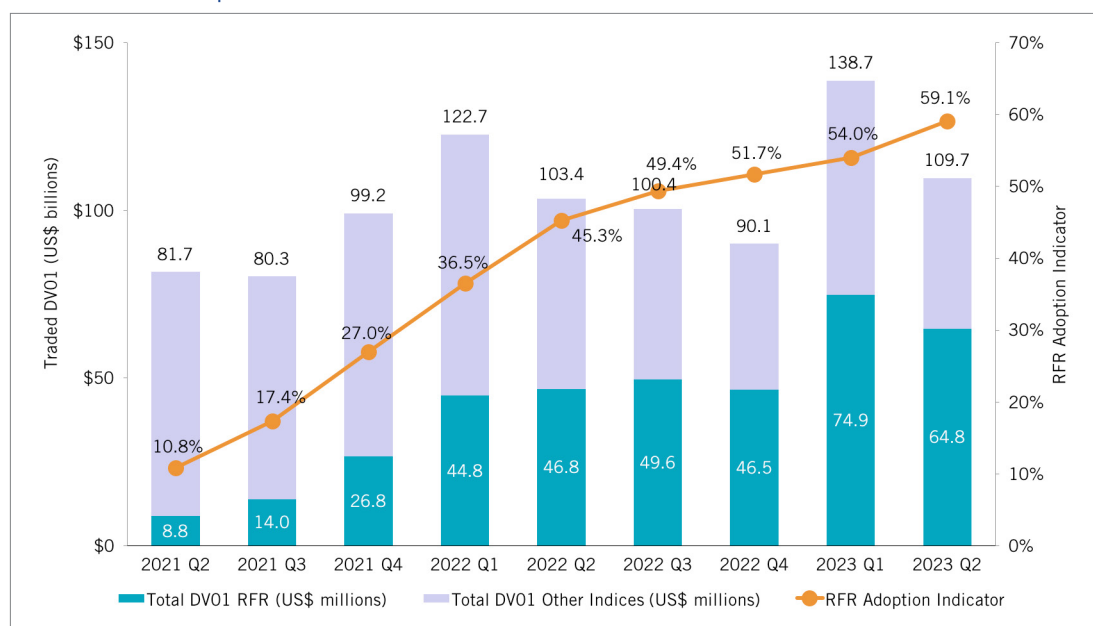
- OTC IRD traded notional linked to €STR dropped by 24.4% to \$11.6 trillion in the second quarter of 2023 compared to \$15.4 trillion in the prior quarter. €STR transactions comprised 47.0% of euro-denominated OTC IRD traded notional versus 41.0% in the first quarter of 2023.
- OTC IRD traded notional referencing LIBOR denominated in US dollars, sterling, Swiss franc, yen and euro, as well as EURIBOR and TIBOR, fell by 49.0% to \$14.3 trillion in the second quarter of 2023 compared to \$28.1 trillion in the previous quarter. These IBORs represented 18.7% of total OTC IRD traded notional compared to 26.0% in the first quarter of 2023.

## GLOBAL RFR-LINKED OTC AND EXCHANGE-TRADED IRD

The ISDA-Clarus RFR Adoption Indicator rose to a monthly average of 56.2% in the first half of 2023 compared to 50.5% in the second half of 2022. RFR-linked IRD DV01 increased to \$139.7 billion versus \$96.2 billion in the second half of 2022. Total IRD DV01 grew to \$248.4 billion from \$190.5 billion over the same period.

In the second quarter of 2023, the ISDA-Clarus RFR Adoption Indicator rose to a monthly average of 59.1% versus 54.0% in the first quarter of 2023. RFR-linked IRD DV01 fell to \$64.8 billion in the second quarter of 2023 compared to \$74.9 billion in the prior quarter. Total IRD DV01 dropped to \$109.7 billion from \$138.7 billion over the same period<sup>5</sup> (see Chart 1).

**Chart 1: RFR Adoption Indicator: % of DV01 Transacted as RFR-linked IRD Products**



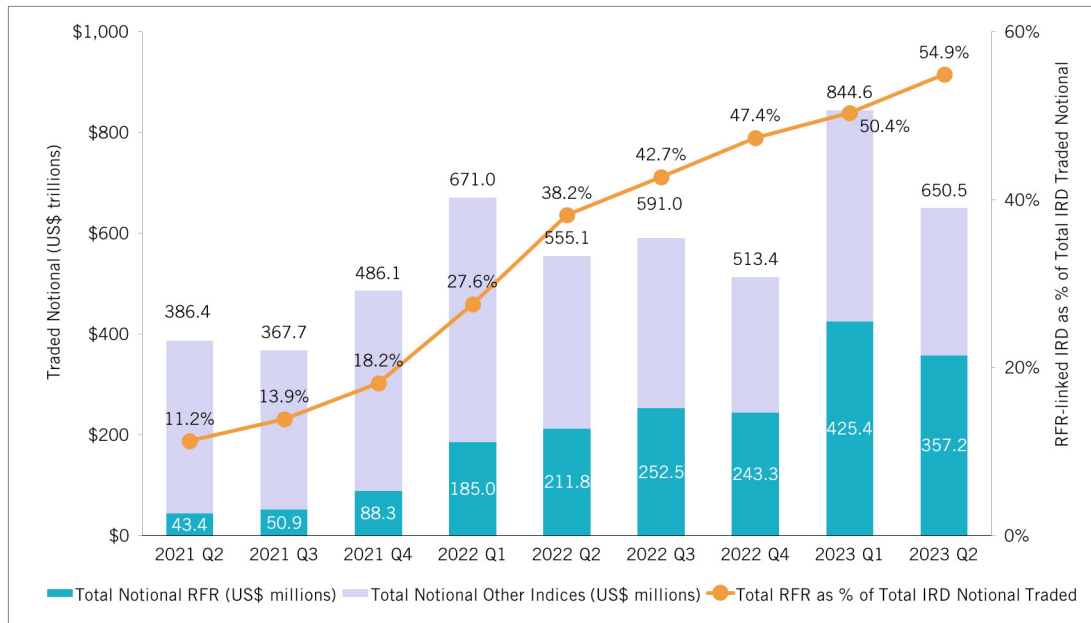
Source: ISDA-Clarus RFR Adoption Indicator

IRD traded notional referencing RFRs increased to 52.3% of total IRD traded notional in the first half of 2023 versus 44.9% in the second half of 2022. RFR-linked IRD traded notional, which includes OTC and ETD, totaled \$782.6 trillion in the first half of 2023 compared to \$495.8 trillion in the second half of 2022. Total IRD traded notional rose to \$1,495.1 trillion from \$1,104.3 trillion over the same period.

RFR-linked IRD traded notional grew to 54.9% of total IRD traded notional in the second quarter of 2023 versus 50.4% in the prior quarter. IRD traded notional referencing RFRs totaled \$357.2 trillion in the second quarter of 2023 compared to \$425.4 trillion in the previous quarter. Total IRD traded notional declined to \$650.5 trillion from \$844.6 trillion over the same period (see Chart 2).

<sup>5</sup> To access interactive charts and download monthly data, go to <https://rfr.clarusft.com>

**Chart 2:** Global IRD Traded Notional (including OTC and ETD)



Source: ISDA-Clarus RFR Adoption Indicator

## RFR-LINKED OTC IRD IN THE US

US-reported OTC IRD traded notional referencing RFRs rose by 49.1% to \$89.5 trillion in the first half of 2023 compared to \$60.1 trillion in the second half of 2022. RFR transactions made up 48.5% of total OTC IRD traded notional in the first half of 2023, up from 43.5% in the second half of 2022.

The number of trades referencing RFRs grew by 29.7% to 648.8 thousand in the first half of 2023 from 500.2 thousand in the second half of 2022. RFR-linked trades represented 47.1% of total OTC IRD trade count in the first half of 2023 versus 43.2% in the second half of 2022.

### In the first half of 2023:

- SOFR-linked OTC IRD traded notional increased by 44.9% versus the second half of 2022 and totaled \$41.7 trillion, including \$4.6 trillion of basis swaps. Trade count grew from 331.0 thousand to 450.2 thousand, including 33.1 thousand basis swaps.
- OTC IRD traded notional referencing SONIA grew by 42.4% to \$17.1 trillion, including \$501.2 billion of basis swaps. Trade count increased by 2.4% to 87.1 thousand, including 4.4 thousand basis swaps.
- SARON-linked OTC IRD traded notional rose to \$616.4 billion, including \$67.6 billion of basis swaps. Trade count increased to 12.1 thousand, including 632 basis swaps.
- OTC IRD traded notional linked to TONA grew to \$3.1 trillion, including \$709.7 billion of basis swaps. Trade count rose to 40.0 thousand, including 6.6 thousand basis swaps.
- €STR-linked OTC IRD traded notional rose by 59.7% to \$27.0 trillion, including \$1.2 trillion of basis swaps. Trade count grew to 59.6 thousand, including 7.4 thousand basis swaps.

### In the second quarter of 2023:

- OTC IRD traded notional referencing SOFR fell by 12.8% compared with the first quarter of 2023 and totaled \$19.4 trillion, including \$2.4 trillion of basis swaps. Trade count dropped from 236.8 thousand to 213.3 thousand, including 17.0 thousand basis swaps.
- SONIA-linked OTC IRD traded notional declined by 16.0% to \$7.8 trillion, including \$257.9 billion of basis swaps. Trade count fell by 24.3% over the same period and totaled 37.5 thousand, including 2.1 thousand basis swaps.

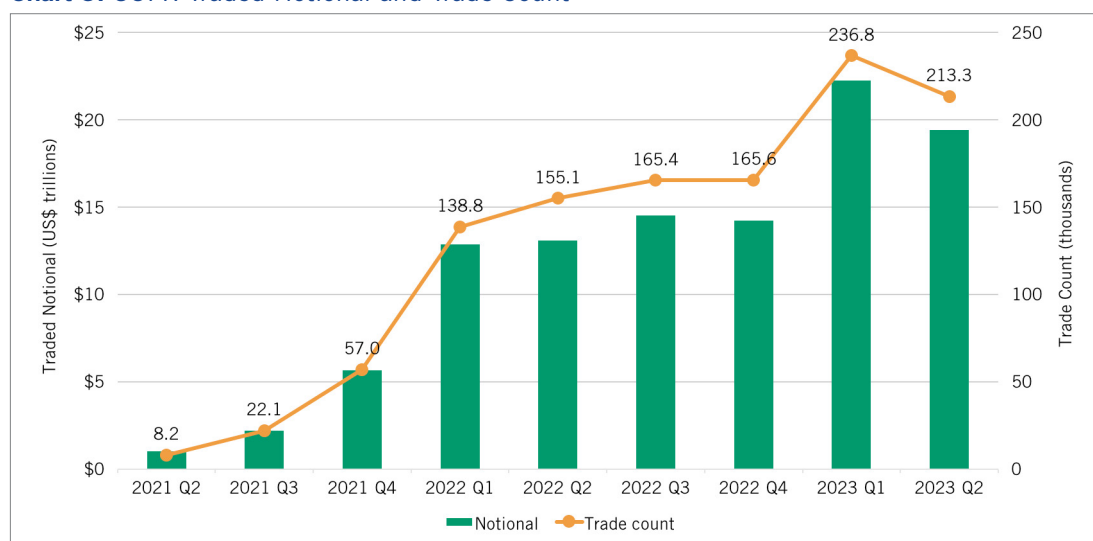


- OTC IRD traded notional referencing SARON rose to \$319.4 billion, including \$43.7 billion of basis swaps. Trade count fell to 6.0 thousand, including 363 basis swaps.
- OTC IRD traded notional linked to TONA dropped to \$1.3 trillion, including \$332.2 billion of basis swaps. Trade count declined to 16.6 thousand, including 2.8 thousand basis swaps.
- €STR-linked OTC IRD traded notional fell by 24.4% to \$11.6 trillion, including \$600.3 billion of basis swaps. Trade count dropped to 27.0 thousand, including 3.6 thousand basis swaps.

## SOFR

SOFR-linked OTC IRD traded notional declined by 12.8% to \$19.4 trillion in the second quarter of 2023 from \$22.3 trillion in the prior quarter. The number of SOFR-linked OTC IRD transactions fell by 9.9% to 213.3 thousand from 236.8 thousand over the same period (see Chart 3).

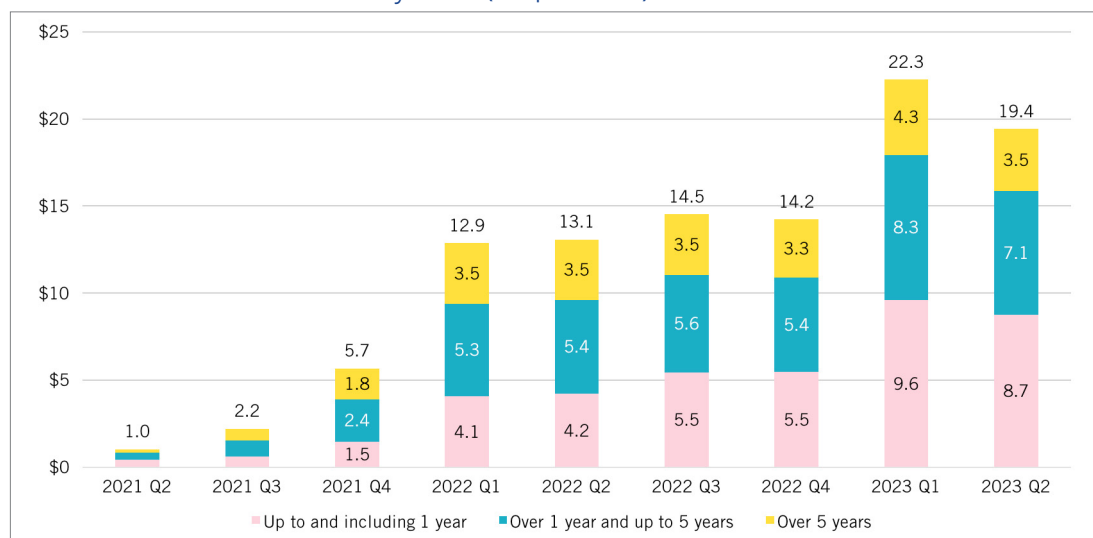
**Chart 3: SOFR Traded Notional and Trade Count**



Source: DTCC SDR

Of the \$19.4 trillion of SOFR-linked OTC IRD traded notional in the second quarter of 2023, \$8.7 trillion (45.0%) had a tenor up to and including one year, \$7.1 trillion (36.7%) was over one and up to five years and \$3.5 trillion (18.3%) had a tenor over five years<sup>6</sup> (see Chart 4).

**Chart 4: SOFR Traded Notional by Tenor (US\$ trillions)**

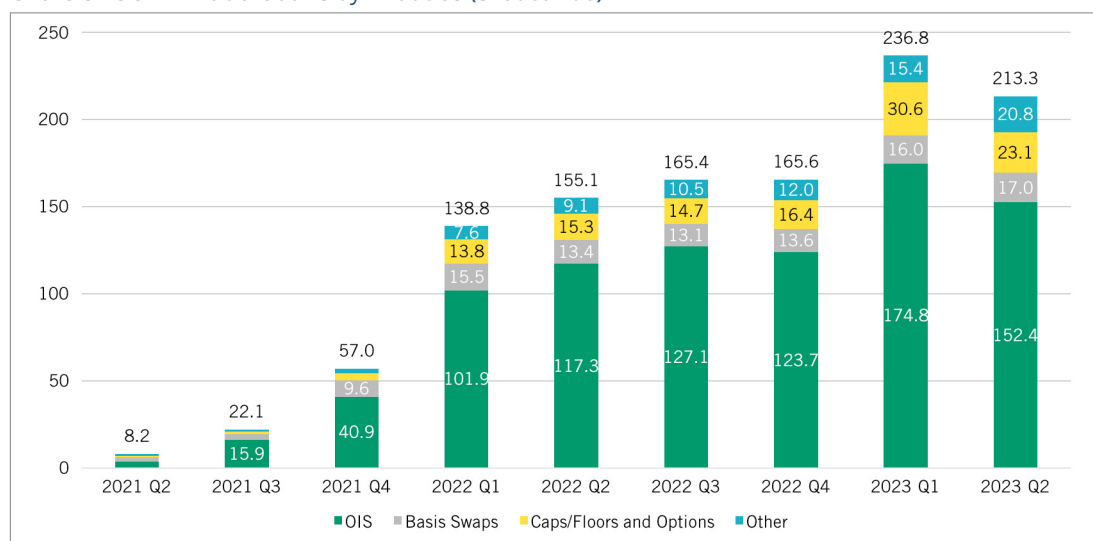


Source: DTCC SDR

<sup>6</sup> Tenor is calculated as the difference between the effective date and the maturity date

Overnight index swaps (OIS) made up the majority of SOFR-linked contracts in the second quarter of 2023. Of the 213.3 thousand transactions, 152.4 thousand were OIS, 17.0 thousand were basis swaps, 23.1 thousand were cap-floor and options products, and 20.8 thousand were other transactions, including fixed-for-floating interest rate swaps (see Chart 5).

**Chart 5: SOFR Trade Count by Product (thousands)**

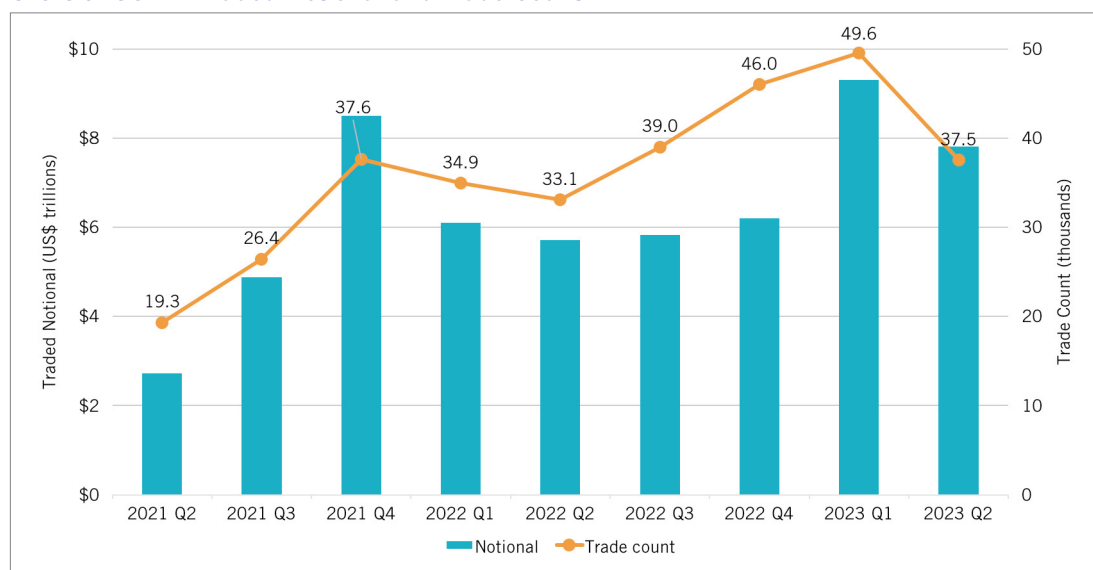


Source: DTCC SDR

## SONIA

OTC IRD traded notional referencing SONIA declined by 16.0% to \$7.8 trillion in the second quarter of 2023 from \$9.3 trillion in the prior quarter. Trade count fell by 24.3% from 49.6 thousand to 37.5 thousand over the same period (see Chart 6).

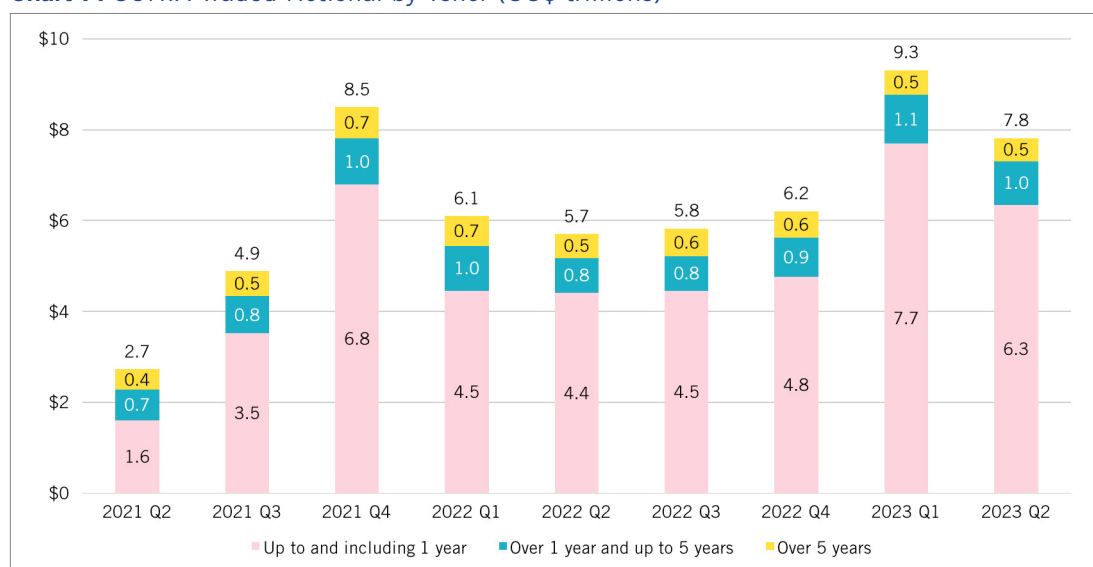
**Chart 6: SONIA Traded Notional and Trade Count**



Source: DTCC SDR

Most transactions referencing SONIA had a tenor up to one year. Of the \$7.8 trillion of SONIA-linked OTC IRD traded notional in the second quarter of 2023, \$6.3 trillion (81.2%) had a tenor up to and including one year, \$1.0 trillion (12.3%) was between one and five years and \$0.5 trillion (6.6%) had a tenor over five years (see Chart 7).

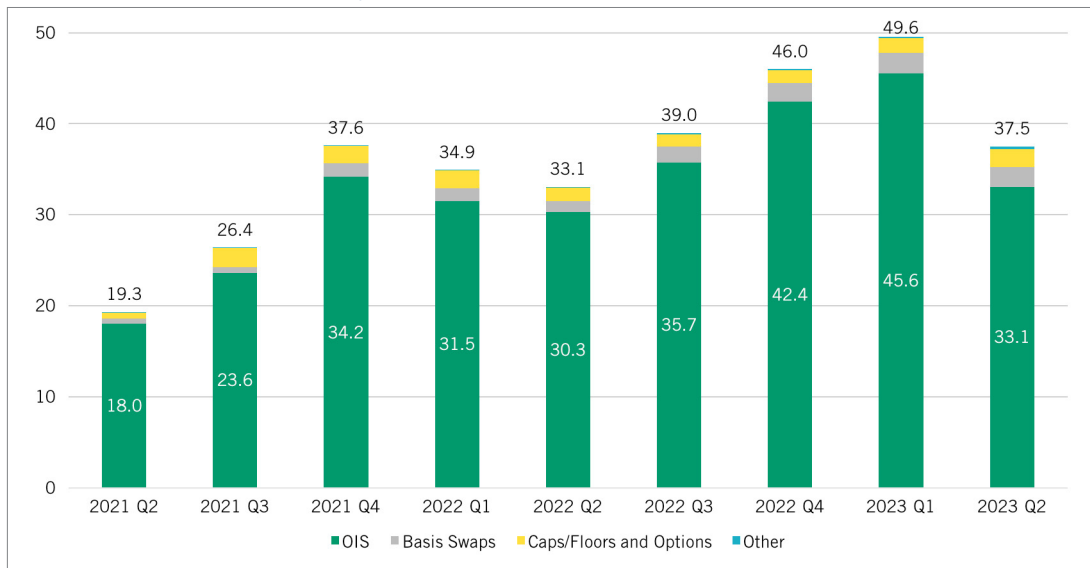
**Chart 7: SONIA Traded Notional by Tenor (US\$ trillions)**



Source: DTCC SDR

OIS transactions represented the majority of SONIA-linked OTC IRD trade count. Of the 37.5 thousand SONIA transactions in the second quarter of 2023, 33.1 thousand were OIS, 2.1 thousand were basis swaps, 2.0 thousand were cap-floor and option trades, and 276 were other products (see Chart 8).

**Chart 8: SONIA Trade Count by Product (thousands)**

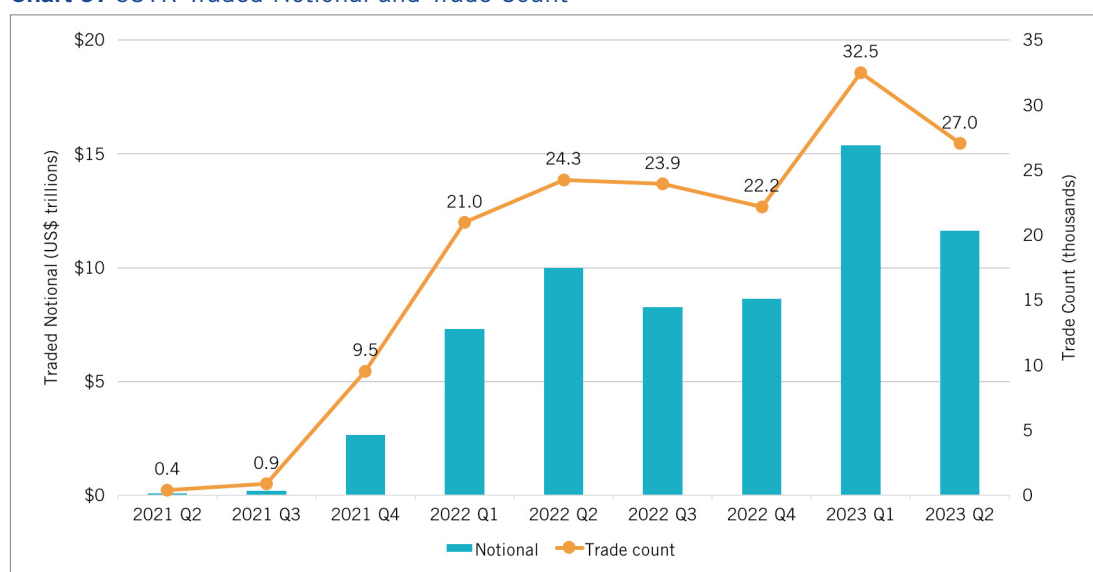


Source: DTCC SDR

## €STR

Trading activity in €STR-linked OTC IRD dropped by 24.4% to \$11.6 trillion in the second quarter of 2023 from \$15.4 trillion in the first quarter of 2023. Trade count fell by 16.8% from 32.5 thousand to 27.0 thousand over the same period<sup>7</sup> (see Chart 9).

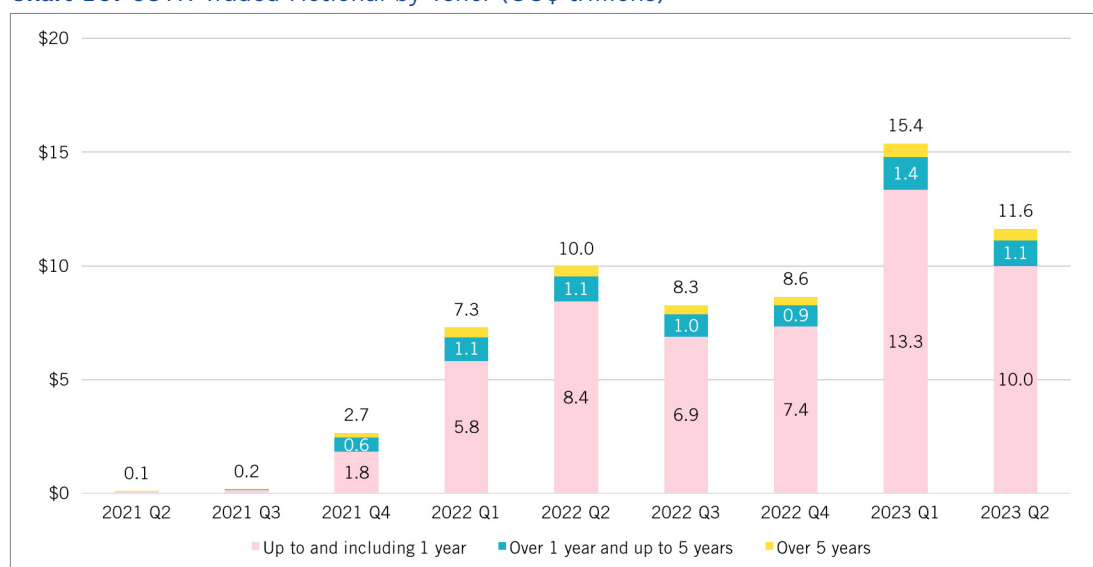
**Chart 9: €STR Traded Notional and Trade Count**



Source: DTCC SDR

Most transactions referencing €STR had a short tenor. Of the \$11.6 trillion of €STR-linked IRD traded notional in the second quarter of 2023, \$10.0 trillion (85.9%) had a tenor up to and including one year, \$1.1 trillion (9.7%) was between one and five years and \$0.5 trillion (4.4%) had a tenor over five years (see Chart 10).

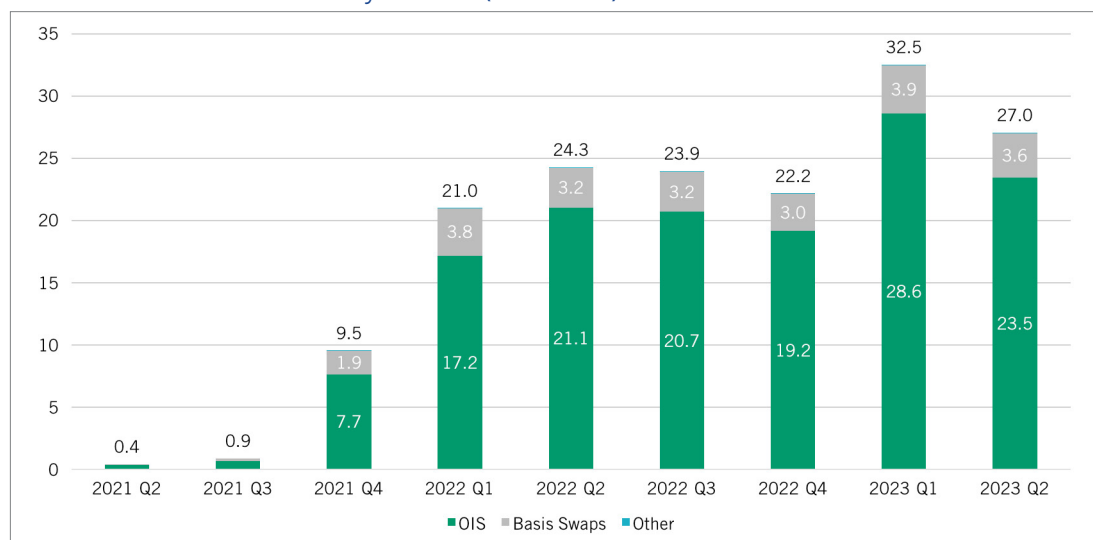
**Chart 10: €STR Traded Notional by Tenor (US\$ trillions)**



Source: DTCC SDR

OIS accounted for the majority of €STR-linked OTC IRD trade count. Of the 27.0 thousand €STR contracts traded in the second quarter of 2023, 23.5 thousand were OIS and 3.6 thousand were basis swaps (see Chart 11).

**Chart 11: €STR Trade Count by Product (thousands)**



Source: DTCC SDR

**Table 1: US IRD Traded Notional and Trade Count**

	Q2 2023		H1 2023	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count
USD LIBOR	1,899.1	14,325	9,054.8	50,300
SOFR	17,041.0	196,301	37,053.0	417,101
Basis Swaps: SOFR	2,379.5	17,035	4,631.0	33,084
GBP LIBOR	1.4	6	5.3	36
SONIA	7,561.3	35,383	16,631.0	82,715
Basis Swaps: SONIA	257.9	2,136	501.2	4,354
CHF LIBOR	0.011	1	0.0	1
SARON	275.7	5,645	548.8	11,433
Basis Swaps: SARON	43.7	363	67.6	632
JPY LIBOR	0.4	17	1.3	44
TIBOR/Euroyen TIBOR	1.8	30	8.6	84
TONA	983.3	13,781	2,354.3	33,419
Basis Swaps: TONA	332.2	2,785	709.7	6,551
EUR LIBOR	0.0	0	0.0	0
EURIBOR	12,420.0	98,866	33,330.5	254,081
€STR	11,035.6	23,486	25,855.9	52,134
Basis Swaps: €STR	600.3	3,557	1,161.8	7,414
Other*	21,860.9	195,768	52,674.6	422,745
<b>Total**</b>	<b>76,694.4</b>	<b>609,485</b>	<b>184,589.2</b>	<b>1,376,128</b>

\*Other includes IRD with other reference rates, IBOR/non-RFR basis swaps and IBOR/IBOR basis swaps that reference different IBORs IBOR/IBOR basis swaps that reference the same IBOR are included in a corresponding IBOR category

RFR/RFR basis swaps that reference different RFRs are included in both RFR basis swaps categories and, therefore, are double-counted

\*\*This data includes only the transactions required to be disclosed under U.S. regulations and does not include any exchange-traded derivatives (futures)

Source: DTCC SDR

**Table 2: US IRD Traded Notional and Trade Count Q2 2023 vs. Q1 2023**

	Q2 2023		Q1 2023		Q2 2023 vs. Q1 2023	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count	Traded Notional	Trade Count
USD LIBOR	1,899.1	14,325	7,155.7	35,975	-73.5%	-60.2%
SOFR	19,420.5	213,336	22,263.5	236,849	-12.8%	-9.9%
GBP LIBOR	1.4	6	3.9	30	-62.8%	-80.0%
SONIA	7,819.2	37,519	9,312.9	49,550	-16.0%	-24.3%
CHF LIBOR	0.01	1	0.0	0		
SARON	319.4	6,008	297.0	6,057	7.6%	-0.8%
JPY LIBOR	0.4	17	0.9	27	-54.3%	-37.0%
TIBOR/Euroyen TIBOR	1.8	30	6.7	54	-73.0%	-44.4%
TONA	1,315.5	16,566	1,748.4	23,404	-24.8%	-29.2%
EUR LIBOR	0.0	0	0.0	0		
EURIBOR	12,420.0	98,866	20,910.4	155,215	-40.6%	-36.3%
€STR	11,636.0	27,043	15,381.7	32,505	-24.4%	-16.8%
Other*	21,860.9	195,768	30,813.7	226,977	-29.1%	-13.7%
<b>Total**</b>	<b>76,694.4</b>	<b>609,485</b>	<b>107,894.7</b>	<b>766,643</b>	<b>-28.9%</b>	<b>-20.5%</b>

\*Other includes IRD with other reference rates, IBOR/non-RFR basis swaps and IBOR/IBOR basis swaps that reference different IBORs IBOR/IBOR basis swaps that reference the same IBOR are included in a corresponding IBOR category  
RFR/RFR basis swaps that reference different RFRs are included in both RFR basis swaps categories and, therefore, are double-counted  
\*\*This data includes only the transactions required to be disclosed under U.S. regulations and does not include any exchange-traded derivatives (futures)

Source: DTCC SDR

**Table 3: US IRD Traded Notional and Trade Count H1 2023 vs. H2 2022**

	H1 2023		H2 2022		H1 2023 vs. H2 2022	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count	Traded Notional	Trade Count
USD LIBOR	9,054.8	50,300	20,057.2	88,656	-54.9%	-43.3%
SOFR	41,684.0	450,185	28,759.6	331,029	44.9%	36.0%
GBP LIBOR	5.3	36	2.9	31	82.2%	16.1%
SONIA	17,132.2	87,069	12,029.7	85,022	42.4%	2.4%
CHF LIBOR	0.0	1	0.1	2	-89.1%	-50.0%
SARON	616.4	12,065	528.6	9,813	16.6%	22.9%
JPY LIBOR	1.3	44	2.9	67	-56.1%	-34.3%
TIBOR/Euroyen TIBOR	8.6	84	5.8	87	48.6%	-3.4%
TONA	3,063.9	39,970	1,813.2	28,197	69.0%	41.8%
EUR LIBOR	0.0	0	0.0	3	-100.0%	-100.0%
EURIBOR	33,330.5	254,081	27,197.4	239,940	22.6%	5.9%
€STR	27,017.7	59,548	16,918.2	46,098	59.7%	29.2%
Other*	52,674.6	422,745	30,655.1	328,336	71.8%	28.8%
<b>Total**</b>	<b>184,589.2</b>	<b>1,376,128</b>	<b>137,970.7</b>	<b>1,157,281</b>	<b>33.8%</b>	<b>18.9%</b>

\*Other includes IRD with other reference rates, IBOR/non-RFR basis swaps and IBOR/IBOR basis swaps that reference different IBORs IBOR/IBOR basis swaps that reference the same IBOR are included in a corresponding IBOR category  
RFR/RFR basis swaps that reference different RFRs are included in both RFR basis swaps categories and, therefore, are double-counted  
\*\*This data includes only the transactions required to be disclosed under U.S. regulations and does not include any exchange-traded derivatives (futures)

Source: DTCC SDR



**Table 4: US IRD Traded Notional and Trade Count H1 2023 vs. H1 2022**

	H1 2023		H1 2022		H1 2023 vs. H1 2022	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count	Traded Notional	Trade Count
USD LIBOR	9,054.8	50,300	32,971.4	143,037	-72.5%	-64.8%
SOFR	41,684.0	450,185	25,949.3	293,877	60.6%	53.2%
GBP LIBOR	5.3	36	15.3	75	-65.5%	-52.0%
SONIA	17,132.2	87,069	11,811.0	68,027	45.1%	28.0%
CHF LIBOR	0.0	1	0.1	2	-86.0%	-50.0%
SARON	616.4	12,065	448.3	8,610	37.5%	40.1%
JPY LIBOR	1.3	44	4.8	101	-73.4%	-56.4%
TIBOR/Euroyen TIBOR	8.6	84	6.3	88	35.0%	-4.5%
TONA	3,063.9	39,970	1,705.6	24,699	79.6%	61.8%
EUR LIBOR	0.0	0	0.1	1	-100.0%	-100.0%
EURIBOR	33,330.5	254,081	31,594.9	262,049	5.5%	-3.0%
€STR	27,017.7	59,548	17,276.4	45,236	56.4%	31.6%
Other*	52,674.6	422,745	35,347.1	314,113.0	49.0%	34.6%
<b>Total**</b>	<b>184,589.2</b>	<b>1,376,128</b>	<b>157,130.6</b>	<b>1,159,915</b>	<b>17.5%</b>	<b>18.6%</b>

\*Other includes IRD with other reference rates, IBOR/non-RFR basis swaps and IBOR/IBOR basis swaps that reference different IBORs IBOR/IBOR basis swaps that reference the same IBOR are included in a corresponding IBOR category  
RFR/RFR basis swaps that reference different RFRs are included in both RFR basis swaps categories and, therefore, are double-counted  
\*\*This data includes only the transactions required to be disclosed under U.S. regulations and does not include any exchange-traded derivatives (futures)

Source: DTCC SDR

**Table 5: US RFR-linked IRD Traded Notional and Trade Count by Tenor**

	Q2 2023		H1 2023	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count
SOFR	19,420.5	213,336	41,684.0	450,185
Up to 1 year	8,748.6	33,386	18,347.6	73,566
Over 1 year and up to 5 years	7,122.6	88,908	15,455.1	182,424
Over 5 years	3,549.2	91,042	7,881.3	194,195
SONIA	7,819.2	37,519	17,132.2	87,069
Up to 1 year	6,347.3	6,893	14,040.4	14,644
Over 1 year and up to 5 years	959.6	13,874	2,036.9	29,852
Over 5 years	512.4	16,752	1,054.8	42,573
SARON	319.4	6,008	616.4	12,065
Up to 1 year	170.8	503	314.7	987
Over 1 year and up to 5 years	119.6	3,284	246.7	6,361
Over 5 years	29.0	2,221	55.0	4,717
TONA	1,315.5	16,566	3,063.9	39,970
Up to 1 year	579.6	2,319	1,404.0	5,880
Over 1 year and up to 5 years	494.5	6,814	1,072.7	15,334
Over 5 years	241.5	7,433	587.2	18,756
€STR	11,636.0	27,043	27,017.7	59,548
Up to 1 year	9,996.2	8,246	23,335.9	18,227
Over 1 year and up to 5 years	1,123.3	9,396	2,561.0	21,098
Over 5 years	516.5	9,401	1,120.8	20,223

RFR/RFR basis swaps that reference different RFRs are included in both RFR basis swaps categories and, therefore, are double-counted  
This data includes only the transactions required to be disclosed under U.S. regulations and does not include any exchange-traded derivatives (futures)

Source: DTCC SDR

**Table 6: US RFR-linked IRD Traded Notional and Trade Count by Product**

	Q2 2023		H1 2023	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count
<b>SOFR</b>	19,420.5	213,336	41,683.9	450,185
<b>OIS</b>	12,922.3	152,429	27,678.7	327,273
Basis Swaps	2,379.5	17,035	4,631.0	33,084
Fixed-for-Floating IRS	349.4	15,731	628.0	26,153
Cross Currency IRS	53.3	1,846	113.2	4,145
Inflation Swaps	0.7	9	1.5	23
Exotics	484.3	3,232	1,011.7	5,897
Options	2,636.1	18,909	6,391.4	46,279
Caps/Floors	594.8	4,145	1,228.4	7,331
<b>SONIA</b>	7,819.2	37,519	17,132.2	87,069
<b>OIS</b>	7,024.8	33,075	15,760.8	78,639
Basis Swaps	257.9	2,136	501.2	4,354
Fixed-for-Floating IRS	1.1	10	1.4	13
Cross Currency IRS	0.1	1	0.3	5
Inflation Swaps	0.0	0	0.0	0
Exotics	2.0	265	4.9	376
Options	394.6	1,903	680.9	3,455
Caps/Floors	138.8	129	182.6	227
<b>SARON</b>	319.4	6,008	616.4	12,065
<b>OIS</b>	275.7	5,645	548.8	11,433
Basis Swaps	43.7	363	67.6	632
Fixed-for-Floating IRS	0.0	0	0.0	0
Cross Currency IRS	0.0	0	0.0	0
Inflation Swaps	0.0	0	0.0	0
Exotics	0.0	0	0.0	0
Options	0.0	0	0.0	0
Caps/Floors	0.0	0	0.0	0
<b>TONA</b>	1,315.5	16,566	3,063.9	39,970
<b>OIS</b>	821.4	11,320	1,988.3	27,906
Basis Swaps	332.2	2,785	709.7	6,551
Fixed-for-Floating IRS	0.0	2	0.0	2
Cross Currency IRS	1.1	8	1.1	8
Inflation Swaps	0.0	0	0.0	0
Exotics	0.1	1	0.8	19
Options	160.6	2,447	353.6	5,453
Caps/Floors	0.1	3	10.5	31
<b>€STR</b>	11,636.0	27,043	27,017.7	59,548
<b>OIS</b>	11,033.2	23,471	25,848.3	52,089
Basis Swaps	600.3	3,557	1,161.8	7,414
Fixed-for-Floating IRS	0.3	3	0.9	7
Cross Currency IRS	0.5	3	0.5	3
Inflation Swaps	0.0	1	0.1	2
Exotics	0.0	0	0.2	5
Options	1.6	8	6.0	28
Caps/Floors	0.0	0	0.0	0

RFR/RFR basis swaps that reference different RFRs are included in both RFR basis swaps categories and, therefore, are double-counted  
This data includes only the transactions required to be disclosed under U.S. regulations and does not include any exchange-traded derivatives (futures)

Source: DTCC SDR

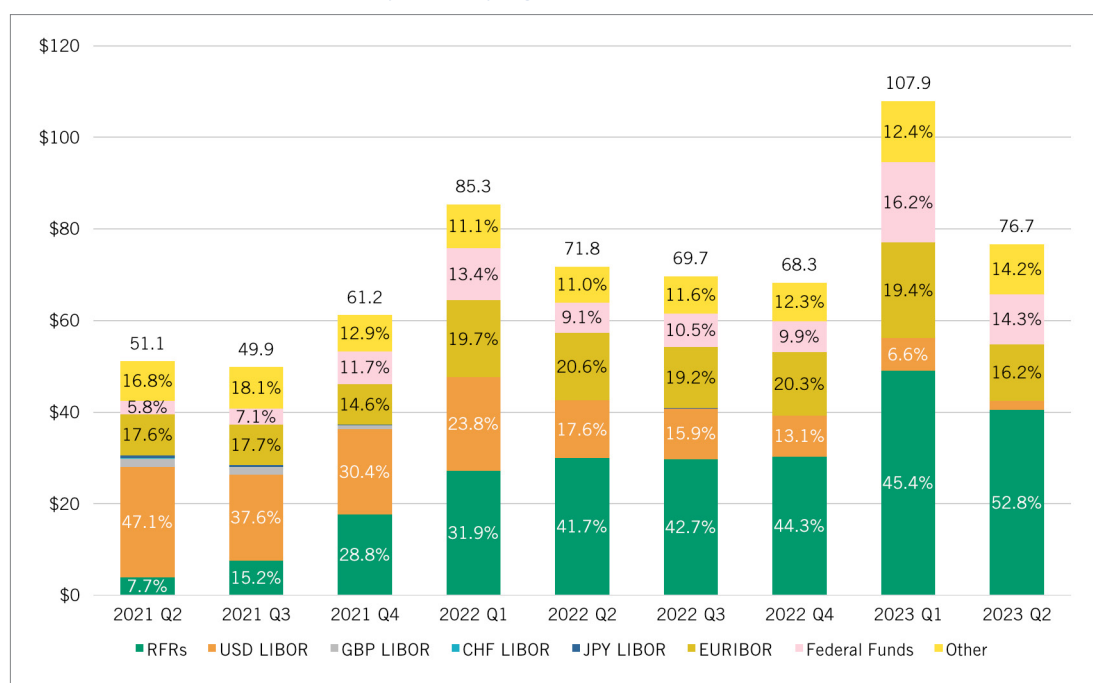
## IBOR-LINKED OTC IRD IN THE US

OTC IRD traded notional referencing LIBOR denominated in US dollars, sterling, Swiss franc, yen and euro, as well as EURIBOR and TIBOR, fell by 10.3% to \$42.4 trillion in the first half of 2023 from \$47.3 trillion in the second half of 2022. The number of trades referencing IBORs dropped by 7.4% to 304.6 thousand from 328.8 thousand over the same period. IBOR-linked transactions represented 23.0% of total OTC IRD traded notional in the first half of 2023 compared to 34.3% in the second half of 2022.

IBOR-linked OTC IRD traded notional fell by 49.0% to \$14.3 trillion in the second quarter of 2023 from \$28.1 trillion in the previous quarter. The number of trades declined by 40.8% to 113.3 thousand from 191.3 thousand over the same period. IBOR-linked transactions represented 18.7% of total OTC IRD traded notional in the second quarter of 2023 versus 26.0% in the prior quarter<sup>8</sup>.

EURIBOR-linked IRD traded notional was \$12.4 trillion, which made up 16.2% of total OTC IRD traded notional. IRD traded notional referencing US dollar LIBOR totaled \$1.9 trillion, accounting for 2.5% of total OTC IRD traded notional. OTC IRD traded notional linked to the effective federal funds rate was \$10.9 trillion, which represented 14.3% of IRD traded notional in the second quarter of 2023<sup>9</sup> (see Chart 12).

**Chart 12: IRD Traded Notional by Underlying Interest Rate Benchmark (US\$ trillions)**



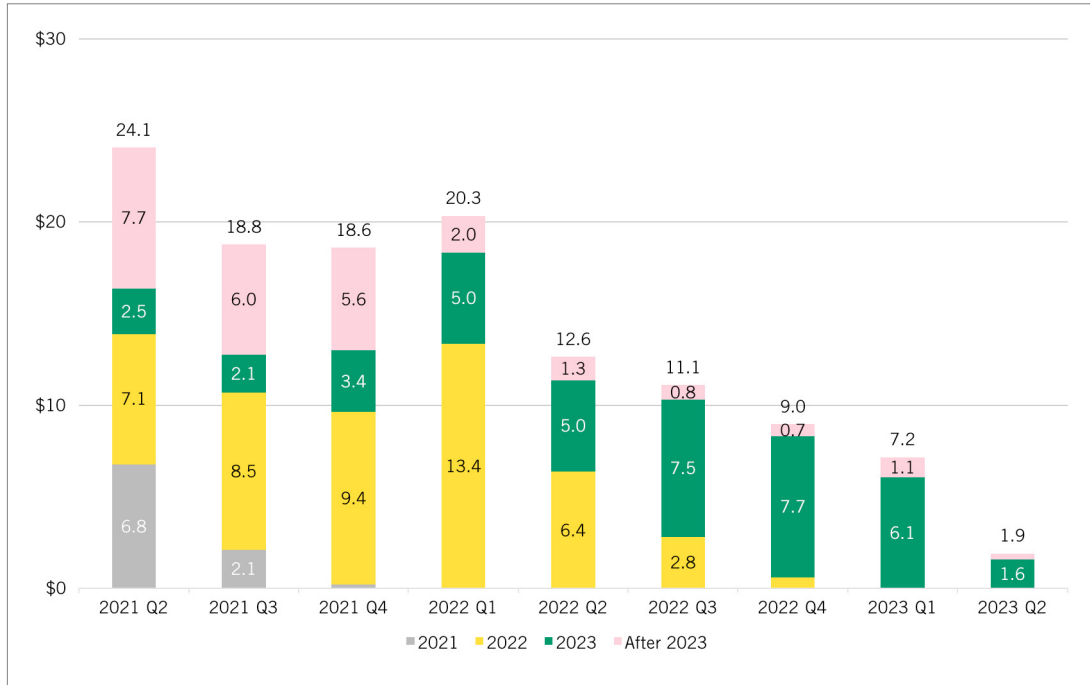
Source: DTCC SDR

Of the \$1.9 trillion of US dollar LIBOR-linked OTC IRD traded notional in the second quarter of 2023, \$1.6 trillion had a 2023 maturity, while \$0.3 trillion had a maturity after 2023 (see Chart 13).

<sup>8</sup> This data covers only transactions that are required to be disclosed under US regulations

<sup>9</sup> Risk-free rate (RFR)/RFR basis swaps that reference different RFRs are double counted. These swaps totaled about \$1.2 trillion in the second quarter of 2023

**Chart 13:** US dollar LIBOR IRD Traded Notional by Maturity (US\$ trillions)



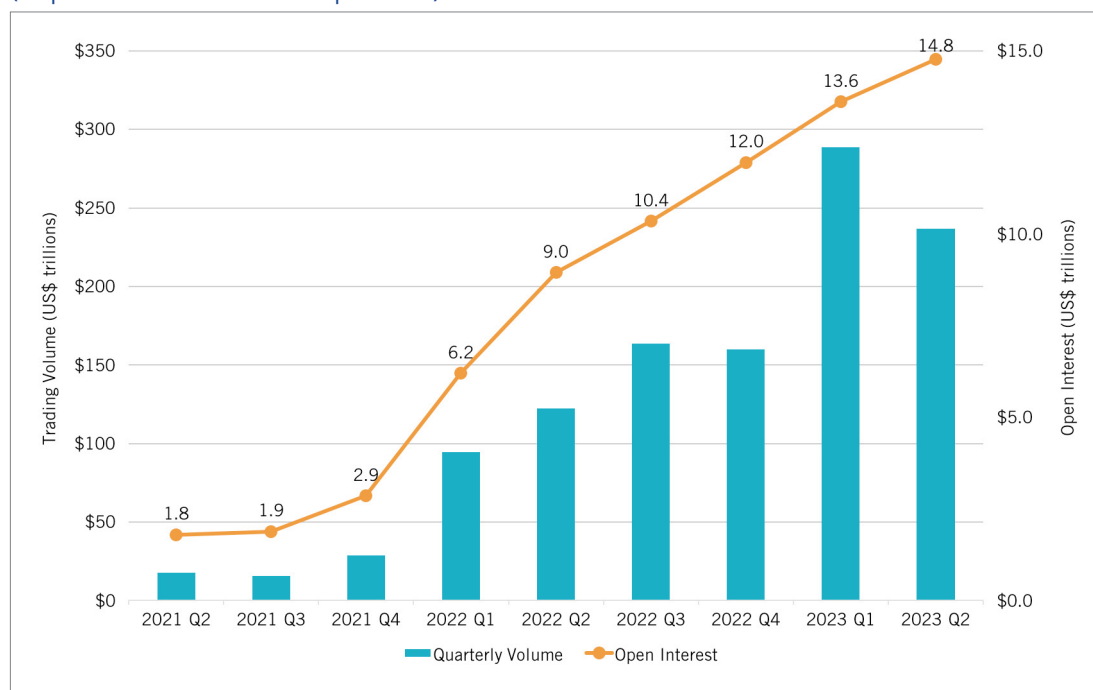
Source: DTCC SDR

## SOFR AND SONIA FUTURES

Trading volume in SOFR futures totaled \$525.3 trillion in the first half of 2023 versus \$323.8 trillion in the second half of 2022. Open interest increased to \$14.8 trillion at the end of June 2023 versus \$12.0 trillion at the end of December 2022<sup>10</sup>.

Trading volume in SOFR futures dropped to \$236.6 trillion in the second quarter of 2023 compared to \$288.7 trillion in the prior quarter (see Chart 14).

**Chart 14:** SOFR Futures Quarterly Trading Volume and Open Interest  
(Implied Notional in OTC Equivalent)



Source: CME and ICE

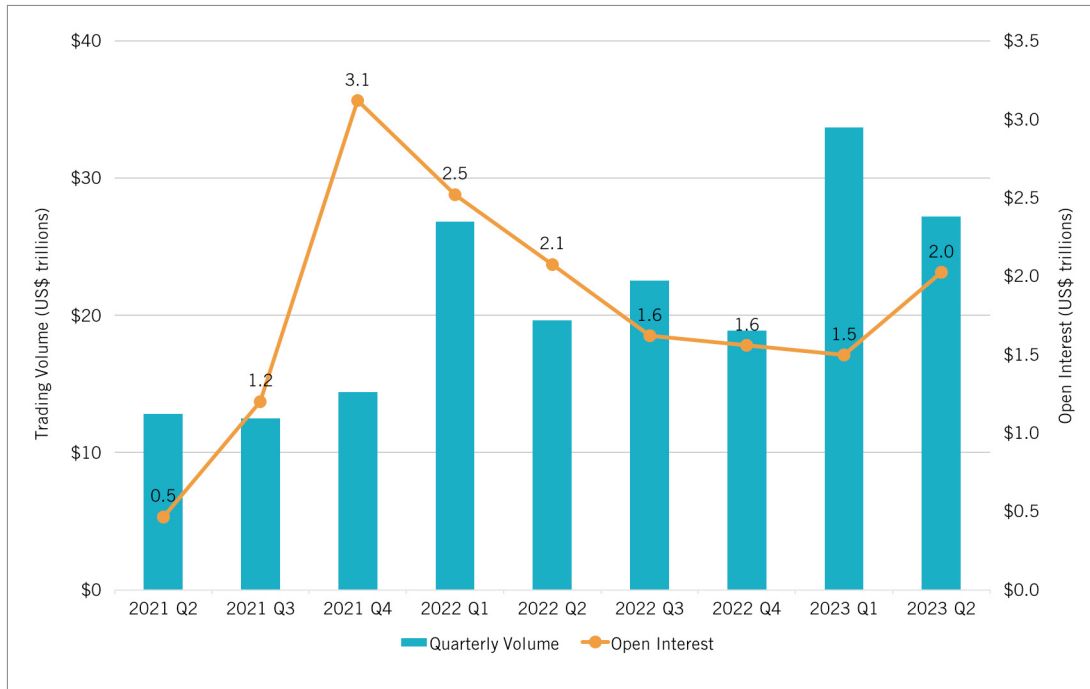
Trading volume in SONIA futures grew to \$60.9 trillion in the first half of 2023 compared to \$41.4 trillion in the second half of 2022. Open interest rose to \$2.0 trillion at the end of June 2023 versus \$1.6 trillion at the end of December 2022<sup>11</sup> (see Chart 12).

Trading volume in SONIA futures fell by 19.2% to \$27.2 trillion in the second quarter of 2023 from \$33.7 trillion in the first quarter of 2023.

<sup>10</sup> The analysis of trading activity in SOFR exchange-traded futures is based on data from CME and ICE

<sup>11</sup> The analysis of trading activity in SONIA exchange-traded futures is based on data from CME, ICE and LCH

**Chart 15: SONIA Quarterly Trading Volume and Open Interest**  
(Implied Notional in OTC Equivalent)



Source: CME, ICE and LCH



ISDA has published other recent research papers:

- ***ISDA-Clarus RFR Adoption Indicator: June 2023***

[www.isda.org/a/7oogE/ISDA-Clarus-RFR-Adoption-Indicator-June-2023.pdf](http://www.isda.org/a/7oogE/ISDA-Clarus-RFR-Adoption-Indicator-June-2023.pdf)

- ***ISDA Survey on OTC Derivatives in Emerging and Developing Markets***

[www.isda.org/a/j7ogE/ISDA-Survey-on-OTC-Derivatives-in-Emerging-and-Developing-Markets.pdf](http://www.isda.org/a/j7ogE/ISDA-Survey-on-OTC-Derivatives-in-Emerging-and-Developing-Markets.pdf)

- ***Key Trends in the Size and Composition of OTC Derivatives Markets in the Second Half of 2022***

[www.isda.org/a/wdXgE/Key-Trends-in-the-Size-and-Composition-of-OTC-Derivatives-Markets-in-the-Second-Half-of-2022.pdf](http://www.isda.org/a/wdXgE/Key-Trends-in-the-Size-and-Composition-of-OTC-Derivatives-Markets-in-the-Second-Half-of-2022.pdf)

The [ISDA-Brattle microsite](#) provides background information about the IBOR Fallbacks, including adoption rates for the IBOR Fallbacks Protocol, graphs comparing certain fallback rates for LIBOR to LIBOR in the corresponding currency and information about the consultations that resulted in the final fallbacks

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Today, ISDA has over 1,000 member institutions from 78 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In addition

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