ISDA

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Examining IRD Trading Activity in Response to Rising Interest Rates and RFR Transition

The US Federal Reserve's series of interest rate hikes, which started with a 0.25% increase in March 2022 and was followed by 10 additional increases to August 2023, has likely contributed to significant growth in interest rate derivatives (IRD) trading activity. This appears to have been driven by the need to manage risk, protect against adverse rate movements and optimize borrowing or investment strategies.

While total IRD trading activity has surged, the composition of over-the-counter (OTC) IRD products has undergone substantial structural changes, predominantly due to the industry-wide transition from LIBOR to risk-free rates (RFRs). Notably, the share of overnight index swaps (OIS) has expanded significantly, while trading in US dollar-denominated fixed-for-floating interest rate swaps (IRS) referencing US dollar LIBOR and forward rate agreements (FRAs) has dropped.

EXECUTIVE SUMMARY

ISDA analysis of IRD trading activity shows:

- Total IRD traded notional rose by 16.8% to $181.6 trillion in the first half of 2023 from $155.5 trillion in the first half of 2022. Trade count climbed by 18.2% to 1.4 million from 1.1 million over the same period[1].

- The increase in IRD trading activity was driven by a rise in OIS trading[2]. OIS traded notional increased by 59.1% in the first half of 2023 versus the first half of 2022, while fixed-for-floating IRS traded notional fell by 42.1%.

- The significant growth in OIS transactions is linked to increased trading activity in the effective federal funds rate (EFFR) and RFRs. Market participants typically use the EFFR to express their views on the direction of monetary policy. OIS traded notional linked to the EFFR grew by 60.6% in the first half of 2023 compared to the first half of 2022. OIS traded notional referencing SOFR increased by 58.4% over the same period, while €STR- and SONIA-linked traded notional grew by 57.8% and 44.6%, respectively.

- Publication of all euro, Japanese yen, sterling and Swiss franc LIBOR tenors and one-week and two-month US dollar LIBOR ceased on a representative basis at the end of 2021, and various regulators stated that firms should not enter new US dollar LIBOR contracts from the beginning of 2022, except in limited circumstances. As a result, use of fixed-for-floating swaps declined[3], with US dollar-denominated fixed-for-floating IRS virtually replaced by OIS referencing SOFR. The remaining US dollar LIBOR settings ceased publication on a representative basis on June 30, 2023.

- The transition from LIBOR to RFRs reduced the need for market participants to use FRAs to hedge fixing risk, which led to a significant drop in FRA trading in 2022. There were no sterling-, Swiss franc- and yen-denominated FRA transactions in 2022 and the first half of 2023, while US-dollar denominated FRA traded notional declined significantly. Despite this, market participants continued to use euro-denominated FRAs to hedge EURIBOR.

[1] This data only includes over-the-counter interest rate derivatives (IRD) transactions required to be reported to the Depository Trust & Clearing Corporation swap data repository under US Commodity Futures Trading Commission regulations

[2] Overnight index swaps (OIS) generally refer to fixed-for-floating swaps in which the floating reference rate is an overnight rate. In this paper, the OIS category encompasses all overnight rates – eg, both the effective federal funds rate (EFFR) and SOFR for US dollar-denominated OIS

[3] The fixed-for-floating interest rate swap category doesn't include OIS transactions

TOTAL IRD TRADING ACTIVITY

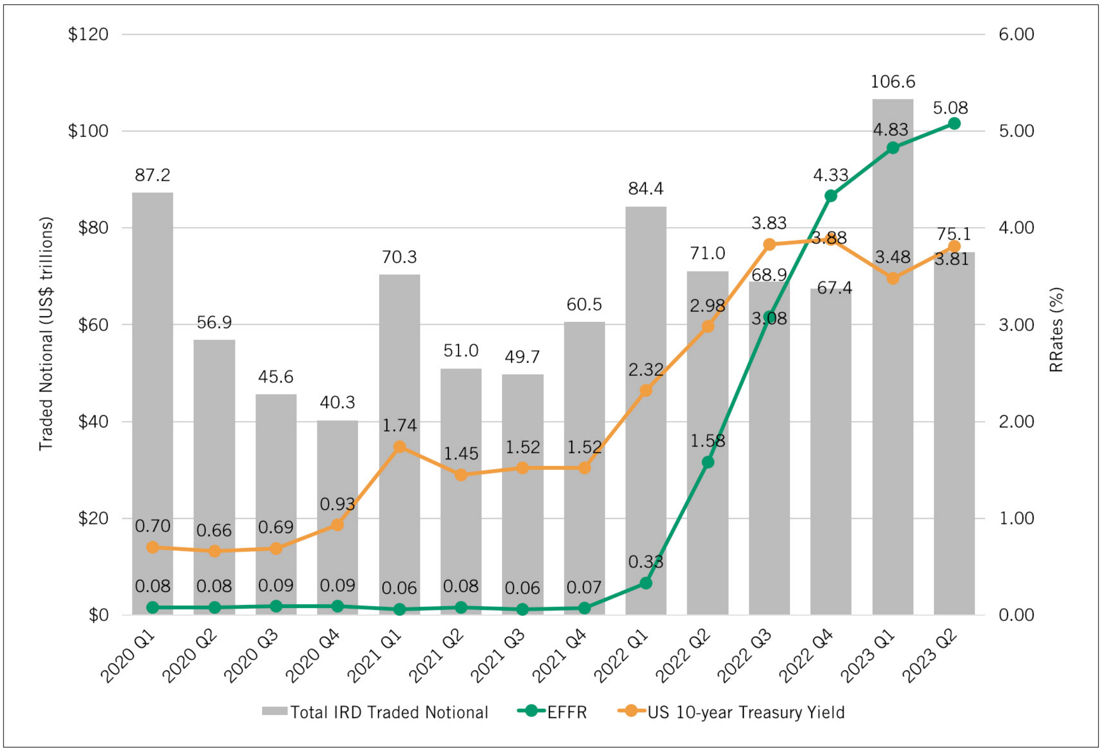
The series of interest rate increases by the US Federal Reserve has likely contributed to significant growth in IRD traded notional and trade count in the first half of 2023 versus the first half of 2022. This was likely driven by the need to manage risk, protect against adverse rate movements and optimize borrowing or investment strategies.

By entering into IRD transactions, market participants can exchange their floating-rate obligations for fixed-rate obligations (or vice versa), enabling them to hedge against the potential adverse impact of rising rates. Firms also use derivatives to express their expectations for future interest rate movements.

The EFFR rose from close to zero in the first quarter of 2022 to between 5.25% and 5.5% by the end of August 2023. The yield on the 10-year US Treasury bond also increased from 2.32% at the end of the first quarter of 2022 to 4.09% on August 31, 2023.

Total IRD traded notional rose by 16.8% to $181.6 trillion in the first half of 2023 from $155.5 trillion in the first half of 2022. Trade count grew by 18.2% to 1.4 million from 1.1 million over the same period. In the first half of 2022, total IRD traded notional increased by 28.2% versus the first half of 2021, while trade count grew by 16.1% (see Chart 1).

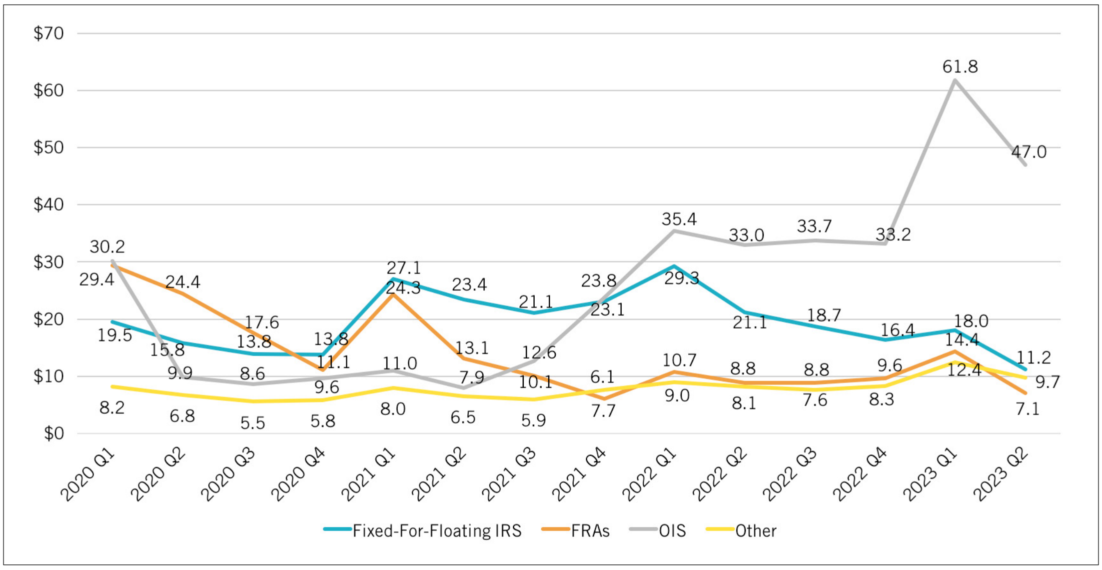
Chart 1: Total IRD traded notional increased significantly in 2022 and the first half of 2023 as the Fed continued its series of interest rate hikes



Source: Depository Trust & Clearing Corporation (DTCC) swap data repository (SDR)

The increase in IRD trading activity was driven by a rise in OIS trading. In the first half of 2023, OIS traded notional grew to $108.8 trillion from $68.4 trillion in the first half of 2022. Fixed-for-floating IRS traded notional fell by 42.1% and FRA traded notional rose by 9.8% over the same period (see Chart 2).

Chart 2: The increase in IRD trading activity was driven by a jump in OIS trading (US$ trillions)



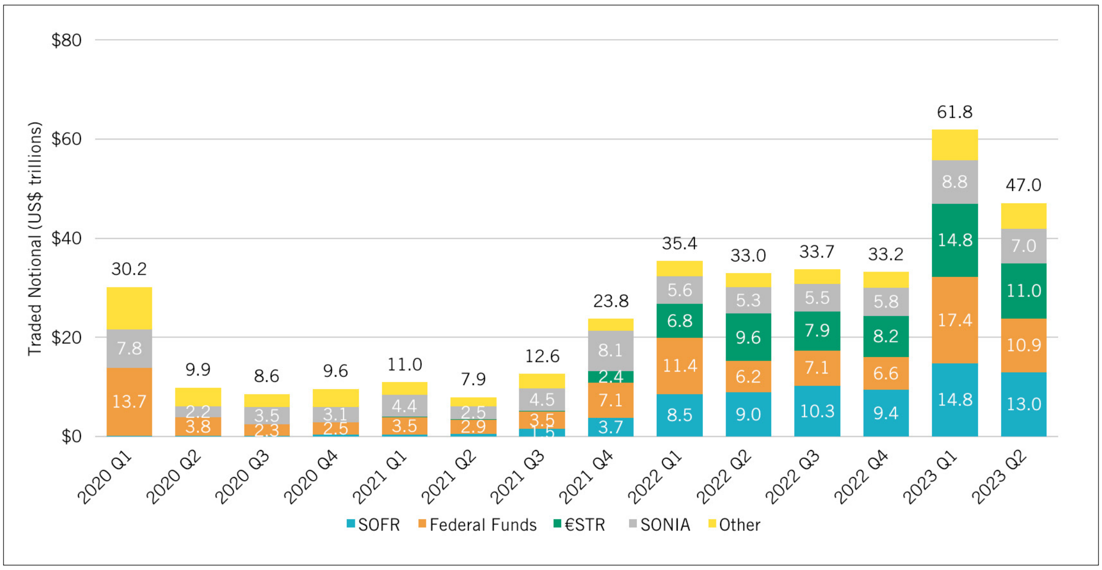
Source: DTCC SDR

OIS Trading Activity

The significant increase in OIS transactions[4] was the result of greater trading activity in the EFFR and other RFRs. Market participants typically use OIS linked to the EFFR to express views on the direction of monetary policy. OIS traded notional referencing the EFFR grew by 60.6% to $28.3 trillion in the first half of 2023 from $17.6 trillion in the first half of 2022 (see Chart 3).

As financial institutions transitioned from LIBORs, market participants increasingly turned to overnight RFRs, which also contributed to the growth in OIS. OIS referencing SOFR increased by 58.4% in the first half of 2023 compared to the first half of 2022, while €STR and SONIA traded notional grew by 57.8% and 44.6%, respectively.

Chart 3: Growth in OIS trading was driven by increased trading linked to the EFFR and RFRs



Source: DTCC SDR

[4] OIS generally refer to fixed-for-floating swaps in which the floating reference rate is an overnight rate. In this paper, the OIS category encompasses all overnight rates – eg, both the EFFR and SOFR for US dollar-denominated OIS

There is a significant difference in the trade size of OIS transactions referencing the EFFR versus those linked to SOFR. The average trade size of OIS referencing the EFFR totaled $1.6 billion in the second quarter of 2023, while the average trade size of OIS referencing SOFR was $84.8 million. In comparison, the average trade size of US dollar-denominated fixed-for-floating IRS referencing US dollar LIBOR totaled $109.1 million in the second quarter of 2023 (see Table 1).

This implies that market participants have been replacing US-dollar denominated fixed-for-floating IRS referencing US dollar LIBOR with OIS linked to SOFR.

Table 1: The average trade size of OIS transactions referencing the EFFR was historically larger than the average trade size of SOFR transactions

	Average Daily Traded Notional (US$ billions)			Average Daily Trade Count			Average Trade Size (US$ millions)		
	OIS SOFR	OIS Federal Funds	IRS USD LIBOR	OIS SOFR	OIS Federal Funds	IRS USD LIBOR	OIS SOFR	OIS Federal Funds	IRS USD LIBOR
2020 Q1	2.3	213.3	145.1	16	229	2,079	135.2	880.0	70.3
2020 Q2	1.7	58.9	102.8	12	112	1,537	150.9	513.2	70.2
2020 Q3	2.0	35.0	92.8	16	80	1,326	131.5	452.5	68.9
2020 Q4	5.2	39.0	105.1	39	101	1,432	157.9	436.5	73.7
2021 Q1	6.5	57.9	229.4	45	133	2,165	145.8	455.8	101.2
2021 Q2	8.1	45.4	219.5	56	113	1,996	148.5	417.2	104.7
2021 Q3	23.4	54.2	182.3	245	83	1,706	94.6	658.1	100.4
2021 Q4	56.6	111.4	209.1	620	102	1,708	92.2	1,086.7	109.8
2022 Q1	135.3	180.8	296.5	1,619	120	1,270	98.8	1,442.9	185.2
2022 Q2	142.6	100.6	178.5	1,864	77	871	107.3	1,239.8	165.4
2022 Q3	155.7	107.7	152.5	1,927	74	701	78.7	1,400.5	204.4
2022 Q4	147.0	105.3	117.2	1,935	75	597	75.3	1,377.6	157.1
2023 Q1	230.8	280.8	99.6	2,735	138	546	83.7	1,970.3	145.8
2023 Q2	205.6	170.3	22.0	2,427	106	206	84.8	1,566.3	109.1

Source: DTCC SDR

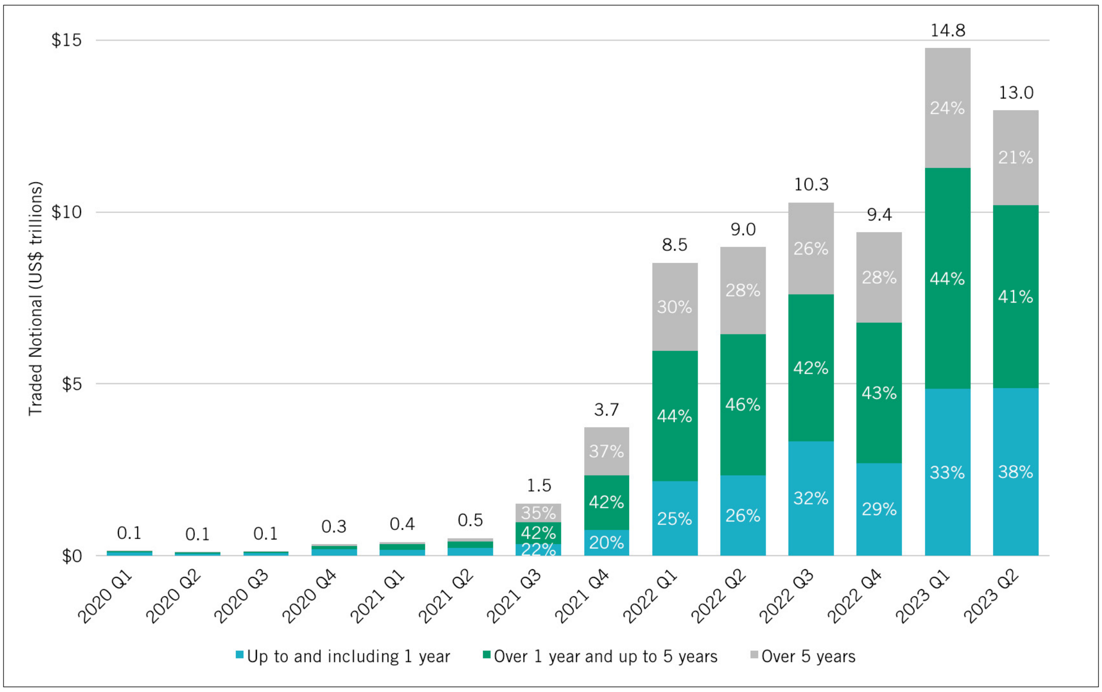
While the average size of OIS trades linked to the EFFR may be greater than the average size of SOFR-linked transactions, this can be misleading as most trading referencing the EFFR is short in duration. In other words, the average DV01 of OIS linked to the EFFR would be close to and maybe smaller than the DV01 of SOFR transactions.

The block sizes used for the reporting of IRD transactions are also lower for longer tenors. As a result, transactions with short tenors above the block size will have a higher reported notional.

Of the $13.0 trillion of SOFR-linked OIS traded notional in the second quarter of 2023, $4.9 trillion (37.6%) had a tenor up to and including one year, $5.3 trillion (41.1%) was over one and up to five years and $2.8 trillion (21.3%) had a tenor over five years[5] (see Chart 4).

[5] Tenor is calculated as the difference between the effective date and the maturity date

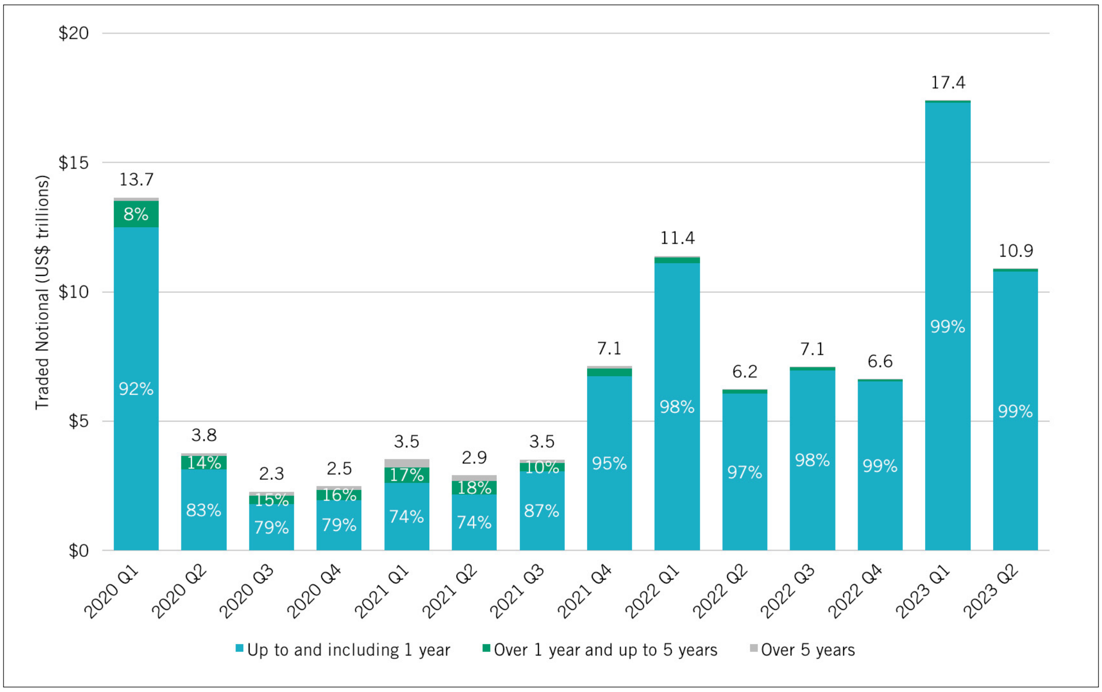
Chart 4: More than 60% of OIS transactions referencing SOFR had tenors over one year in the first half of 2023



Source: DTCC SDR

Meanwhile, 98.9% of OIS traded notional referencing the EFFR had tenors up to and including one year in the second quarter of 2023 (See Chart 5).

Chart 5: Almost all OIS transactions referencing the EFFR had tenor up to and including one year in the first half of 2023



Source: DTCC SDR

Fixed-for-floating IRS Trading Activity

Publication of all euro, Japanese yen, sterling and Swiss franc LIBOR tenors and one-week and two-month US dollar LIBOR ceased on a representative basis at the end of 2021. Various regulators also stated that firms should not enter new US dollar LIBOR contracts from the beginning of 2022, except in limited circumstances. As a result, the use of fixed-for-floating swaps declined[6].

Fixed-for-floating IRS traded notional fell by 42.1% to $29.2 trillion in the first half of 2023 from $50.4 trillion in the first half of 2022. This was driven by a decline in US dollar-denominated fixed-for-floating IRS traded notional referencing US dollar LIBOR, which fell by 72.7% from $30.5 trillion in the first half of 2023 to $8.3 trillion in the first half of 2022. Euro-denominated IRS dropped by 7.4% over the same period (see Chart 6).

Chart 6: The decline in fixed-for-floating IRS was driven by lower trading activity in US dollar-denominated IRS referencing US dollar LIBOR

Source: DTCC SDR

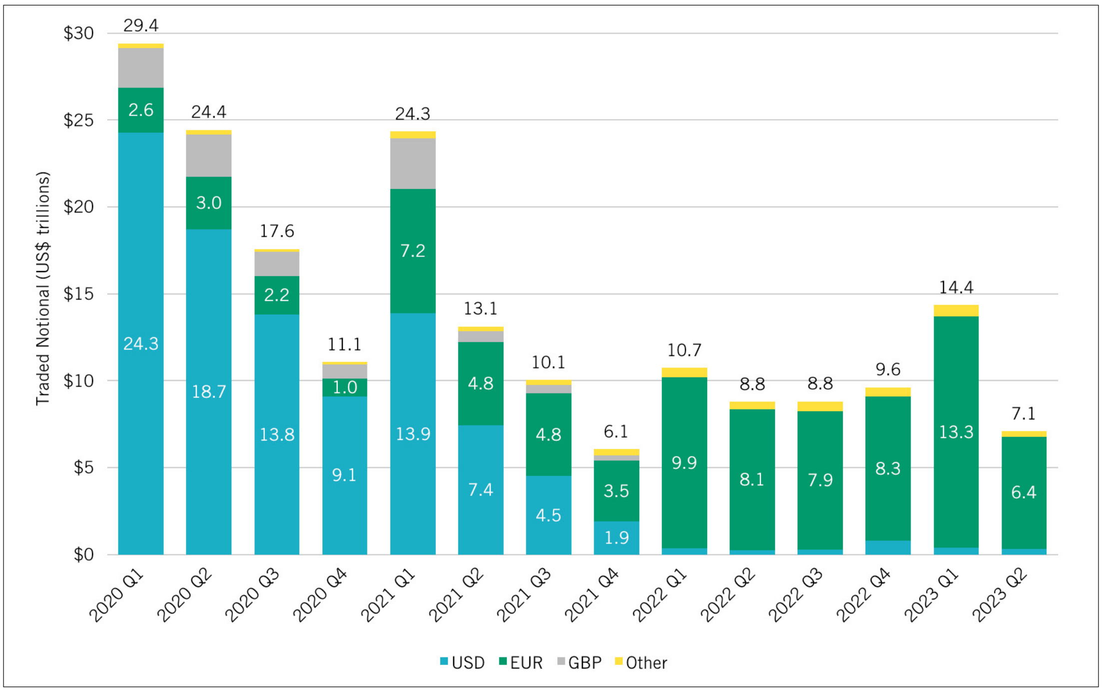
FRA Trading Activity

The transition from LIBOR to RFRs reduced the need for market participants to use FRAs, which led to a significant drop in FRA trading in 2022. Prior to the transition, FRAs were widely used to hedge fixing risk in LIBOR-based swaps, in which the floating coupons are typically fixed for three or six months. In contrast, RFR-referencing swaps have floating coupons based on inputs that are fixed daily (although calculated at the end of the period), which significantly reduces the fixing risk. As FRAs reference a forward-looking term rate that is known at the start of the period, they are also incompatible with RFRs.

FRA traded notional increased by 9.8% to $21.5 trillion in the first half of 2023 from $19.5 trillion in the first half of 2022, driven by growth in euro-denominated FRA activity. Euro-denominated FRA traded notional rose by 9.9% from $18.0 trillion in the first half of 2022 to $19.7 trillion in the first half of 2023 as market participants continued to use these instruments to hedge EURIBOR. There were no sterling-, Swiss franc- and yen-denominated FRA transactions in 2022 and the first half of 2023 (see Chart 7).

[6] The fixed-for-floating IRS category doesn't include OIS transactions

Chart 7: US-dollar denominated FRA trading activity almost disappeared, while market participants continued to use euro-denominated FRAs



Source: DTCC SDR

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- ***SwapsInfo First Half of 2023 and the Second Quarter of 2023 Review***
  www.isda.org/a/HAogE/SwapsInfo-First-Half-of-2023-and-Second-Quarter-of-2023-Review-Full-Report.pdf
- ***Transition to RFRs Review: First Half of 2023 and the Second Quarter of 2023***
  www.isda.org/a/p9ogE/Transition-to-RFRs-Review-First-Half-of-2023-and-the-Second-Quarter-of-2023.pdf

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