

TRANSITION TO RFRs REVIEW: Third Quarter of 2021 and Year-to- September 30, 2021

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 (ETD) 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 therefore only covers trades that are required to be disclosed under US regulations and includes cleared and non-cleared OTC IRD transactions.

KEY HIGHLIGHTS FOR THE THIRD QUARTER OF 2021 AND YEAR-TO-SEPTEMBER 30, 2021

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 third quarter of 2021:

The average monthly ISDA-Clarus RFR Adoption Indicator reached 17.4% compared to 11.0% in the prior quarter³. RFR-linked IRD traded notional accounted for 13.9% of total IRD traded notional versus 11.4% in the second quarter of 2021.

Year-to-September 30, 2021:

The average monthly ISDA-Clarus RFR Adoption Indicator increased to 12.4% in the nine months to September 30, 2021 compared to 6.9% in the same period last year. RFR-linked IRD traded notional accounted for 11.8% of total IRD traded notional in the nine months to September 30, 2021 compared to 8.1% in the nine months to September 30, 2020.

Trading Activity in the US⁴

In the third quarter of 2021:

Traded notional of OTC IRD referencing alternative RFRs increased by 97.0% to \$7.5 trillion in the third quarter of 2021 compared to \$3.8 trillion in the second quarter of 2021. RFR transactions accounted for 15.0% of total IRD traded notional in the third quarter of 2021, up from 7.4% in the second quarter of 2021.

¹ The global data is collected from all major central counterparties (CCPs) that clear over-the-counter (OTC) and exchange-traded derivatives (ETD) in the 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 White Paper: www.isda.org/a/SImTE/ISDA-Clarus-RFR-Adoption-Indicator-Whitepaper.pdf

³ The RFR Adoption Indicator was 20.3% in September 2021. ISDA-Clarus RFR Adoption Indicator, September 2021 www.isda.org/a/waKgE/ISDA-Clarus-RFR-Adoption-Indicator-2021-09.pdf

⁴ US data is collected from the Depository Trust & Clearing Corporation (DTCC) swap data repository (SDR). It therefore only covers trades that are required to be disclosed under US regulations and includes cleared and non-cleared OTC IRD transactions

- IRD traded notional referencing SOFR increased by 127.4% to \$2.1 trillion in the third quarter of 2021 from \$932.9 billion in the second quarter of 2021. The increase was primarily driven by the SOFR First initiative that started for linear derivatives on July 26, 2021⁵. The proportion of IRD traded notional linked to SOFR remained small, accounting for 4.3% of total IRD traded notional and 28.4% of IRD traded notional referencing RFRs.
- IRD traded notional referencing SONIA increased by 80.0% to \$4.9 trillion in the third quarter of 2021 compared to \$2.7 trillion in the second quarter of 2021. SONIA transactions accounted for 9.8% of total IRD traded notional and represented 65.3% of IRD traded notional referencing RFRs⁶.
- Traded notional of IRD referencing LIBOR denominated in US dollars, sterling, Swiss franc, yen and euro, as well as EURIBOR and TIBOR, decreased by 16.7% to \$29.7 trillion in the third quarter of 2021 compared to \$35.6 trillion in the second quarter of 2021. These interbank offered rates (IBORs) represented 59.8% of total IRD traded notional in the third quarter of 2021 compared to 70.1% in the second quarter of 2021.

Year-to-September 30, 2021:

US-reported traded notional of OTC IRD referencing alternative RFRs increased by 12.6% to \$16.7 trillion in the nine months to September 30, 2021 compared to \$14.8 trillion in the same period last year. RFR transactions accounted for 9.8% of total IRD traded notional compared to 7.8% in the nine months to September 30, 2020.

- IRD traded notional referencing SOFR increased to \$3.8 trillion in the nine months to September 30, 2021 from \$716.8 billion in the nine months to September 30, 2020. The proportion of IRD traded notional linked to SOFR remained small, accounting for 2.2% of total IRD traded notional and 22.9% of IRD traded notional referencing RFRs.

⁵ SOFR First is a phased initiative for switching trading conventions from LIBOR to SOFR for US dollar linear interest rate swaps, cross-currency swaps, non-linear derivatives and exchange-traded derivatives www.cftc.gov/PressRoom/PressReleases/8409-21

⁶ This is expected as SONIA has been and is currently used as the reference rate for sterling overnight index swaps (OIS), while the effective federal funds rate (EFFR) is still widely used as the reference rate for US dollar OIS

- IRD traded notional referencing SONIA decreased by 12.6% to \$12.1 trillion in the nine months to September 30, 2021 compared to \$13.8 trillion in the same period last year⁷. SONIA transactions accounted for 7.1% of total IRD traded notional and represented 72.5% of IRD traded notional referencing RFRs.
 - Traded notional of IRD referencing LIBOR denominated in US dollars, sterling, Swiss franc, yen and euro, as well as EURIBOR and TIBOR, decreased by 3.1% to \$115.9 trillion in the nine months to September 30, 2021 compared to \$119.6 trillion in the same period last year. These IBORs represented 67.9% of total IRD traded notional in the nine months to September 30, 2021 compared to 63.1% in the nine months to September 30, 2020.
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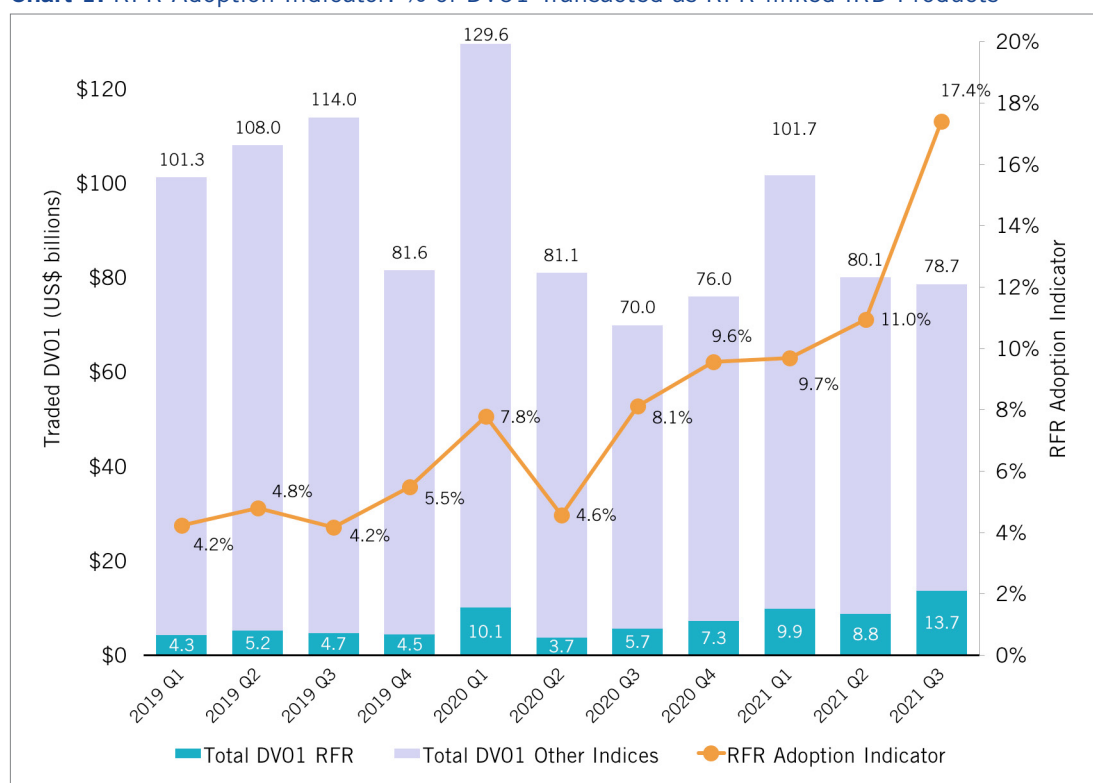
⁷ The number of SONIA-linked transactions increased over the same period. The divergence between the decrease in traded notional and the increase in trade count was due to a smaller transaction size

GLOBAL RFR-LINKED OTC AND EXCHANGE-TRADED IRD

In the third quarter of 2021, the average monthly ISDA-Clarus RFR Adoption Indicator reached 17.4% versus 11.0% in the second quarter of 2021⁸. RFR-linked IRD DV01 increased to \$13.7 billion in the third quarter of 2021 compared to \$8.8 billion in the prior quarter. Total IRD DV01 decreased to \$78.7 billion from \$80.1 billion over the same period⁹ (see Chart 1).

The average monthly ISDA-Clarus RFR Adoption Indicator increased to 12.4% in the nine months to September 30, 2021 compared to 6.9% in the same period last year. RFR-linked IRD DV01 totaled \$32.3 billion in the nine months to September 30, 2021 compared to \$19.5 billion in the nine months to September 30, 2020. Total IRD DV01 decreased to \$260.5 billion from \$280.6 billion over the same period.

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



Source: ISDA-Clarus RFR Adoption Indicator

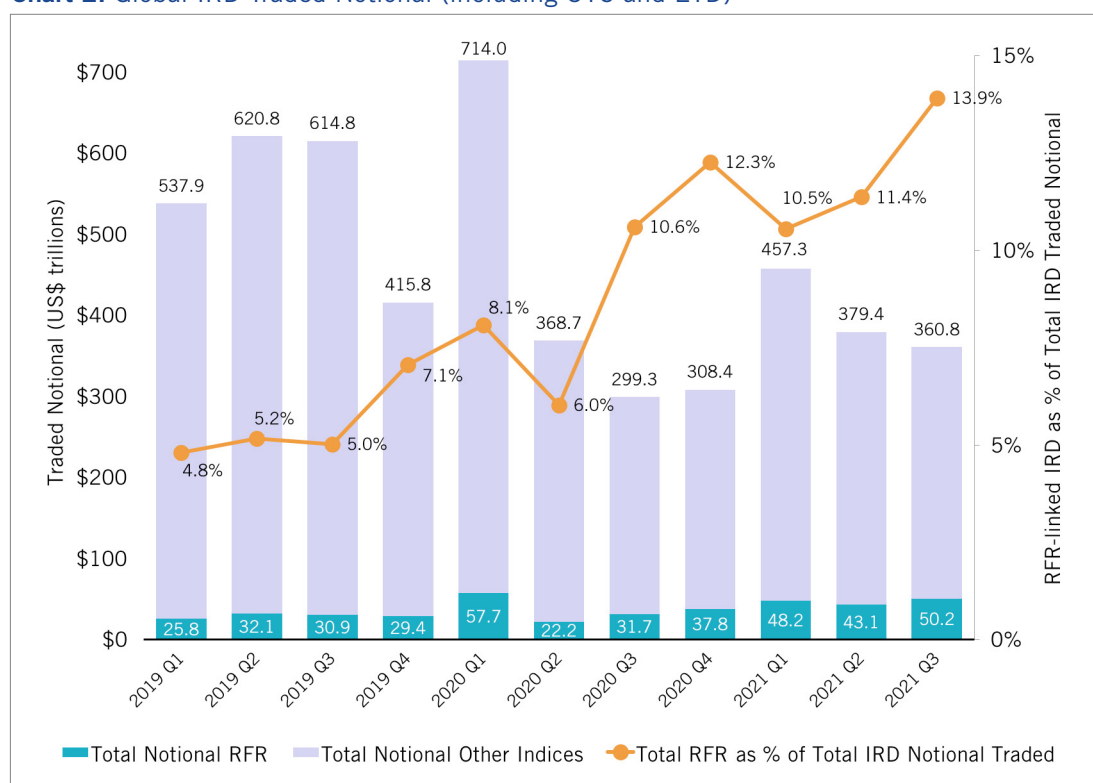
RFR-linked IRD traded notional accounted for 13.9% of total IRD traded notional in the third quarter of 2021 compared to 11.4% in the second quarter of 2021. RFR-linked IRD traded notional, including OTC and ETD, increased to \$50.2 trillion in the third quarter of 2021 from \$43.1 trillion in the prior quarter. Total IRD traded notional decreased to \$360.8 trillion from \$379.4 trillion over the same period (see Chart 2).

⁸ ISDA-Clarus RFR Adoption Indicator tracks how much global trading activity (as measured by DV01) is conducted in cleared OTC and ETD that reference the identified RFRs in six major currencies, including the Australian dollar, euro, sterling, swiss franc, US dollar and yen

⁹ To access interactive charts and download monthly data, go to <https://rfr.clarusft.com>

RFR-linked IRD traded notional increased to 11.8% of total IRD traded notional in the nine months to September 30, 2021 versus 8.1% in the nine months to September 30, 2020. RFR-linked IRD traded notional totaled \$141.6 trillion in the nine months to September 30, 2021 compared to \$111.6 trillion in the nine months to September 30, 2020. Total IRD traded notional declined to \$1,197.6 trillion from \$1,382.0 trillion over the same interval.

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



Source: ISDA-Clarus RFR Adoption Indicator

RFR-LINKED OTC IRD IN THE US

In the US, OTC IRD traded notional referencing alternative RFRs increased by 97.0% to \$7.5 trillion in the third quarter of 2021 compared to \$3.8 trillion in the second quarter of 2021¹⁰. RFR transactions accounted for 15.0% of total IRD traded notional in the third quarter of 2021, up from 7.4% in the second quarter of 2021.

In the third quarter of 2021:

- SOFR-linked OTC IRD traded notional increased by 127.4% versus the second quarter of 2021 and totaled \$2.1 trillion, including \$546.8 billion of basis swaps. Trade count grew by 219.1% to 20,351, including 2,998 basis swaps¹¹.
- SONIA-linked IRD traded notional increased by 80.0% to \$4.9 trillion, including \$72.1 billion of basis swaps. Trade count rose by 37.5% to 26,200, including 446 basis swaps.
- SARON-linked IRD traded notional totaled \$81.9 billion, including \$2.2 billion of basis swaps. Trade count was 1,222, including 35 basis swaps.
- TONA-linked IRD traded notional totaled \$204.4 billion, including \$32.6 billion of basis swaps. Trade count was 2,729, including 258 basis swaps.
- €STR-linked IRD traded notional equaled \$184.2 billion, including \$29.0 billion of basis swaps. Trade count was 857, including 151 basis swaps.

Year-to-September 30, 2021:

- SOFR-linked OTC IRD traded notional increased by 432.3% versus the nine months to September 30, 2020 and totaled \$3.8 trillion, including \$1.3 trillion of basis swaps. Trade count increased by 751.4% and totaled 32,190, including 7,017 basis swaps.
- SONIA-linked IRD traded notional decreased by 12.6% to \$12.1 trillion, including \$198.1 billion of basis swaps. Trade count rose by 217.9% to 61,217, including 1,156 basis swaps.
- SARON-linked IRD traded notional equaled \$100.6 billion, including \$2.8 billion of basis swaps. Trade count was 1,460, including 40 basis swaps.

¹⁰ This data covers only transactions that are required to be disclosed under US regulations

¹¹ The RFR basis swap data covers all basis swaps with the relevant alternative RFR as one of the underlying assets. This includes alternative RFR/interbank offered rate (IBOR) basis swaps. Basis swaps with the relevant alternative RFR as one of the underlying assets are tracked separately because market participants have specifically identified a robust basis swaps market as key to understanding the economic differences between the alternative RFRs and other rates, including IBORs. A robust and liquid basis swaps market for the alternative RFRs will also support hedging during the transition from IBORs to alternative RFRs

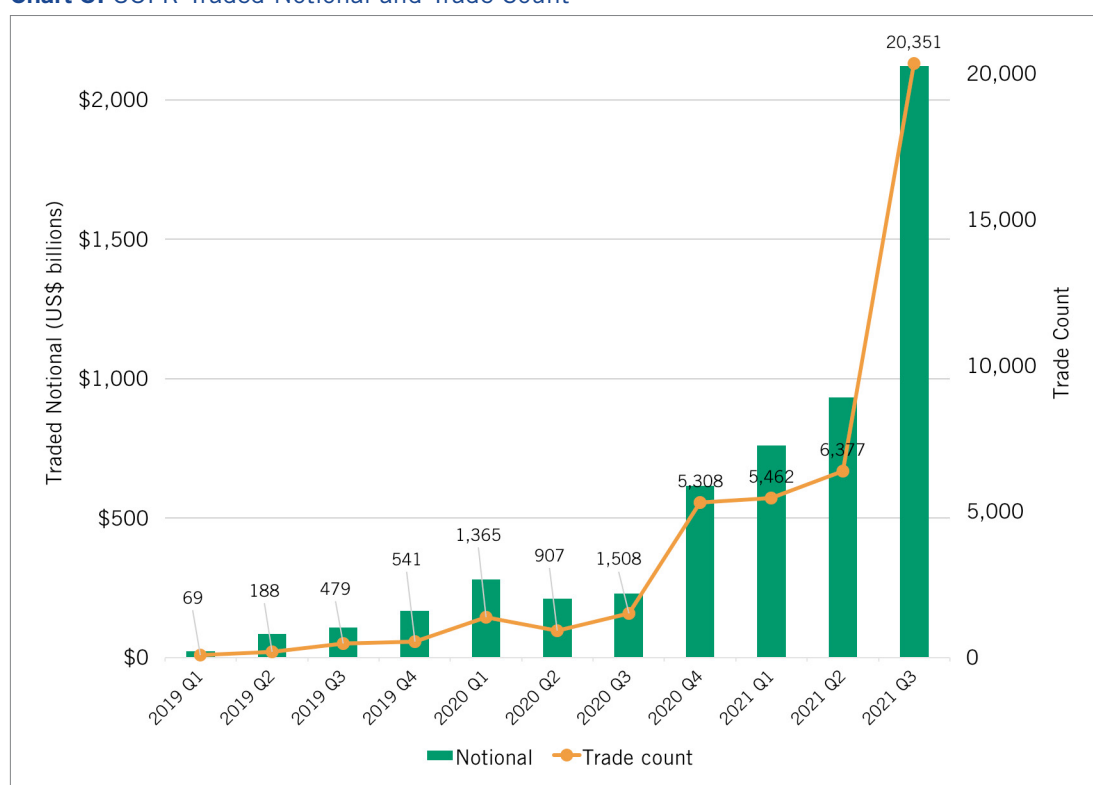
- TONA-linked IRD traded notional totaled \$349.1 billion, including \$34.9 billion of basis swaps. Trade count was 3,203, including 294 basis swaps.
- €STR-linked IRD traded notional totaled \$320.5 billion, including \$31.3 billion of basis swaps. Trade count was 1,586, including 178 basis swaps¹².

¹²€STR swaps started trading in the fourth quarter of 2019

SOFR

Trading activity in SOFR-linked OTC IRD increased significantly in the third quarter of 2021. The increase was primarily driven by the SOFR First initiative that started for linear derivatives on July 26, 2021¹³. Traded notional of IRD referencing SOFR increased by 127.4% to \$2.1 trillion from \$932.9 billion in the second quarter of 2021. The number of SOFR-linked IRD transactions jumped by 219.1% to 20,351 from 6,377 over the same period (see Chart 3).

Chart 3: SOFR Traded Notional and Trade Count



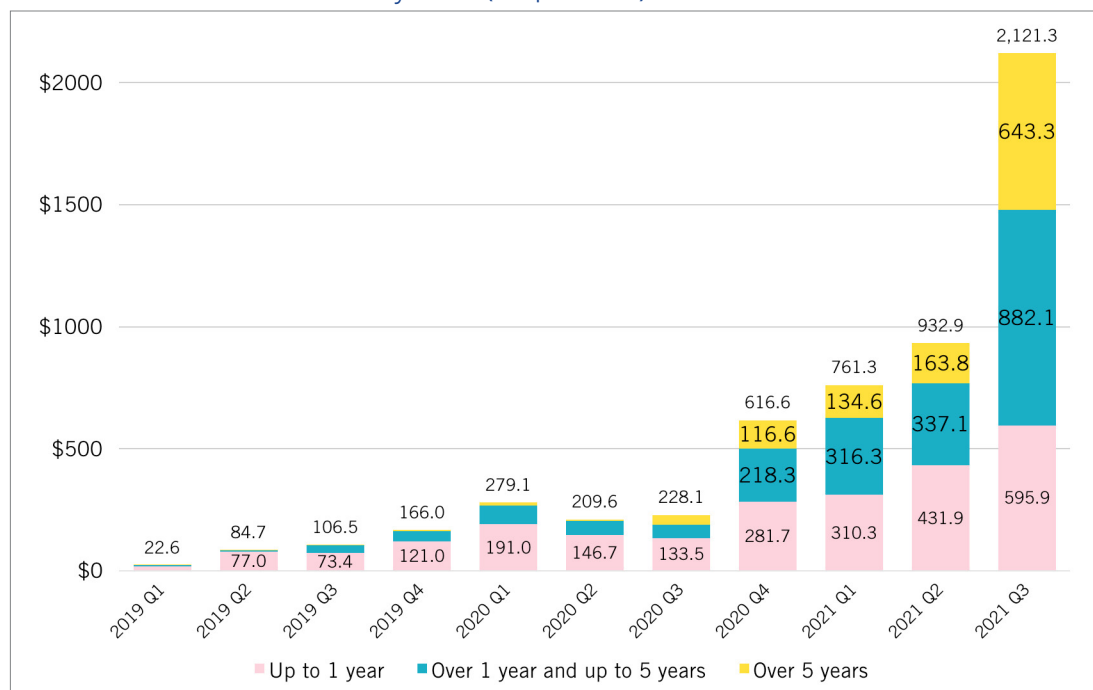
Source: DTCC SDR

Of the \$2.1 trillion of SOFR-linked IRD notional traded in the third quarter of 2021, \$595.9 billion (28.1%) had a tenor up to one year, \$882.1 billion (41.6%) was between one and five years and \$643.3 billion (30.3%) had a tenor over five years¹⁴ (see Chart 4).

¹³ SOFR First is a phased initiative for switching trading conventions from LIBOR to SOFR for US dollar linear interest rate swaps, cross-currency swaps, non-linear derivatives and ETD www.cftc.gov/PressRoom/PressReleases/8409-21

¹⁴ Tenor is calculated as the difference between the effective date and the maturity date

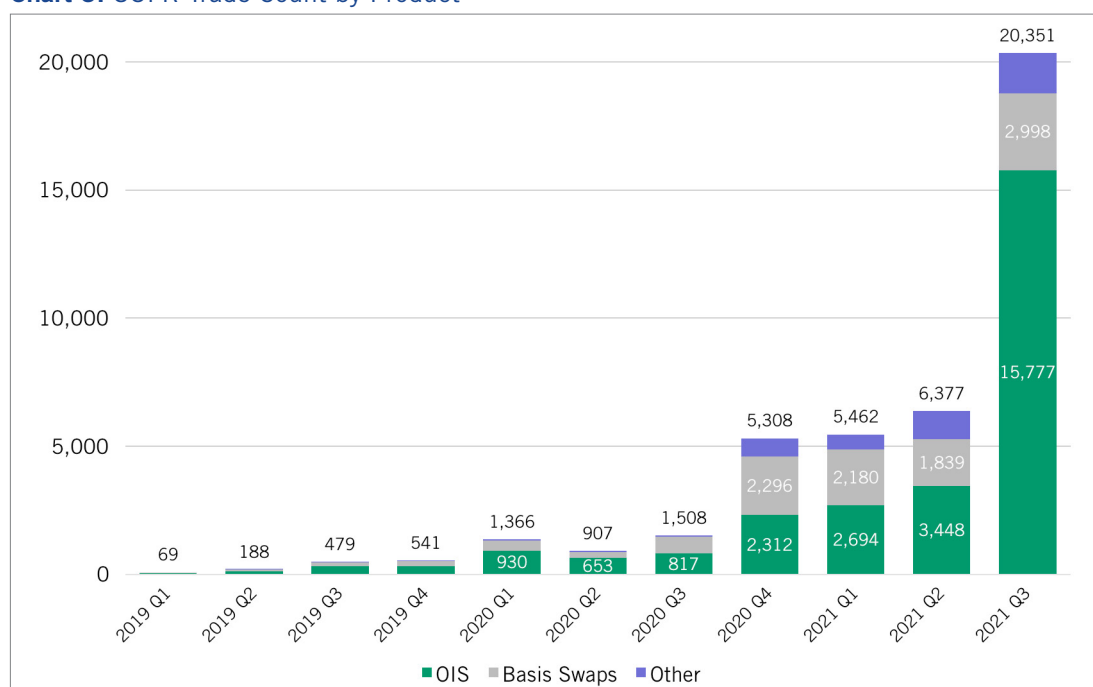
Chart 4: SOFR Traded Notional by Tenor (US\$ billions)



Source: DTCC SDR

Overnight index swaps (OIS) accounted for the majority of SOFR-linked contracts in the third quarter of 2021. Of the 20,351 SOFR-based IRD contracts traded, 15,777 were OIS transactions, 2,998 were basis swaps and 1,576 were other transactions, including fixed-for-floating interest rate swaps and cap/floor products (see Chart 5).

Chart 5: SOFR Trade Count by Product

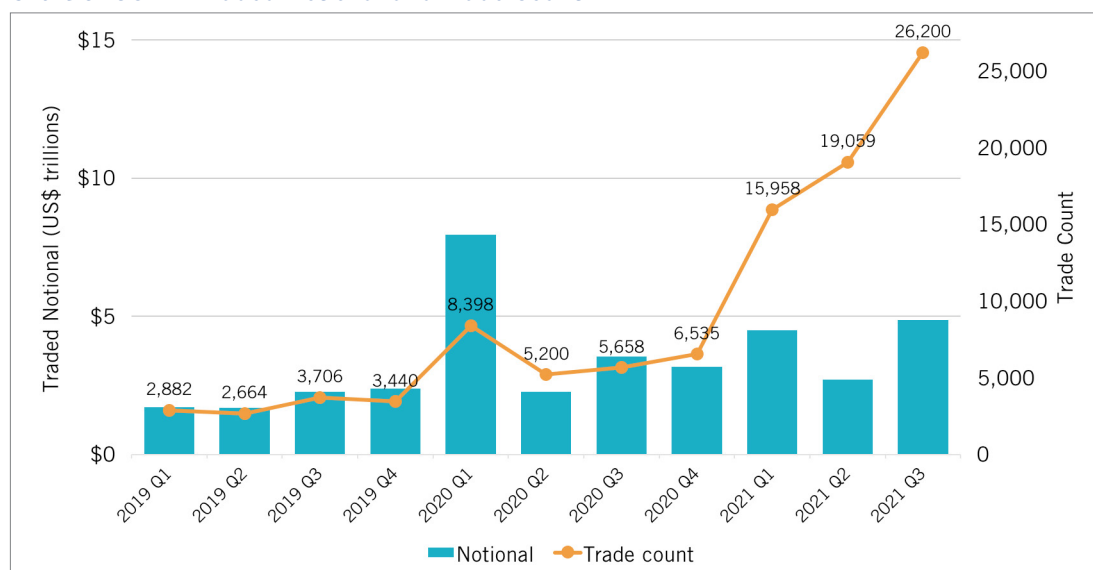


Source: DTCC SDR

SONIA

Traded notional of OTC IRD referencing SONIA increased by 80.0% to \$4.9 trillion in the third quarter of 2021 from \$2.7 trillion in the prior quarter. Trade count increased by 37.5% from 19,059 to 26,200 over the same interval¹⁵ (see Chart 6).

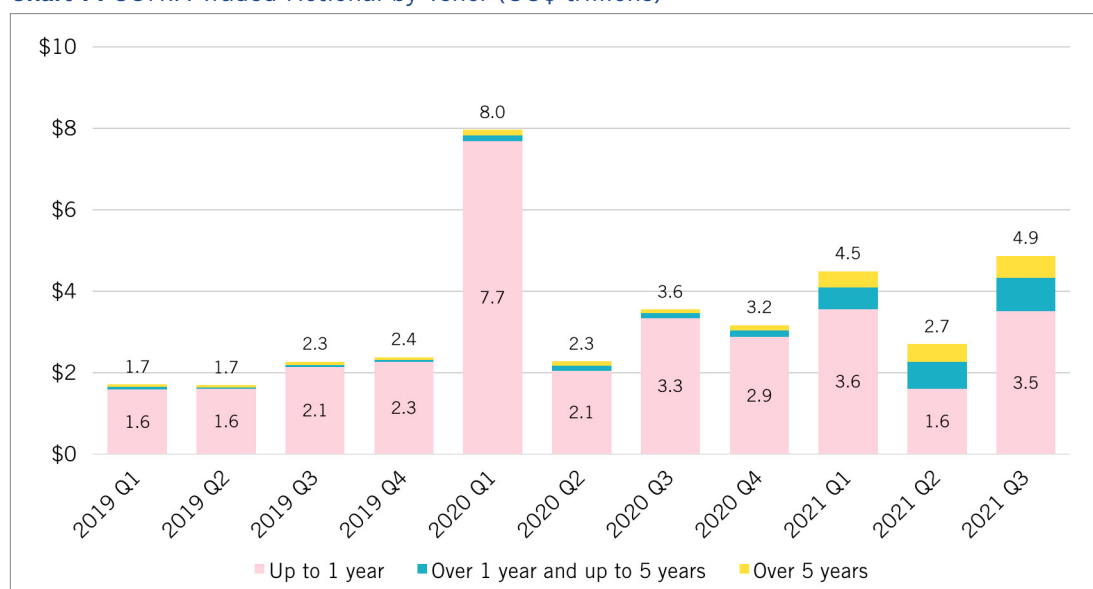
Chart 6: SONIA Traded Notional and Trade Count



Source: DTCC SDR

Most transactions referencing SONIA had a tenor up to one year. Of the \$4.9 trillion of SONIA-linked IRD notional traded in the third quarter of 2021, \$3.5 trillion (72.1%) had a tenor up to one year, \$815.0 billion (16.7%) was between one and five years and \$541.4 billion (11.1%) had a tenor over five years (see Chart 7).

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

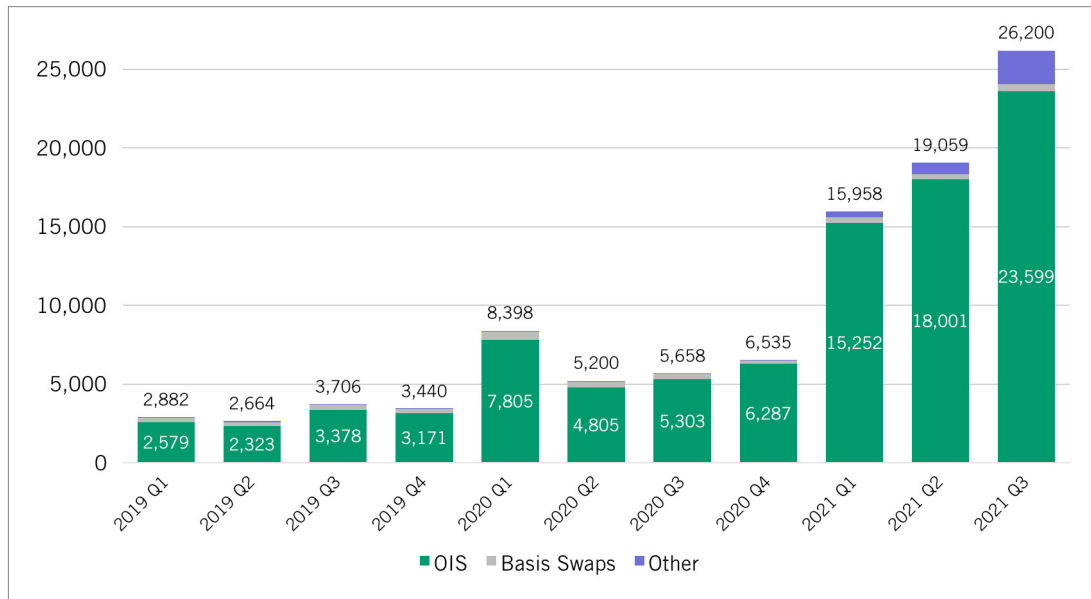


Source: DTCC SDR

¹⁵ The divergence between the decrease in traded notional and the increase in trade count was due to a smaller transaction size

OIS accounted for the majority of SONIA-linked OTC IRD trade count. Of the 26,200 SONIA-based IRD contracts traded in the third quarter of 2021, 23,599 were OIS transactions, 446 were basis swaps and 2,155 were other products (see Chart 8).

Chart 8: SONIA Trade Count by Product



Source: DTCC SDR

Table 1: US IRD Traded Notional and Trade Count Q3 2021 and YTD Q3 2021

	Q3 2021		YTD Q3 2021	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count
USD LIBOR	18,776.2	143,203	74,853.0	519,361
SOFR	1,574.5	17,353	2,546.8	25,173
Basis Swaps: SOFR	546.8	2,998	1,268.6	7,017
GBP LIBOR	1,645.9	11,171	8,936.6	64,354
SONIA	4,795.2	25,754	11,861.7	60,061
Basis Swaps: SONIA	72.1	446	198.1	1,156
CHF LIBOR	90.7	2,134	472.4	8,694
SARON	79.3	1,187	97.8	1,420
Basis Swaps: SARON	2.6	35	2.8	40
JPY LIBOR	357.7	5,103	2,121.2	27,666
TIBOR/Euroyen TIBOR	4.9	70	16.4	158
TONA	171.7	2,471	314.2	2,909
Basis Swaps: TONA	32.6	258	34.9	294
EUR LIBOR	0.0	0	1.1	14
EURIBOR	8,816.4	77,413	29,492.5	252,368
€STR	155.2	706	289.2	1,408
Basis Swaps: €STR	29.0	151	31.3	178
Other*	12,519.8	145,004	38,155.6	444,872
Total**	49,670.8	435,457	170,694.3	1,417,143

*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 Q3 2021 vs. Q2 2021

	Q3 2021		Q2 2021		Q3 2021 vs. Q2 2021	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count	Traded Notional	Trade Count
USD LIBOR	18,776.2	143,203	24,069.4	171,178	-22.0%	-16.3%
SOFR	2,121.3	20,351	932.9	6,377	127.4%	219.1%
GBP LIBOR	1,645.9	11,171	1,873.3	15,774	-12.1%	-29.2%
SONIA	4,867.4	26,200	2,703.5	19,059	80.0%	37.5%
CHF LIBOR	90.7	2,134	142.9	2,909	-36.5%	-26.6%
SARON	81.9	1,222	11.6	186	605.5%	557.0%
JPY LIBOR	357.7	5,103	549.4	9,488	-34.9%	-46.2%
TIBOR/Euroyen TIBOR	4.9	70	10.1	69	-52.1%	1.4%
TONA	204.4	2,729	46.0	253	344.4%	978.7%
EUR LIBOR	0.0	0	0.2	4	-100.0%	-100.0%
EURIBOR	8,816.4	77,413	8,990.0	79,328	-1.9%	-2.4%
€STR	184.2	857	92.6	407	98.9%	110.6%
Other*	12,519.8	145,004	11,406.6	137,514	9.8%	5.4%
Total**	49,670.8	435,457	50,828.6	442,546	-2.3%	-1.6%

*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 YTD Q3 2021 vs. YTD Q3 2020

	YTD Q3 2021		YTD Q3 2020		YTD Q3 2021 vs. YTD Q3 2020	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count	Traded Notional	Trade Count
USD LIBOR	74,853.0	519,361	87,692.3	552,097	-14.6%	-5.9%
SOFR	3,815.5	32,190	716.8	3,781	432.3%	751.4%
GBP LIBOR	8,936.6	64,354	11,248.2	95,776	-20.6%	-32.8%
SONIA	12,059.8	61,217	13,792.4	19,256	-12.6%	217.9%
CHF LIBOR	472.4	8,694	424.4	9,013	11.3%	-3.5%
SARON	100.6	1,460	30.1	70	234.0%	1985.7%
JPY LIBOR	2,121.2	27,666	2,796.0	27,710	-24.1%	-0.2%
TIBOR/Euroyen TIBOR	16.4	158	7.4	60	121.5%	163.3%
TONA	349.1	3,203	204.3	515	70.9%	521.9%
EUR LIBOR	1.1	14	1.53	38	-30.1%	-63.2%
EURIBOR	29,492.5	252,368	17,395.2	156,520	69.5%	61.2%
€STR	320.5	1,586	37.5	202	755.6%	685.1%
Other*	38,155.6	444,872	55,182.3	388,011	-30.9%	14.7%
Total**	170,694.3	1,417,143	189,528.3	1,253,049	-9.9%	13.1%

*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

	Q3 2021		YTD Q3 2021	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count
SOFR	2,121.3	20,351	3,815.5	32,190
Up to 1 year	595.9	966	1,338.2	1,850
Over 1 year and up to 5 years	882.1	8,437	1,535.5	14,456
Over 5 years	643.3	10,948	941.7	15,884
SONIA	4,867.4	26,200	12,059.8	61,217
Up to 1 year	3,510.9	2,766	8,667.5	6,735
Over 1 year and up to 5 years	815.0	8,810	2,010.5	19,921
Over 5 years	541.4	14,624	1,381.8	34,561
SARON	81.9	1,222	100.6	1,460
Up to 1 year	29.7	70	38.7	97
Over 1 year and up to 5 years	40.6	672	46.7	770
Over 5 years	11.6	480	15.1	593
TONA	204.4	2,729	349.1	3,203
Up to 1 year	65.9	213	187.3	437
Over 1 year and up to 5 years	73.8	856	93.7	1,021
Over 5 years	64.6	1,660	68.1	1,745
€STR	184.2	857	320.5	1,586
Up to 1 year	145.0	211	247.1	355
Over 1 year and up to 5 years	26.5	282	47.4	538
Over 5 years	12.7	364	26.1	693

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

	Q3 2021		YTD Q3 2021	
	Traded Notional (US\$ billions)	Trade Count	Traded Notional (US\$ billions)	Trade Count
SOFR	2,121.3	20,351	3,815.5	32,190
OIS	1,509.6	15,777	2,415.5	21,919
Basis Swaps	546.8	2,998	1,268.6	7,017
Fixed-for-Floating IRS	11.2	235	20.3	378
Cross Currency IRS	2.2	69	3.1	89
Inflation Swaps	0.0	0	0.0	0
Exotics	27.1	630	50.0	1,206
Options	11.7	269	27.0	485
Cap Floor	12.9	373	30.9	1,096
SONIA	4,867.4	26,200	12,059.8	61,217
OIS	4,467.6	23,599	11,356.0	56,852
Basis Swaps	72.1	446	198.1	1,156
Fixed-for-Floating IRS	0.3	8	18.6	64
Cross Currency IRS	1.1	11	1.6	18
Inflation Swaps	0.0	0	0.0	0
Exotics	2.9	10	4.9	33
Options	280.2	2,030	431.0	2,932
Cap Floor	43.1	96	49.7	162
SARON	81.9	1,222	100.6	1,460
OIS	79.3	1,187	97.8	1,420
Basis Swaps	2.6	35	2.8	40
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	204.4	2,729	349.1	3,203
OIS	154.4	2,240	296.1	2,663
Basis Swaps	32.6	258	34.9	294
Fixed-for-Floating IRS	0.2	4	0.7	6
Cross Currency IRS	0.0	1	0.0	1
Inflation Swaps	0.0	0	0.0	0
Exotics	0.0	0	0.0	0
Options	16.5	215	16.7	224
Cap Floor	0.6	11	0.7	15
€STR	184.2	857	320.5	1,586
OIS	155.2	706	289.2	1,408
Basis Swaps	29.0	151	31.3	178
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

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

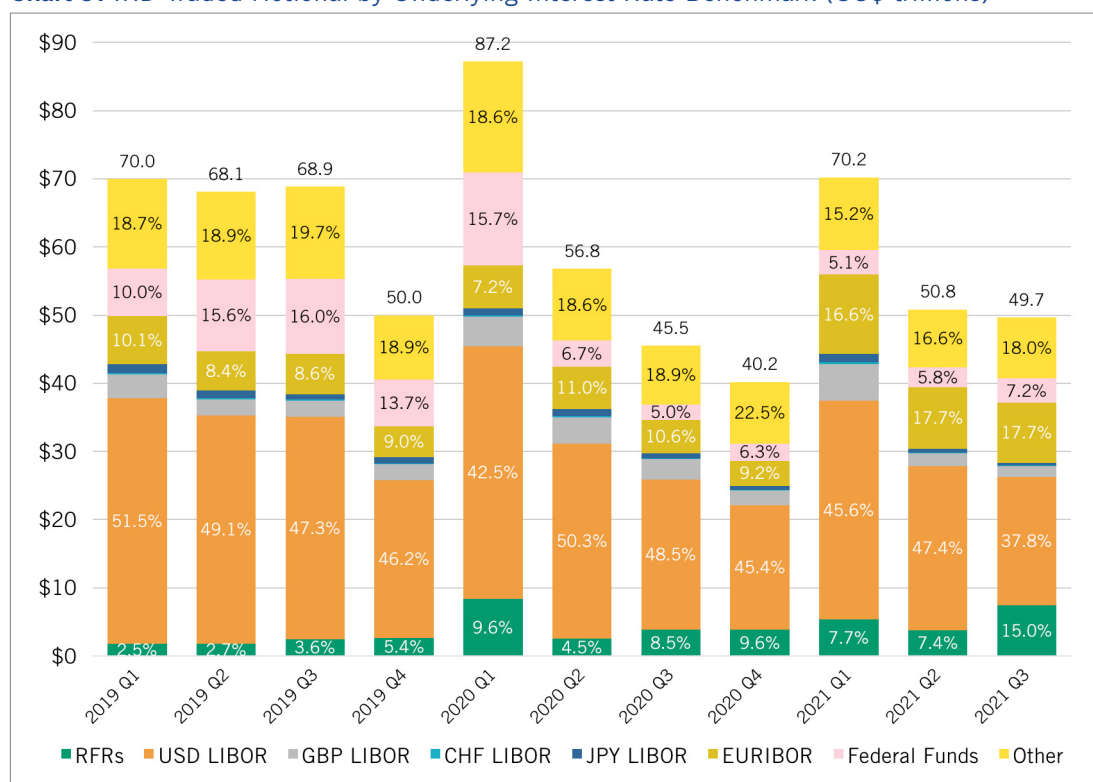
IBOR-LINKED OTC IRD IN THE US

US-reported OTC IRD traded notional referencing LIBOR denominated in US dollars, sterling, Swiss franc, yen and euro, as well as EURIBOR and TIBOR, equaled \$29.7 trillion in the third quarter of 2021, representing 59.8% of total IRD traded notional¹⁶. The number of IRD trades referencing IBORs totaled 239.1 thousand, accounting for 54.9% of total IRD trade count.

IRD traded notional based on US dollar LIBOR equaled \$18.8 trillion, accounting for 37.8% of total IRD traded notional in the third quarter of 2021 (see Chart 9). EURIBOR and sterling LIBOR IRD traded notional was \$8.8 trillion and \$1.7 trillion, respectively. IRD traded notional referencing the effective federal funds rate totaled \$3.6 trillion and accounted for 7.2% of total IRD traded notional.

In comparison, IRD traded notional referencing LIBOR denominated in US dollar, sterling, Swiss franc, yen and euro, as well as EURIBOR and TIBOR, equaled \$35.6 trillion and represented 70.1% of total IRD traded notional in the second quarter of 2021.

Chart 9: IRD Traded Notional by Underlying Interest Rate Benchmark (US\$ trillions)

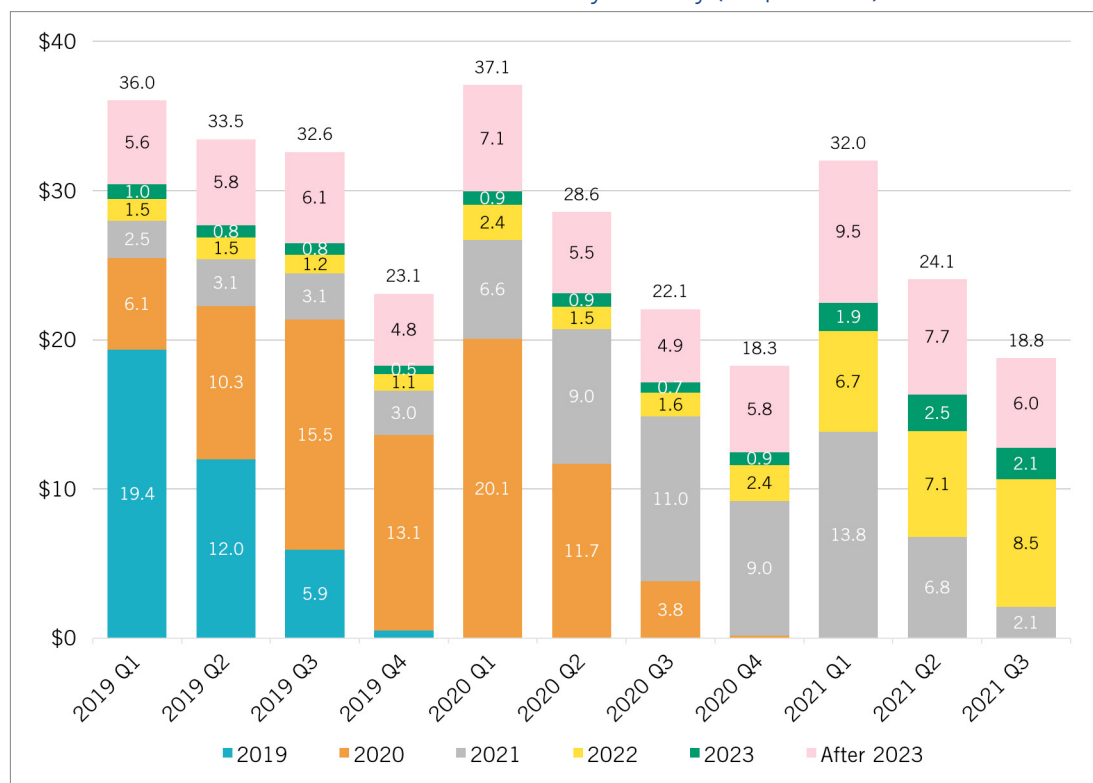


Source: DTCC SDR

¹⁶ This data covers only transactions that are required to be disclosed under US regulations

Of the \$18.8 trillion of US dollar LIBOR-linked IRD notional traded in the third quarter of 2021, \$2.1 trillion had a 2021 maturity, \$8.5 trillion had a 2022 maturity and \$6.0 trillion had a maturity after 2023 (see Chart 10).

Chart 10: US dollar LIBOR IRD Traded Notional by Maturity (US\$ trillions)

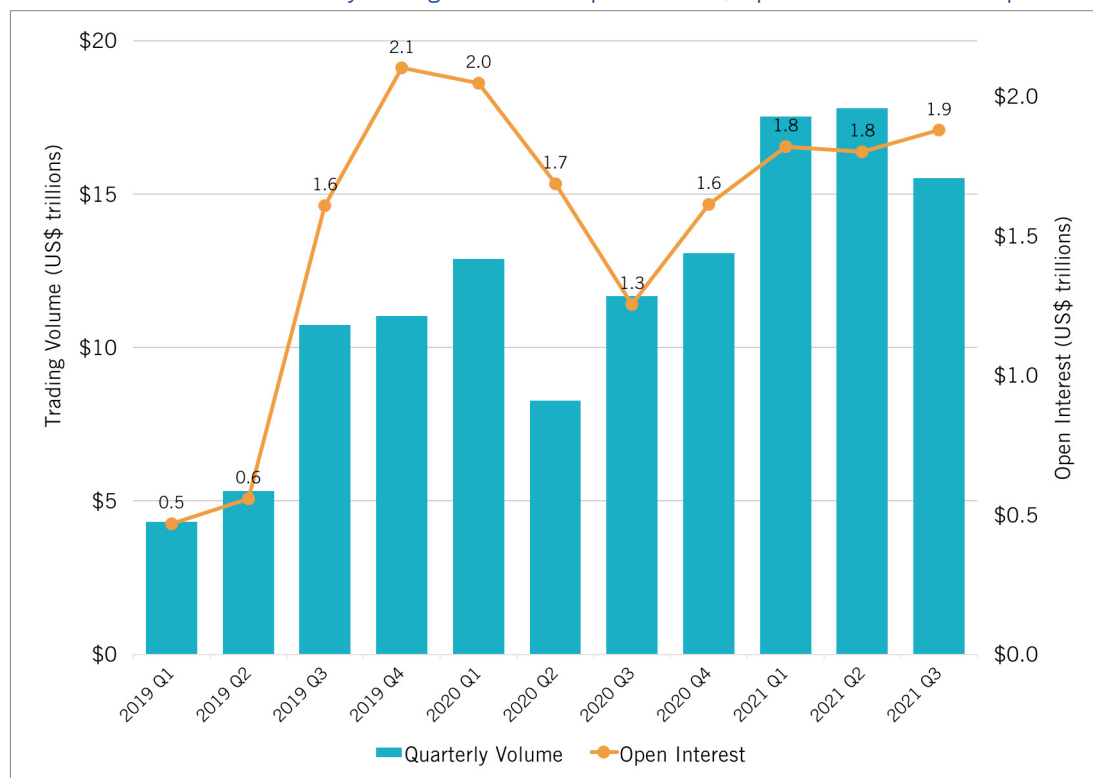


Source: DTCC SDR

SOFR AND SONIA FUTURES

Trading volume in SOFR futures decreased by 12.8% to \$15.5 trillion in the third quarter of 2021 from \$17.8 trillion in the second quarter of 2021. Open interest was \$1.9 trillion at the end of September 2021, slightly up compared to the end of the second quarter 2021 (see Chart 11).

Chart 11: SOFR Futures Quarterly Trading Volume and Open Interest (Implied Notional in OTC Equivalent)

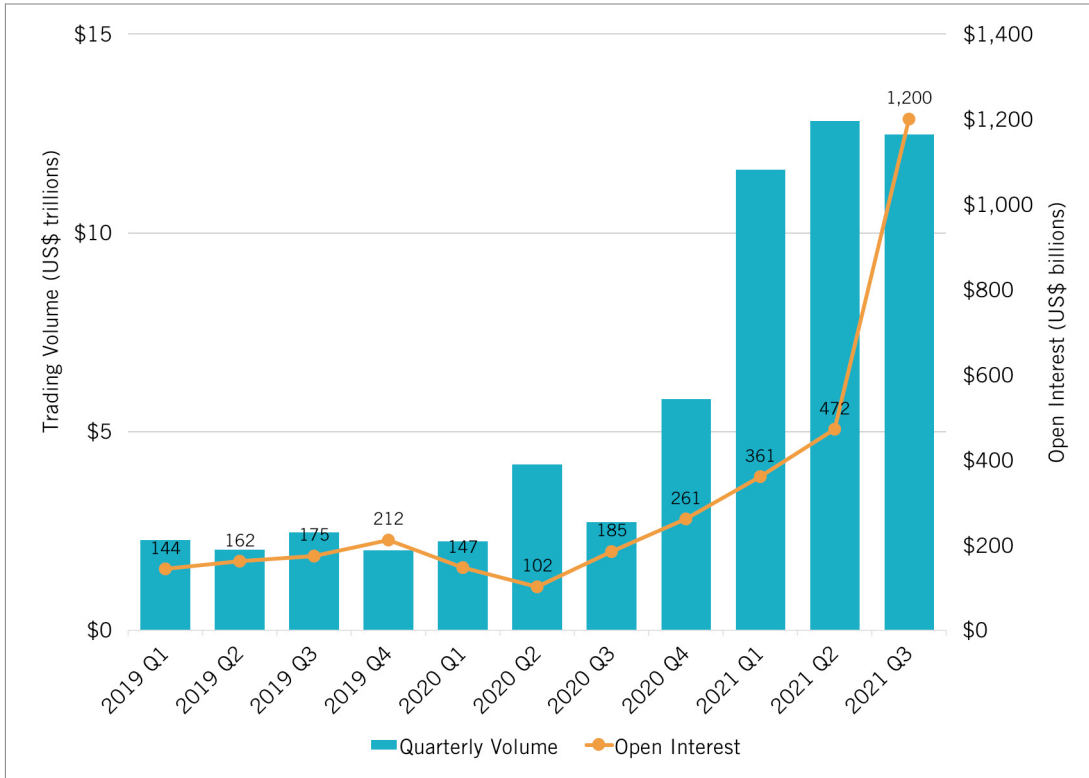


Source: CME and ICE

Trading volume in SONIA futures slightly declined to \$12.4 trillion in the third quarter of 2021 from \$12.8 trillion in the previous quarter. Open interest significantly increased to \$1.2 trillion at the end of September 2021 compared to \$471.9 billion at the end of the second quarter of 2021 (see Chart 12).

¹⁷ The analysis of trading activity in SOFR and SONIA exchange-traded futures is based on data from CME, ICE and LCH

Chart 12: 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: September 2021***
<https://www.isda.org/a/waKgE/ISDA-Clarus-RFR-Adoption-Indicator-2021-09.pdf>
- ***Interest Rate Derivatives Trading Activity in the EU, UK and US: July 2021***
<https://www.isda.org/a/H0igE/Interest-Rate-Derivatives-Trading-Activity-Reported-in-EU-UK-and-US-Markets-July-2021.pdf>
- ***Transition to RFRs Review: First Half of 2021 and the Second Quarter of 2021***
<https://www.isda.org/a/lmMgE/Transition-to-RFRs-Review-First-Half-of-2021-and-the-Second-Quarter-of-2021.pdf>

Additional information relating to benchmark reform and the transition from LIBOR is available on the [ISDA website](#) and the [Understanding IBOR Benchmark Fallbacks microsite](#), which ISDA developed in coordination with The Brattle Group. The ISDA-Brattle microsite provides background information about the IBOR fallbacks, including adoption rates for the ISDA 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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