

TRANSITION TO RFRs REVIEW: Full Year 2022 and the Fourth Quarter of 2022

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 alternative RFRs, including the Secured Overnight Financing Rate (SOFR), the Sterling Overnight Index Average (SONIA), the Swiss Average Rate Overnight (SARON), the Tokyo Overnight Average Rate (TONA), the Euro Short-Term Rate (€STR) and the Australian Overnight Index Average (AONIA).

Global data is collected from all major central counterparties (CCPs) that clear OTC and exchange-traded derivatives in six currencies, including the Australian Securities Exchange, CME Group, Eurex, Intercontinental Exchange (ICE), Japan Securities Clearing Corporation, LCH and the Tokyo Financial Exchange. 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 trades that are required to be disclosed under Commodity Futures Trading Commission regulations and includes cleared and non-cleared OTC IRD transactions.

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KEY HIGHLIGHTS FOR THE FULL YEAR 2022 AND THE FOURTH QUARTER OF 2022

Global Trading Activity¹

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 the identified RFRs in six major currencies².

In the full year 2022:

The ISDA-Clarus RFR Adoption Indicator increased to a monthly average of 45.3% compared to 16.4% in 2021. RFR-linked IRD traded notional accounted for 38.4% of total IRD traded notional in 2022 versus 13.7% in 2021.

In the fourth quarter of 2022:

The ISDA-Clarus RFR Adoption Indicator rose to a monthly average of 52.0% in the fourth quarter of 2022 compared to 49.7% in the previous quarter³. RFR-linked IRD traded notional represented 47.6% of total IRD traded notional versus 42.9% in the third quarter of 2022.

Trading Activity in the US⁴

In the full year 2022:

US-reported OTC IRD traded notional referencing alternative RFRs increased to \$116.9 trillion in 2022 compared to \$34.2 trillion in 2021. RFR transactions accounted for 39.5% of total OTC IRD traded notional, up from 14.7% in 2021.

- OTC IRD traded notional referencing SOFR grew to \$54.5 trillion in 2022 versus \$9.4 trillion in 2021. SOFR transactions accounted for 38.5% of US dollar-denominated OTC IRD traded notional compared to 7.4% in 2021.

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

² ISDA-Clarus RFR Adoption Indicator Whitepaper: www.isda.org/a/SlmTE/ISDA-Clarus-RFR-Adoption-Indicator-Whitepaper.pdf

³ The RFR Adoption Indicator was 54.3% in December 2022. ISDA-Clarus RFR Adoption Indicator, December 2022 www.isda.org/a/91xgE/ISDA-Clarus-RFR-Adoption-Indicator-December-2022.pdf

⁴ US data is collected from the Depository Trust & Clearing Corporation's swap data repository. It covers only transactions that are required to be disclosed under Commodity Futures Trading Commission regulations and includes cleared and non-cleared OTC interest rate derivatives (IRD) transactions

- IRD traded notional referencing SONIA rose to \$23.8 trillion in 2022 compared to \$20.6 trillion in 2021. SONIA-linked transactions represented 97.1% of sterling-denominated OTC IRD traded notional compared to 65.9% in 2021.
- €STR-linked OTC IRD traded notional increased to \$34.1 trillion in 2022 compared to \$3.0 billion in 2021. €STR-linked transactions comprised 36.0% of euro-denominated OTC IRD traded notional compared to 6.3% in 2021.
- OTC IRD traded notional referencing LIBOR denominated in US dollars, sterling, Swiss franc, yen and euro, as well as EURIBOR and TIBOR, fell by 22.6% to \$111.9 trillion in 2022 compared to \$144.5 trillion in 2021. These interbank offered rates (IBORs) represented 37.8% of total OTC IRD traded notional compared to 62.3% in 2021.

In the fourth quarter of 2022:

US-reported OTC IRD traded notional linked to alternative RFRs grew by 2.5% to \$30.3 trillion in the fourth quarter of 2022 compared to \$29.6 trillion in the previous quarter. RFR transactions accounted for 44.5% of total OTC IRD traded notional, up from 42.7% in the third quarter of 2022.

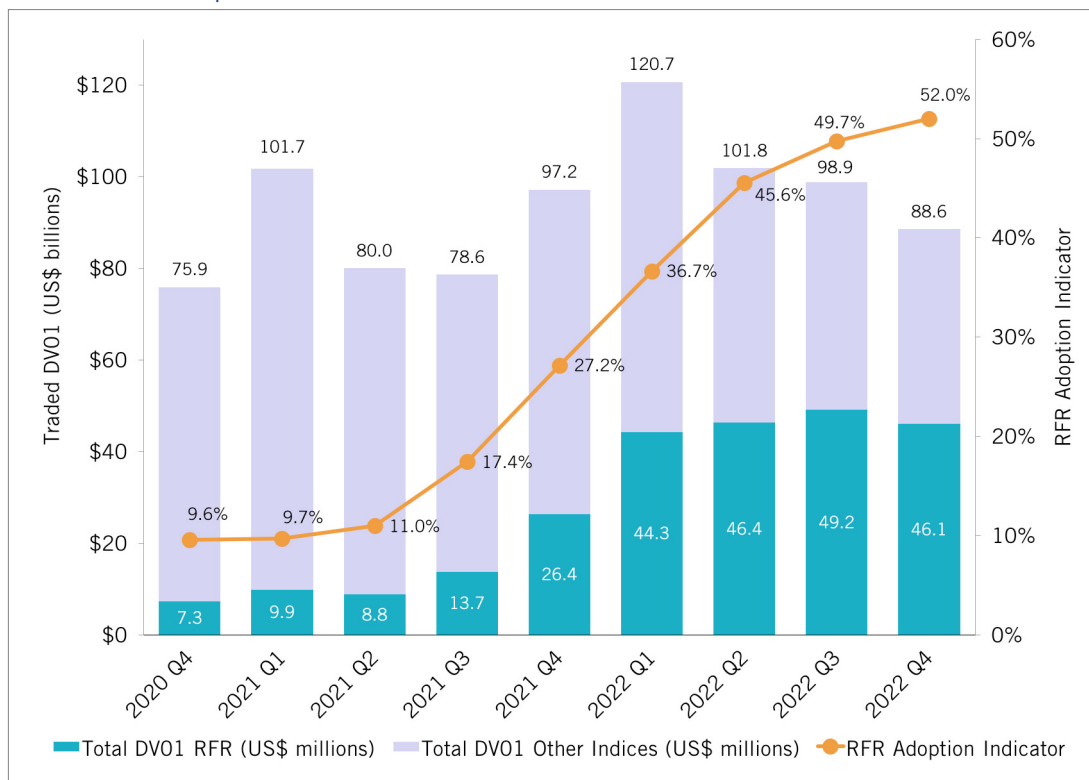
- OTC IRD traded notional referencing SOFR fell to \$14.3 trillion in the fourth quarter of 2022 from \$14.4 trillion in the third quarter of 2022. SOFR transactions accounted for 46.6% of US dollar-denominated OTC IRD traded notional versus 43.4% in the third quarter of 2022.
- SONIA-linked IRD traded notional rose by 6.6% to \$6.2 trillion in the fourth quarter of 2022 versus \$5.8 trillion in the prior quarter. SONIA transactions represented 97.3% of sterling-denominated OTC IRD traded notional versus 97.1% in the third quarter of 2022.
- OTC IRD traded notional linked to €STR grew by 4.4% to \$8.6 trillion in the fourth quarter of 2022 compared to \$8.3 trillion in the third quarter of 2022. €STR-linked transactions comprised 38.1% of euro-denominated IRD traded notional compared to 38.4% in the third quarter of 2022.
- OTC IRD traded notional referencing LIBOR denominated in US dollars, sterling, Swiss franc, yen and euro, as well as EURIBOR and TIBOR, declined by 6.8% to \$22.8 trillion in the fourth quarter of 2022 compared to \$24.5 trillion in the previous quarter. These IBORs represented 33.4% of total OTC IRD traded notional compared to 35.3% in the third quarter of 2022.

GLOBAL RFR-LINKED OTC AND EXCHANGE-TRADED IRD

In the full year 2022, the ISDA-Clarus RFR Adoption Indicator rose to a monthly average of 45.3% compared to 16.4% in 2021. RFR-linked IRD DV01 increased to \$185.9 billion versus \$58.7 billion in 2021. Total IRD DV01 grew to \$410.0 billion from \$357.5 billion over the same period.

In the fourth quarter of 2022, the ISDA-Clarus RFR Adoption Indicator reached a monthly average of 52.0% versus 49.7% in the third quarter of 2022. RFR-linked IRD DV01 declined to \$46.1 billion compared to \$49.2 billion in the third quarter of 2022. Total IRD DV01 fell to \$88.6 billion from \$98.9 billion over the same period⁵ (see Chart 1).

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



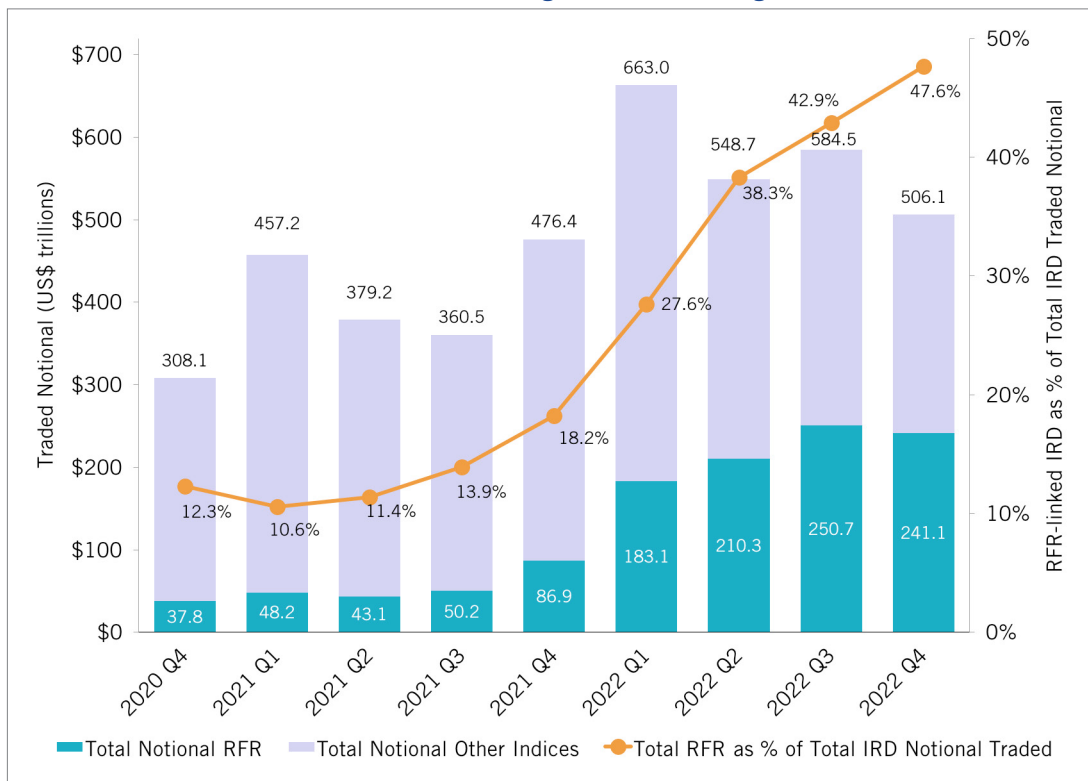
Source: ISDA-Clarus RFR Adoption Indicator

RFR-linked IRD traded notional increased to 38.4% of total IRD traded notional in 2022 versus 13.7% in the prior year. RFR-linked IRD traded notional, which includes OTC and exchange-traded derivatives, totaled \$885.3 trillion in 2022 compared to \$228.5 trillion in 2021. Total IRD traded notional rose to \$2,302.4 trillion from \$1,673.3 trillion over the same period.

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

IRD traded notional referencing RFRs accounted for 47.6% of total IRD traded notional in the fourth quarter of 2022 compared to 42.9% in the previous quarter. RFR-linked IRD traded notional fell to \$241.1 trillion from \$250.7 trillion in the third quarter of 2022. Total IRD traded notional declined to \$506.1 trillion from \$584.5 trillion over the same interval (see Chart 2).

Chart 2: Global IRD Traded Notional (including OTC and exchange-traded derivatives)



Source: ISDA-Clarus RFR Adoption Indicator

RFR-LINKED OTC IRD IN THE US

US-reported OTC IRD traded notional referencing alternative RFRs increased to \$116.9 trillion in 2022 compared to \$34.2 trillion in 2021. RFR transactions comprised 39.5% of total OTC IRD traded notional, up from 14.7% in 2021.

The number of trades referencing RFRs rose to 933.2 thousand in 2022 from 214.2 thousand in 2021. RFR-linked trades accounted for 40.3% of total OTC IRD trade count compared to 11.3% in 2021.

In the full year 2022:

- SOFR-linked OTC IRD traded notional climbed by 479.5% to \$54.5 trillion, including \$7.1 trillion of basis swaps. Trade count grew from 87.6 thousand to 618.5 thousand, including 53.4 thousand basis swaps.
- IRD traded notional referencing SONIA increased by 15.8% to 23.8 trillion, including \$612.8 billion of basis swaps. Trade count grew by 54.4% to 152.7 thousand, including 6.1 thousand basis swaps.
- IRD traded notional linked to SARON grew to \$975.7 billion, including \$78.5 billion of basis swaps. Trade count rose to 18.4 thousand, including 724 basis swaps.
- IRD traded notional referencing TONA increased to \$3.5 trillion, including \$802.9 billion of basis swaps. Trade count grew to 52.7 thousand, including 10.2 thousand basis swaps.
- €STR-linked IRD traded notional increased to \$34.1 trillion, including \$1.6 trillion of basis swaps. Trade count rose to 90.8 thousand, including 12.7 thousand basis swaps.

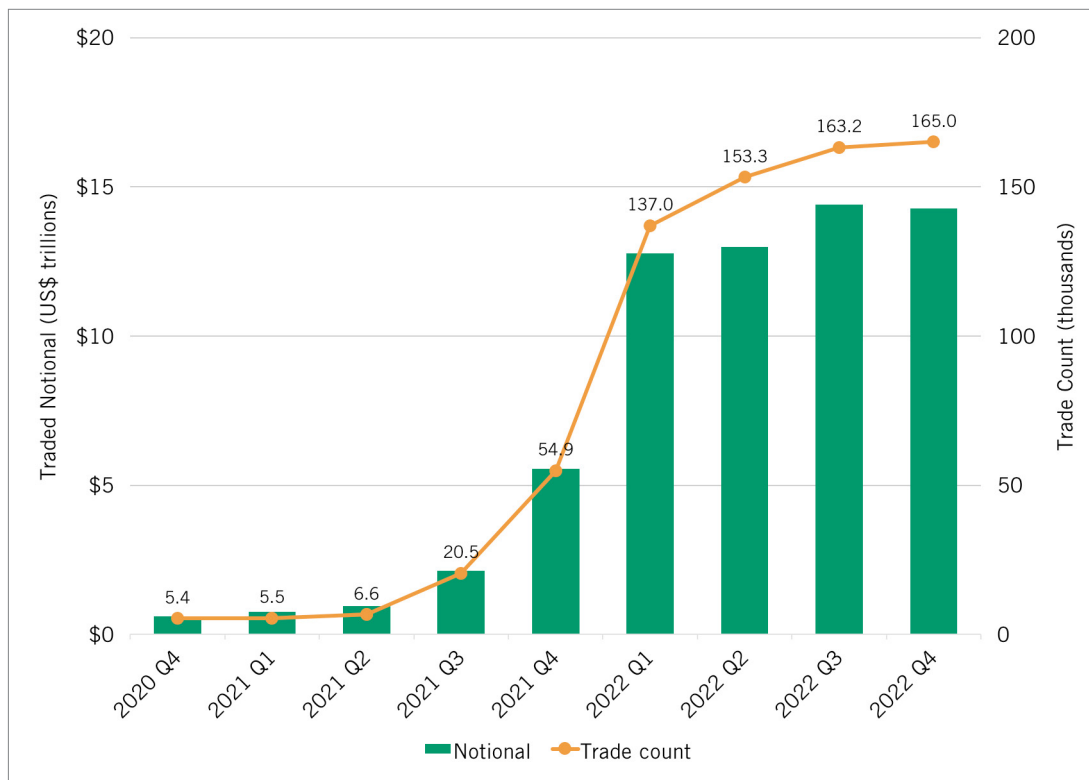
In the fourth quarter of 2022:

- OTC IRD traded notional linked to SOFR fell by 0.9% to \$14.3 trillion, including \$1.8 trillion of basis swaps. Trade count increased to 165.0 thousand from 163.2 thousand, including 13.0 thousand basis swaps.
- IRD traded notional referencing SONIA rose by 6.6% to \$6.2 trillion, including \$174.7 billion of basis swaps. Trade count increased by 17.9% to 45.9 thousand, including 1.9 thousand basis swaps.
- SARON-linked IRD traded notional dropped to \$259.5 billion, including \$25.3 billion of basis swaps. Trade count fell to 4.9 thousand, including 221 basis swaps.
- IRD traded notional referencing TONA climbed to \$972.6 billion, including \$231.8 billion of basis swaps. Trade count rose to 15.5 thousand, including 3.0 thousand basis swaps.
- €STR-linked IRD traded notional grew to \$8.6 trillion, including \$373.6 billion of basis swaps. Trade count fell to 22.0 thousand, including 2.9 thousand basis swaps.

SOFR

SOFR-linked OTC IRD traded notional declined by 0.9% to \$14.3 trillion in the fourth quarter of 2022 versus \$14.4 trillion in the previous quarter. The number of SOFR-linked IRD transactions grew by 1.1% to 165.0 thousand from 163.2 thousand over the same period (see Chart 3).

Chart 3: SOFR Traded Notional and Trade Count

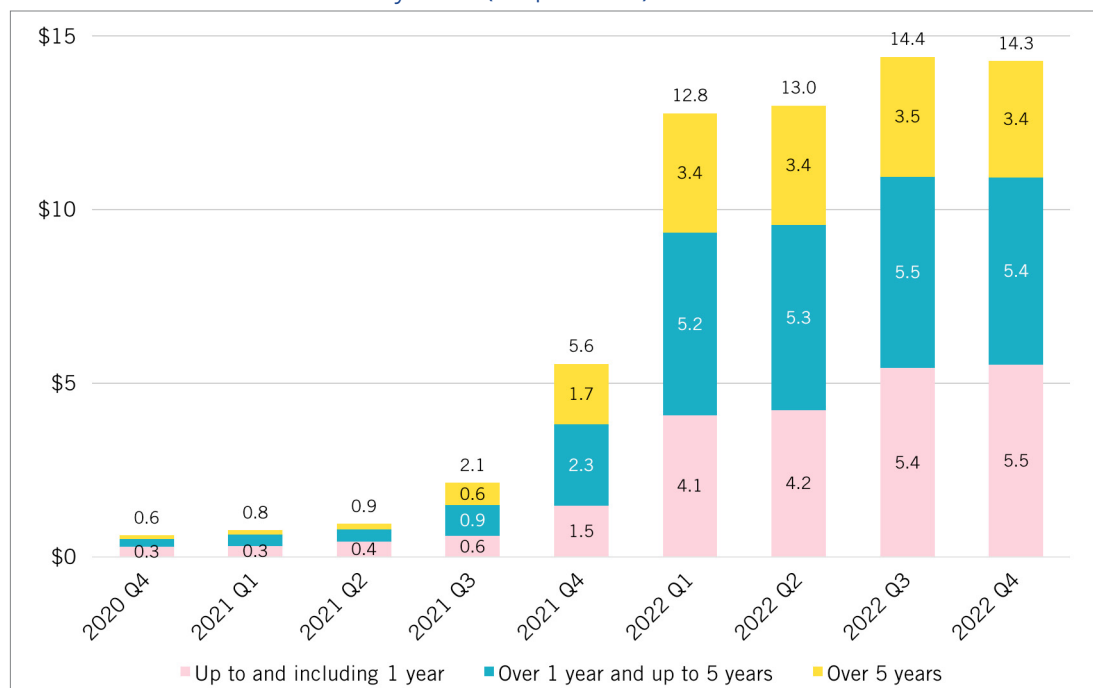


Source: DTCC SDR

Of the \$14.3 trillion of SOFR-linked IRD traded notional in the fourth quarter of 2022, \$5.5 trillion (38.7%) had a tenor up to and including one year, \$5.4 trillion (37.8%) was over one and up to five years and \$3.4 trillion (23.5%) had a tenor over five years⁶ (see Chart 4).

⁶ Tenor is calculated as the difference between the effective date and the maturity date

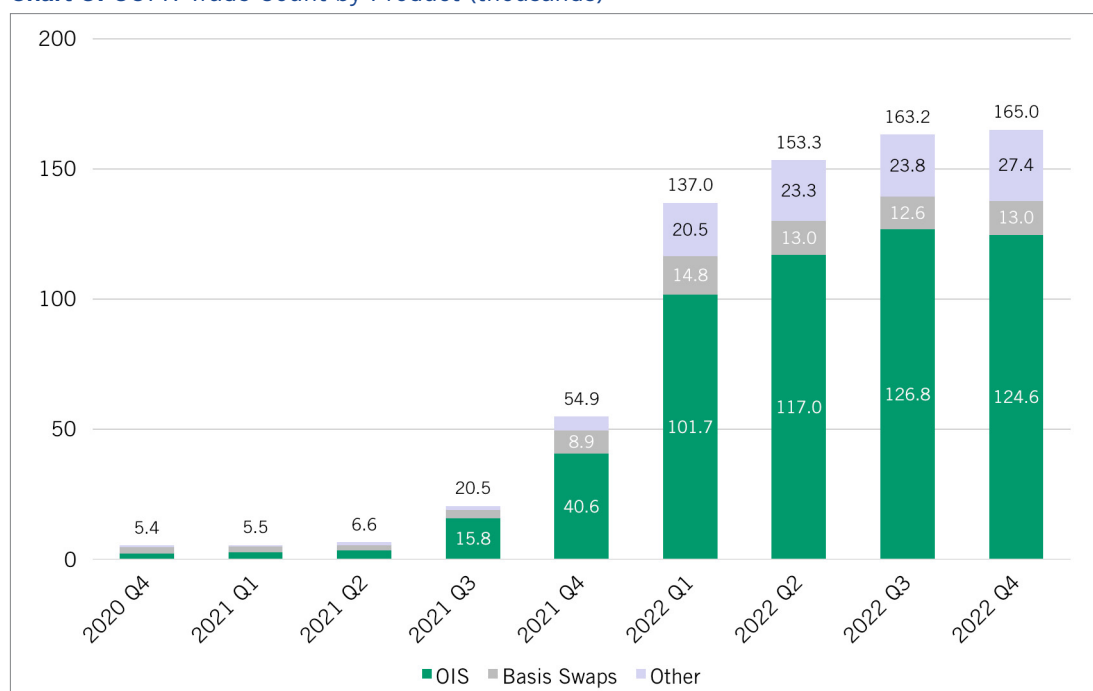
Chart 4: SOFR Traded Notional by Tenor (US\$ trillions)



Source: DTCC SDR

Overnight index swaps (OIS) accounted for the majority of SOFR-linked IRD contracts in the fourth quarter of 2022. Of the 165.0 thousand transactions, 124.6 thousand were OIS, 13.0 thousand were basis swaps and 27.4 thousand comprised other transactions, including fixed-for-floating interest rate swaps and cap-floor products (see Chart 5).

Chart 5: SOFR Trade Count by Product (thousands)

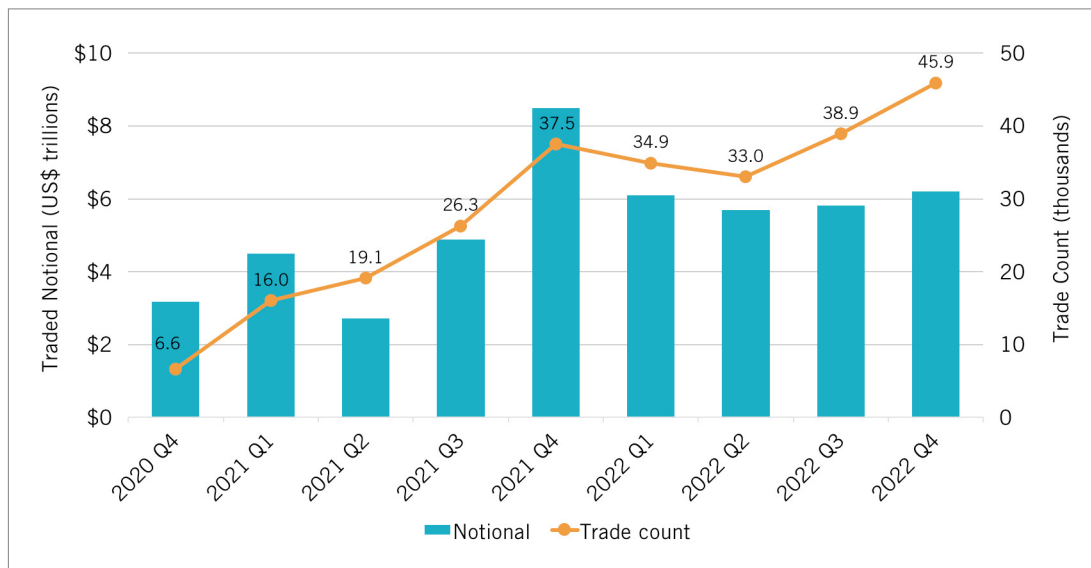


Source: DTCC SDR

SONIA

OTC IRD traded notional referencing SONIA grew by 6.6% to \$6.2 trillion in the fourth quarter of 2022 from \$5.8 trillion in the prior quarter. Trade count increased by 17.9% to 45.9 thousand from 38.9 thousand over the same period (see Chart 6).

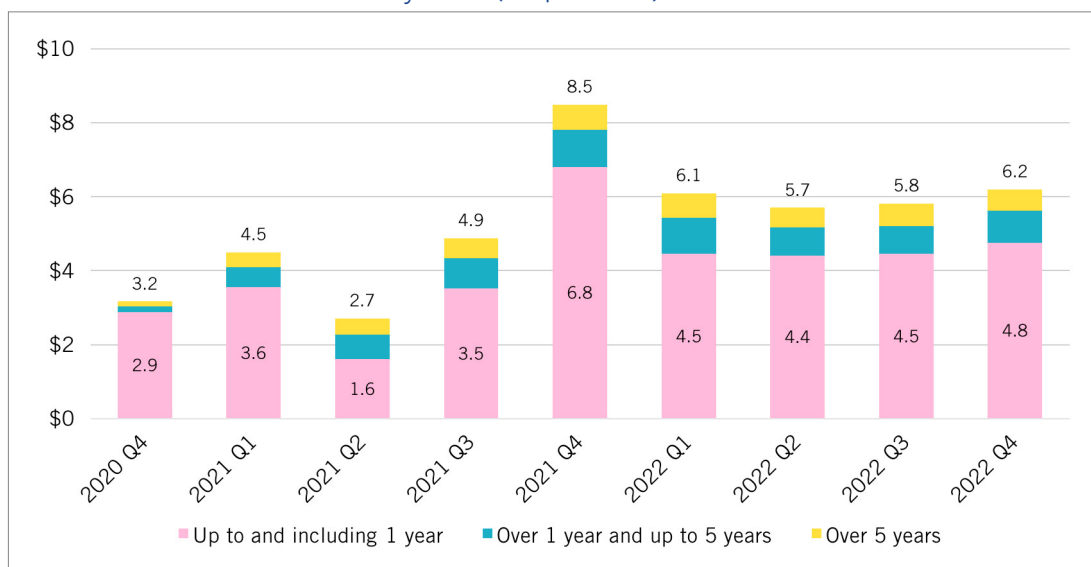
Chart 6: SONIA Traded Notional and Trade Count



Source: DTCC SDR

Most transactions referencing SONIA had a tenor up to one year. Of the \$6.2 trillion of SONIA-linked IRD traded notional in the fourth quarter of 2022, \$4.8 trillion (76.7%) had a tenor up to and including one year, \$861.3 billion (13.9%) was over one year and up to five years and \$580.2 billion (9.4%) had a tenor over five years (see Chart 7).

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



Source: DTCC SDR

The majority of SONIA-linked OTC IRD trade count comprised OIS transactions. Of the 45.9 thousand SONIA-linked IRD contracts traded in the fourth quarter of 2022, 42.4 thousand were OIS, 1.9 thousand were basis swaps and 1.6 thousand consisted of other products (see Chart 8).

Chart 8: SONIA Trade Count by Product (thousands)

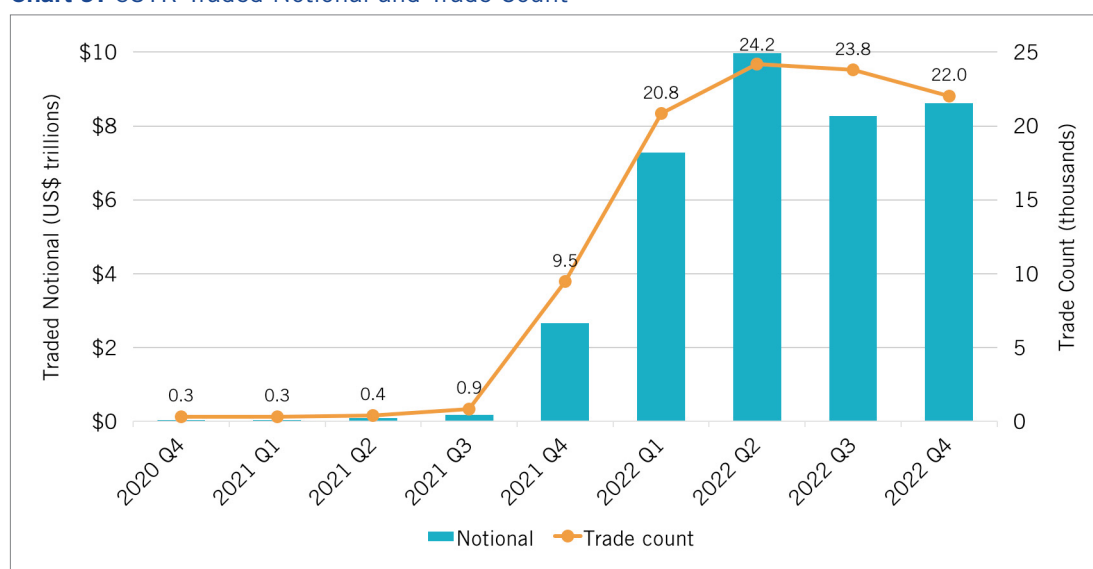


Source: DTCC SDR

€STR

OTC IRD traded notional referencing €STR increased by 4.4% to \$8.6 trillion in the fourth quarter of 2022 from \$8.3 trillion in the third quarter of 2022. Trade count fell by 7.4% to 22.0 thousand from 23.8 thousand over the same period⁷ (see Chart 9).

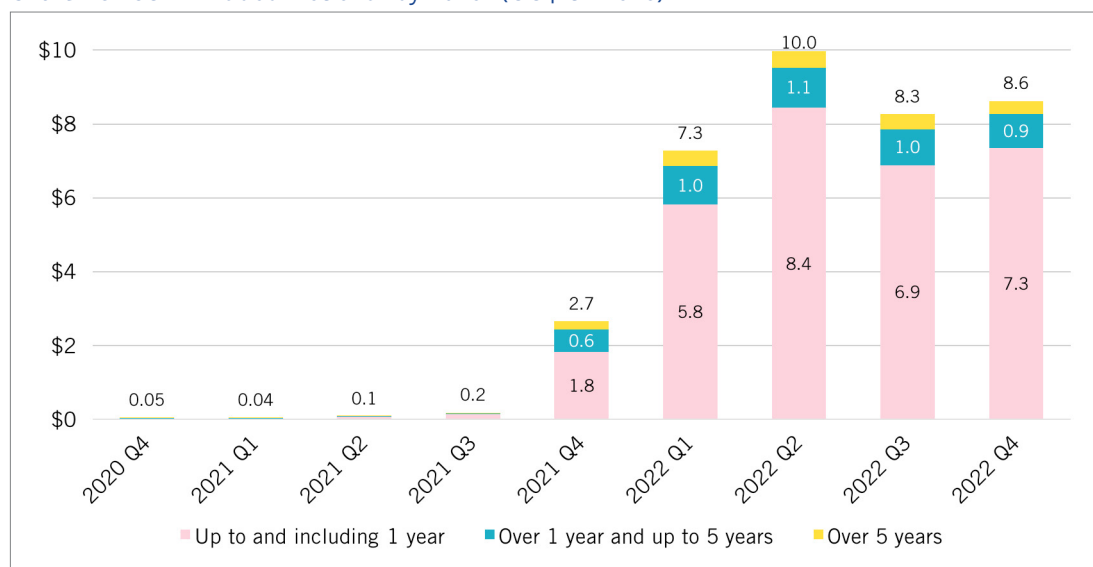
Chart 9: €STR Traded Notional and Trade Count



Source: DTCC SDR

Most transactions referencing €STR had a short tenor. Of the \$8.6 trillion of €STR-linked IRD traded notional in the fourth quarter of 2022, \$7.3 trillion (85.1%) had a tenor up to and including one year, \$1.0 trillion (10.7%) was over one year and up to five years and \$361.5 billion (4.2%) had a tenor over five years (see Chart 10).

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

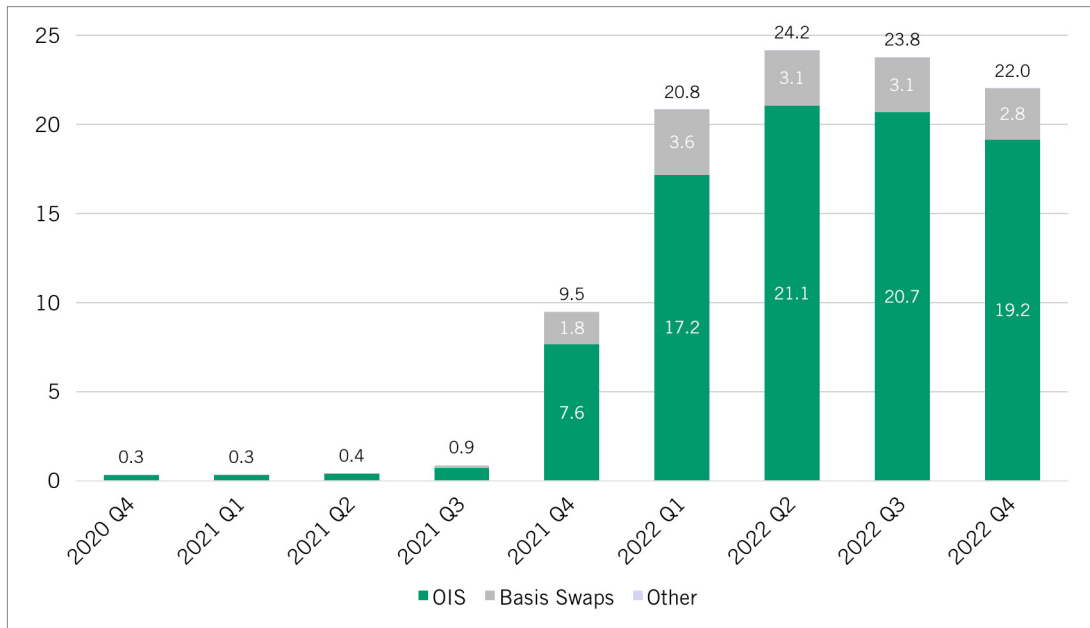


Source: DTCC SDR

⁷ €STR swaps started trading in the fourth quarter of 2019

OIS accounted for the majority of €STR-linked OTC IRD trade count. Of the 22.0 thousand €STR trades in the fourth quarter of 2022, 19.2 thousand were OIS, 2.8 thousand were basis swaps and 13 comprised other products (see Chart 11).

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



Source: DTCC SDR

Table 1: US IRD Traded Notional and Trade Count

	Q4 2022		Full Year 2022	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count
USD LIBOR	9,013.2	41,147	53,117.5	232,004
SOFR	12,509.4	152,008	47,336.1	565,079
Basis Swaps: SOFR	1,768.6	13,037	7,115.8	53,433
GBP LIBOR	2.0	17	18.4	104
SONIA	6,024.1	43,995	23,197.3	146,599
Basis Swaps: SONIA	174.7	1,918	612.8	6,144
CHF LIBOR	0.003	1	0.2	4
SARON	234.2	4,670	897.2	17,666
Basis Swaps: SARON	25.3	221	78.5	724
JPY LIBOR	0.5	17	7.6	163
TIBOR/Euroyen TIBOR	4.1	47	11.9	175
TONA	740.8	12,521	2,703.9	42,586
Basis Swaps: TONA	231.8	2,962	802.9	10,149
EUR LIBOR	0.0	0	0.1	1
EURIBOR	13,763.5	119,979	58,707.6	501,666
€STR	8,250.7	19,175	32,537.2	78,159
Basis Swaps: €STR	373.6	2,849	1,601.5	12,674
Other*	15,123.0	164,243	67,008.7	648,564
Total**	68,239.5	578,807	295,755.1	2,315,894

*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 Q4 2022 vs. Q3 2022

	Q4 2022		Q3 2022		Q4 2022 vs. Q3 2022	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count	Traded Notional	Trade Count
USD LIBOR	9,013.2	41,147	11,115.1	48,364	-18.9%	-14.9%
SOFR	14,278.1	165,045	14,400.5	163,225	-0.9%	1.1%
GBP LIBOR	2.0	17	1.1	12	74.3%	41.7%
SONIA	6,198.7	45,913	5,816.2	38,926	6.6%	17.9%
CHF LIBOR	0.003	1	0.1	1	-97.0%	0.0%
SARON	259.5	4,891	269.9	4,909	-3.8%	-0.4%
JPY LIBOR	0.5	17	2.4	49	-77.9%	-65.3%
TIBOR/Euroyen TIBOR	4.1	47	1.7	40	136.3%	17.5%
TONA	972.6	15,483	848.6	12,787	14.6%	21.1%
EUR LIBOR	0.0	0	0.0	0		
EURIBOR	13,763.5	119,979	13,333.2	119,844	3.2%	0.1%
€STR	8,624.3	22,024	8,264.8	23,785	4.4%	-7.4%
Other*	15,123.0	164,243	15,191.6	159,979	-0.5%	2.7%
Total**	68,239.5	578,807	69,245.2	571,921	-1.5%	1.2%

*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 Full Year 2022 vs. Full Year 2021

	Full Year 2022		Full Year 2021		Full Year 2022 vs. Full Year 2021	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count	Traded Notional	Trade Count
USD LIBOR	53,117.5	232,004	93,561.7	653,412	-43.2%	-64.5%
SOFR	54,452.0	618,512	9,395.7	87,576	479.5%	606.3%
GBP LIBOR	18.4	104	9,760.3	74,694	-99.8%	-99.9%
SONIA	23,810.1	152,743	20,568.2	98,919	15.8%	54.4%
CHF LIBOR	0.2	4	536.8	10,017	-100.0%	-100.0%
SARON	975.7	18,390	246.4	4,647	295.9%	295.7%
JPY LIBOR	7.6	163	2,193.5	31,808	-99.7%	-99.5%
TIBOR/Euroyen TIBOR	11.9	175	17.8	184	-33.1%	-4.9%
TONA	3,506.7	52,735	999.2	11,982	251.0%	340.1%
EUR LIBOR	0.1	1	2.1	23	-97.4%	-95.7%
EURIBOR	58,707.6	501,666	38,382.8	336,206	53.0%	49.2%
€STR	34,138.7	90,833	2,978.1	11,063	1046.3%	721.1%
Other*	67,008.7	648,564	53,232.4	582,257.0	25.9%	11.4%
Total**	295,755.1	2,315,894	231,874.9	1,902,788	27.5%	21.7%

*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 RFR-linked IRD Traded Notional and Trade Count by Tenor

	Q4 2022		Full Year 2022	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count
SOFR	14,278.1	165,045	54,452.0	618,512
Up to 1 year	5,530.3	18,745	19,269.8	58,320
Over 1 year and up to 5 years	5,393.0	64,039	21,478.3	242,354
Over 5 years	3,354.8	82,261	13,703.8	317,838
SONIA	6,198.7	45,913	23,810.1	152,743
Up to 1 year	4,757.3	5,708	18,074.3	19,380
Over 1 year and up to 5 years	861.3	15,155	3,358.2	50,906
Over 5 years	580.2	25,050	2,377.6	82,457
SARON	259.5	4,891	975.7	18,390
Up to 1 year	125.0	412	405.8	1,409
Over 1 year and up to 5 years	113.4	2,682	463.4	10,414
Over 5 years	21.1	1,797	106.5	6,567
TONA	972.6	15,483	3,506.7	52,735
Up to 1 year	334.5	1,584	1,175.6	4,367
Over 1 year and up to 5 years	395.9	5,747	1,396.4	18,673
Over 5 years	242.2	8,152	934.8	29,695
€STR	8,624.3	22,024	34,138.7	90,833
Up to 1 year	7,341.6	6,783	28,482.7	24,855
Over 1 year and up to 5 years	921.2	8,027	4,009.5	33,634
Over 5 years	361.5	7,214	1,646.5	32,344

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 Product

	Q4 2022		Full Year 2022	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count
SOFR	14,278.1	165,045	54,452.0	618,512
OIS	9,484.7	124,647	37,216.2	470,104
Basis Swaps	1,768.6	13,037	7,115.8	53,433
Fixed-for-Floating IRS	194.3	7,860	643.3	22,152
Cross Currency IRS	36.1	1,636	166.9	7,065
Inflation Swaps	0.6	7	3.0	33
Exotics	366.8	2,160	1,261.1	8,181
Options	1,872.4	12,294	6,563.5	46,260
Cap Floor	554.5	3,404	1,482.1	11,284
SONIA	6,198.7	45,913	23,810.1	152,743
OIS	5,754.5	42,437	22,144.4	139,949
Basis Swaps	174.7	1,918	612.8	6,144
Fixed-for-Floating IRS	1.1	7	3.8	42
Cross Currency IRS	0.8	11	2.0	36
Inflation Swaps	0.0	0	0.1	3
Exotics	5.6	136	17.1	332
Options	172.1	1,237	729.6	5,677
Cap Floor	90.0	167	300.3	560
SARON	259.5	4,891	975.7	18,390
OIS	234.2	4,670	897.2	17,666
Basis Swaps	25.3	221	78.5	724
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
Cap Floor	0.0	0	0.0	0
TONA	972.6	15,483	3,506.7	52,735
OIS	646.1	10,861	2,368.3	37,045
Basis Swaps	231.8	2,962	802.9	10,149
Fixed-for-Floating IRS	0.0	0	0.7	29
Cross Currency IRS	0.0	0	0.0	0
Inflation Swaps	0.0	0	0.0	0
Exotics	1.3	85	3.9	234
Options	93.3	1,573	330.5	5,271
Cap Floor	0.1	2	0.5	7
€STR	8,624.3	22,024	34,138.7	90,833
OIS	8,246.3	19,162	32,527.5	78,093
Basis Swaps	373.6	2,849	1,601.5	12,674
Fixed-for-Floating IRS	0.0	1	0.7	12
Cross Currency IRS	0.2	1	1.0	7
Inflation Swaps	0.0	0	0.0	0
Exotics	0.0	1	0.5	2
Options	3.2	7	6.4	41
Cap Floor	1.0	3	1.1	4

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

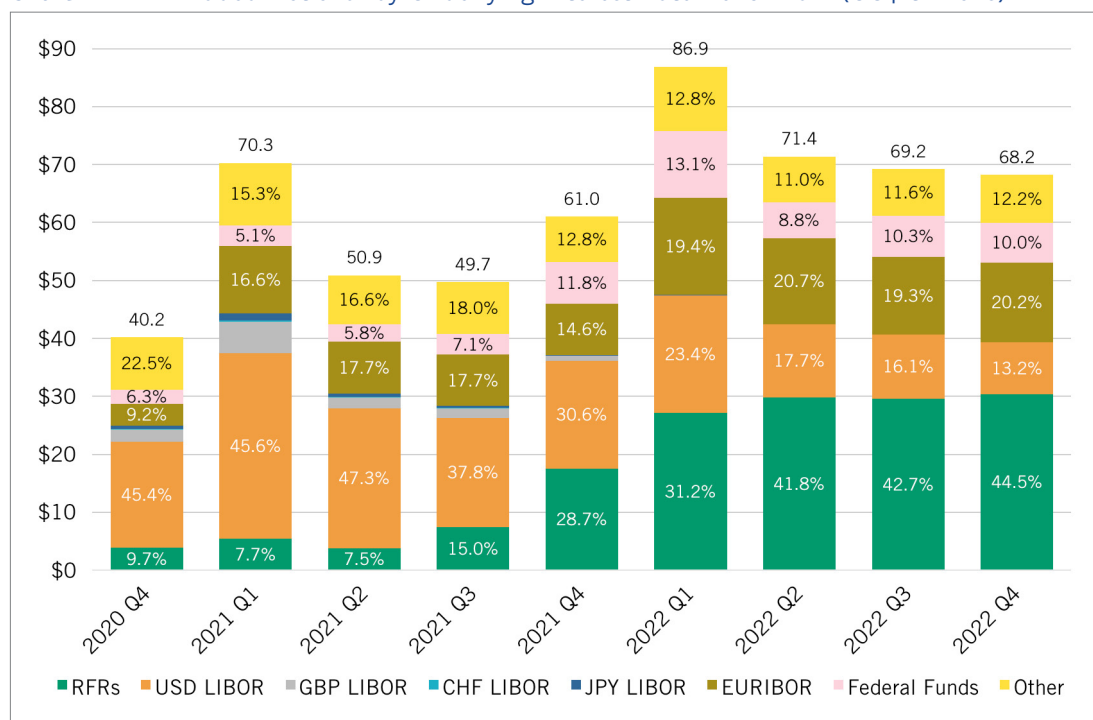
IBOR-LINKED OTC IRD IN THE US

US-reported OTC IRD traded notional referencing LIBOR denominated in US dollars, sterling, Swiss franc, yen and euro, as well as EURIBOR and TIBOR, declined by 22.6% to \$111.9 trillion in 2022 from \$144.5 trillion in 2021. The number of trades referencing IBORs fell by 33.6% to 734.1 thousand from 1.1 million over the same period. IBOR-linked transactions represented 37.8% of total OTC IRD traded notional in 2022 compared to 62.3% in the previous year.

Traded notional of IBOR-linked transactions dropped by 6.8% to \$22.8 trillion in the fourth quarter of 2022 from \$24.5 trillion in the prior quarter. The number of trades declined by 4.2% to 161.2 thousand from 168.3 thousand over the same period. IBOR-linked transactions represented 33.4% of total IRD traded notional in the fourth quarter of 2022 compared to 35.3% in the third quarter of 2022⁸.

IRD traded notional linked to EURIBOR was \$13.8 trillion, representing 20.2% of total IRD traded notional in the fourth quarter of 2022. IRD traded notional based on US dollar LIBOR equaled \$9.0 trillion, accounting for 13.2% of total OTC IRD traded notional. IRD traded notional referencing the effective federal funds rate totaled \$6.8 trillion and accounted for 10.0% of IRD traded notional in the fourth quarter of 2022⁹ (see Chart 12).

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



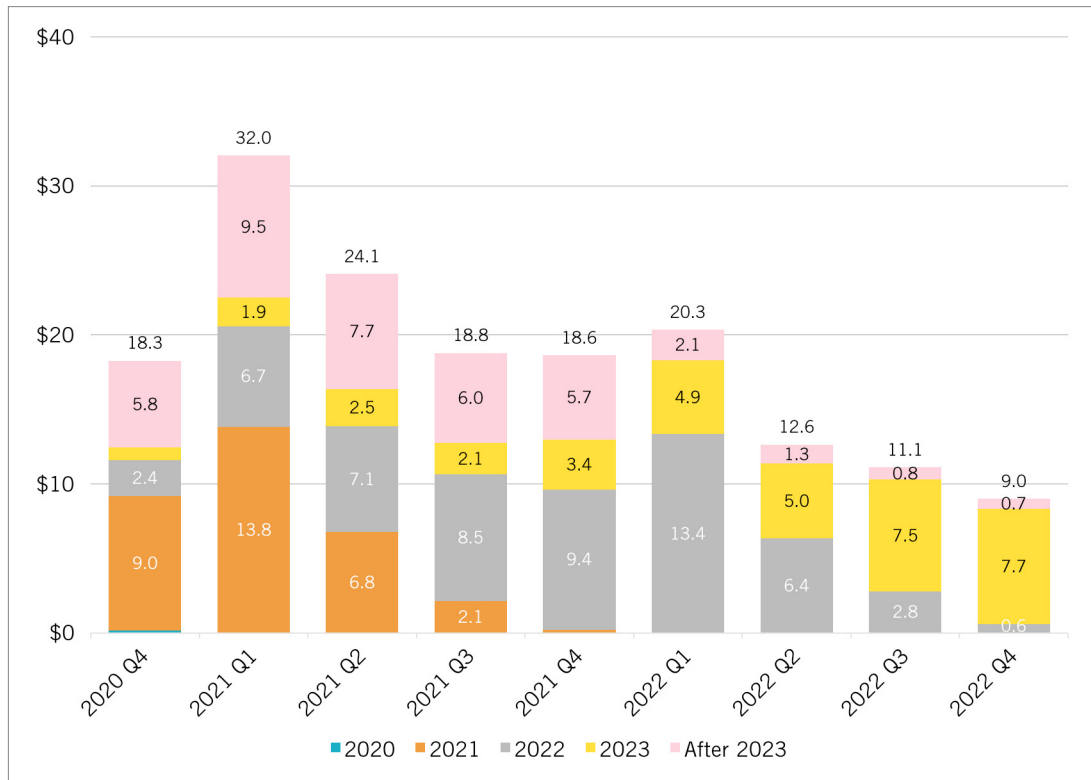
Source: DTCC SDR

⁸ This data covers only transactions that are required to be disclosed under US regulations

⁹ Risk-free rate (RFR)/RFR basis swaps that reference different RFRs are double counted. These swaps totaled about \$0.8 trillion in the fourth quarter of 2022

Of the \$9.0 trillion of IRD traded notional referencing US dollar LIBOR in the fourth quarter of 2022, \$0.6 trillion had a 2022 maturity, \$7.7 trillion had a 2023 maturity and \$0.7 trillion had a maturity after 2023 (see Chart 13).

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



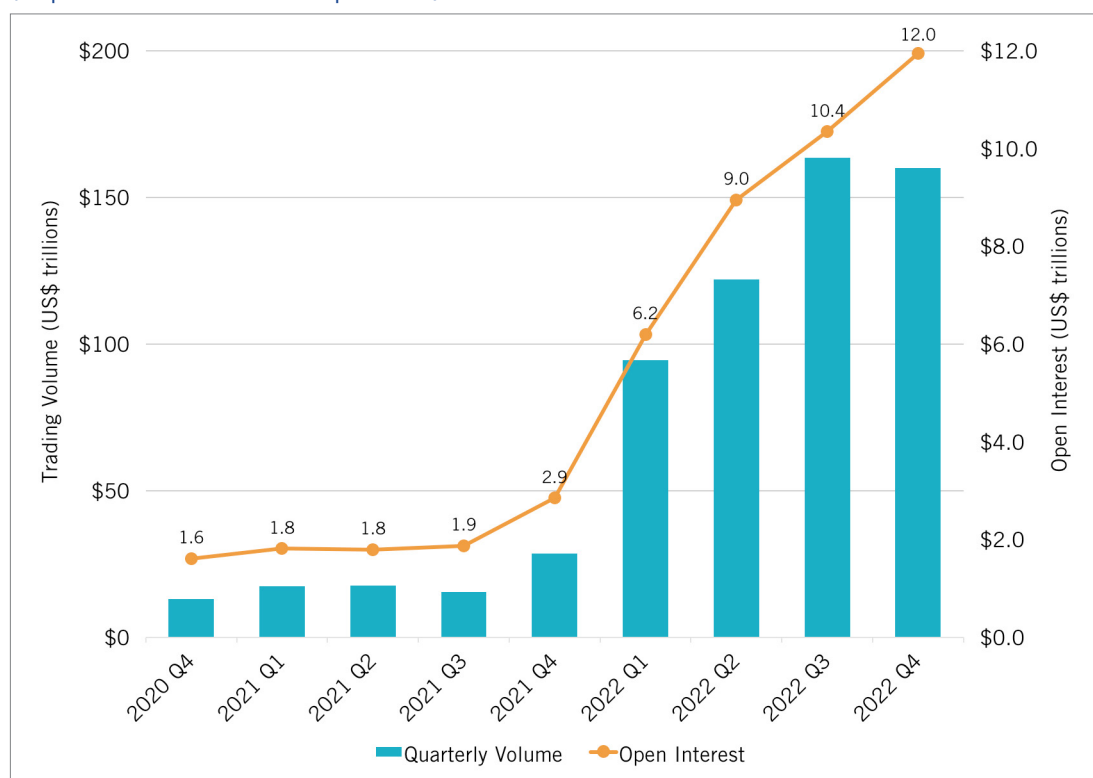
Source: DTCC SDR

SOFR AND SONIA FUTURES

Trading volume in SOFR futures increased to \$540.7 trillion in 2022 versus \$79.6 trillion in 2021. Open interest rose to \$12.0 trillion at the end of December 2022 versus \$2.9 trillion at the end of December 2021¹⁰.

Trading volume in SOFR futures declined by 2.3% to \$160.0 trillion in the fourth quarter of 2022 compared to \$163.7 trillion in the third quarter of 2021 (see Chart 14).

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



Source: CME and ICE

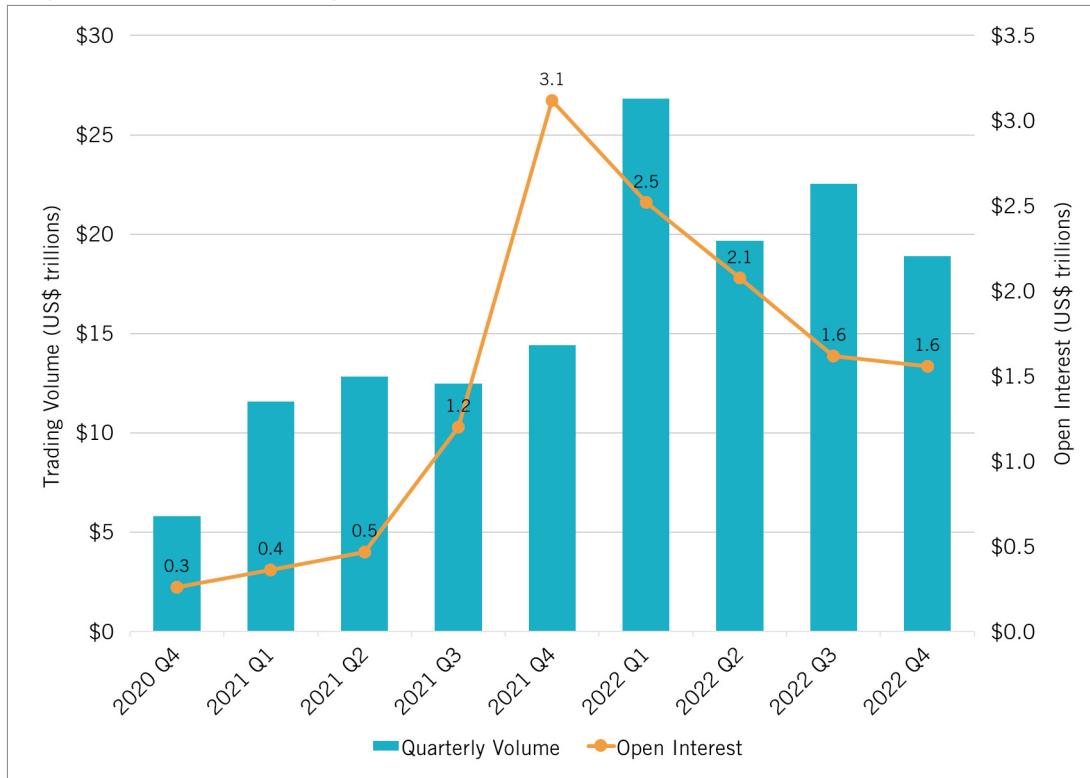
Trading volume in SONIA futures rose to \$87.9 trillion in 2022 compared to \$51.3 trillion in previous year. Open interest declined to \$1.6 trillion at the end of December 2022 versus \$3.1 trillion at the end of December 2021¹¹.

Trading volume in SONIA futures fell by 16.1% to \$18.9 trillion in fourth quarter of 2022 from \$22.5 trillion in the third quarter of 2022 (see Chart 15).

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

¹¹ 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:

- ***SwapsInfo Full Year and Q4 2022 Review: Summary***

<https://www.isda.org/a/6pxgE/SwapsInfo-Full-Year-2022-and-the-Fourth-Quarter-of-2022-Review-Summary.pdf>

- ***ISDA-Clarus RFR Adoption Indicator: December 2022***

<https://www.isda.org/a/91xgE/ISDA-Clarus-RFR-Adoption-Indicator-December-2022.pdf>

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

<https://www.isda.org/a/L6xgE/Key-Trends-in-the-Size-and-Composition-of-OTC-Derivatives-Markets-in-the-First-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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