

Alternative Reference Rates Committee (ARRC)

Minutes for the October 21, 2020 Meeting

The ARRC Chair welcomed participants, including the U.S. Chamber of Commerce, which joined as a new member, and thanked everyone for their continued participation and active engagement in the virtual meetings.

The ARRC discussed ISDA's [announcement](#) of the forthcoming launch of the IBOR Fallbacks Supplement and IBOR Fallbacks Protocol ([Protocol](#)) which strengthen new and existing derivatives contracts by incorporating robust fallback language and which was set to launch on October 23. It was noted that various statements of support followed ISDA's announcement, including from the [ARRC](#) as well as from the [Financial Stability Board](#) and the [UK](#). The Federal Reserve Board-issued [Supervision and Regulation Letter](#), which encouraged adherence to the Protocol, was also noted. The ARRC members were [encouraged](#) to support broad market participant adherence to the Protocol before it takes effect, and for those dealers and market participants with significant derivatives exposures to do so during the escrow period ahead of the official launch date.

The ARRC also discussed the recent change by CME and LCH to switch their discounting and calculation of price alignment interest (PAI) from referencing EFR to SOFR. The switch took place on October 16, 2020. CME and LCH representatives provided respective updates, noting that the switch and the subsequent auctions of basis swaps associated with the switch went smoothly.

The Regulatory Issues working group representatives provided an update on a draft memorandum related to capital and liquidity regulatory considerations in the context of the U.S. dollar (USD) LIBOR transition.

Brunswick provided an update on its work and progress made to strengthen the ARRC's communication protocols and outreach. The ARRC discussed how best to prioritize future outreach and education efforts around the transition.

The Legal working group co-Chairs discussed principles which articulated the ARRC's view that legislative solutions would serve to promote a smooth transition for legacy USD LIBOR contracts that otherwise do not have practical means to incorporate robust fallbacks. Therefore, the principles articulate the ARRC's support of an effective legislative solution, whether enacted at the state or federal level. Furthermore, the principles highlight the ARRC's view that the draft text that it proposed for the [draft NY State legislation](#) offers the best tailored approach for legislation, whether state or federal. The ARRC members discussed the principles and encouraged that the principles be shared as part of the meeting minutes ([Attachment 1](#)).

Legal working group representatives provided an update on related topics, including areas of ongoing and active outreach around the proposed NY State legislation and highlighted other states where it may be beneficial to also pursue legislation.

An update was provided on two recent tabletop exercises held, one for non-financial corporations and another for buy-side participants. The tabletops generated a lot of interest by the participants. The ARRC agreed to launch a Non-Financial Corporate working group as a next step.

A Consumer Products working group update followed, highlighting continued work underway regarding the details around the implementation of the ARRC recommended spread adjustment methodology for consumer products.

As a prelude to the discussion of the ARRC's RFPs, Federal Reserve staff gave a presentation ([Attachment 2](#)) related to futures market trading volume and SOFR term rates. Members who have recused themselves from the [Spread Adjustment RFP](#) work then dropped off the line ahead of a brief update on the responses received to the RFP and next steps. Members who have recused themselves from the [Term Rate RFP](#) work then dropped off the line before an update was provided on the work and next steps, including the potential development and use of a scorecard to assess received responses.

ARRC members expressed gratitude for all of the recent key milestones in the transition and the work involved to drive those milestones forward across the industry. The ARRC Chair closed the meeting by thanking everyone for their contributions and diligence. The next ARRC meeting is scheduled to be held December 9th via Webex.

Attendance at the October 21, 2020 Meeting*

ARRC Members

| | |
|---|-------------------|
| American Bankers Association | Hu Benton |
| AXA | Julien Zusslin |
| Bank of America | Greg Todd* |
| Bank of America | Sonali Theisen |
| BlackRock | Jack Hattem |
| Citigroup | Dina Faenson |
| Citigroup | Jeannine Hyman |
| Comerica | Dave Shipka |
| CME Group | Agha Mirza |
| CRE Finance Council | Justin Ailes |
| CRE Finance Council | Raj Aidasani |
| CRE Finance Council | Sairah Burki |
| Deutsche Bank | Greg Coutu |
| Fannie Mae | Bob Ives |
| Fannie Mae | Wells Engledow |
| Federal Home Loan Bank | Kyle Lynch |
| Federal Home Loan Bank | Phil Scott |
| Ford | Nathan Herbert |
| Ford | Colleen Janosik |
| Freddie Mac | Guim Barbour |
| Freddie Mac | Ameez Nanjee |
| Freddie Mac | Michelle Thomas |
| GE Capital | Fred Robustelli |
| GE Capital | Michael Taets |
| Goldman Sachs | Guillaume Helie |
| Goldman Sachs | Jason Granet |
| Goldman Sachs | Tejal Wadhwani |
| Government Finance Officers Association | Emily Brock |
| HSBC | Shirley Hapangama |
| Huntington Bank | Beth Russell |
| Independent Community Bankers of America | James Kendrick |
| Intercontinental Exchange | Harvey Flax |
| International Swaps and Derivatives Association | Phoebe Coutts |
| JP Morgan Chase & Co. | Andrew Gray |
| JP Morgan Chase & Co. | Alice Wang |
| JP Morgan Chase & Co. | Emilio Jimenez* |
| JP Morgan Chase & Co. | Perry Elbadrawi |
| KKR | Tal Reback |
| LCH | Phil Whitehurst |
| Loan Syndications and Trading Association | Meredith Coffey |
| Loan Syndications and Trading Association | Tess Virmani |
| MetLife | Kevin Budd |
| MetLife | Alex Strickler |

MetLife
Morgan Stanley
Morgan Stanley
Morgan Stanley
Morgan Stanley
Morgan Stanley
Morgan Stanley
Morgan Stanley
National Association of Corporate Treasurers
PIMCO
PNC
Prudential Financial
Prudential Financial
Securities Industry and Financial Markets Association
Securities Industry and Financial Markets Association
Structured Finance Association
Structured Finance Association
TD Bank
TD Bank
Wells Fargo
Wells Fargo
World Bank Group

Joe Demetrick
Maria Douvas
Maria-Ines Raij
Michelle Goldstein
Matt Ochs
Paige Mandy
Perry Elbadrawi
Tom Wipf
Tom Deas
Courtney Garcia
Andrew Wilson
Chris McAlister
Gary Horbacz
Chris Killian
Rob Toomey
Jen Earyes
Kristi Leo
Greg Moore
Priya Misra
Alexis Pederson
Brian Grabenstein
Don Sinclair

Ex-Officio ARRC Members

Commodity Futures Trading Commission
Consumer Financial Protection Bureau
Federal Deposit Insurance Corporation
Federal Housing Finance Agency
Federal Reserve Bank of New York
Federal Reserve Bank of New York
Federal Reserve Bank of New York
Federal Reserve Bank of New York
Federal Reserve Bank of New York
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Federal Reserve Board of Governors
New York State Department of Financial Services

Sayee Srinivasan
Abhishek Agarwal
Irina Leonova
Dan Coates
Betsy Bourassa
Justin Epstein
Cam Fuller
Justine Hansen
Irmak Ince
Fatima Madhany
Jamie Pfeifer
Nate Wuerffel
Raymond Check
Megan Zirinsky
Jon Zucker
William Riordan
David Bowman
Erfan Danesh
Erik Heitfield
Evan Winerman
Jeffrey Huther
Darren Gersh
Olivia Bumgardner

New York State Department of Financial Services
Office of Financial Research
Office of Financial Research
Office of Financial Research
Office of the Comptroller of the Currency
Office of the Comptroller of the Currency
U.S. Chamber of Commerce
U.S. Chamber of Commerce
U.S. Department of Housing and Urban Development
U.S. Department of Housing and Urban Development
U.S. Securities and Exchange Commission
U.S. Securities and Exchange Commission
U.S. Securities and Exchange Commission
U.S. Securities and Exchange Commission
U.S. Treasury
U.S. Treasury

Benson Martin
Robert “Jay” Kahn
Sriram Rajan
Ron Alquist
Kevin Walsh
Ang Middleton
Kristen Malinconico
Tom Quaadman
Jose Fernandez
Maria Chelo DeVenecia
David Metzman
Jason Leung
Michelle Danis
Tamara Brightwell
Peter Phelan
Chloe Cabot

Observers

Bank of Canada
Bank of Canada
BNP Paribas
Brown & Weinraub
Brunswick
Brunswick
Brunswick
Brunswick
Cadwalader
Cadwalader
Deloitte
Ernst & Young
Morgan Lewis
Morgan Lewis
Venerable
Oliver Wyman

Sheryl King
Harri Vikstedt
Simon Winn
David Weinraub
Pauline Blondiaux
Elizabeth Lilly
Jeanmarie McFadden
Will Rasmussen
Michael Sholem
Lary Stromfeld
Alexey Surkov
Daniel Scrafford
Jonathan Justl
Jon Roellke
Charles Schwartz
Adam Schneider

*This meeting was held via WebEx; asterisk indicates participation by dial-in.

Attachment 1

Key Legislative Principles

- The ARRC has put forth a New York State legislative proposal that is essential to promote the fair and smooth transition away from USD LIBOR for the many existing contracts that lack any provisions dealing with the end of USD LIBOR or have provisions that would cause significant economic impacts that the parties may not have anticipated.
- The ARRC is aware that potential legislative solutions in states other than New York may also be desirable and that a federal legislative approach may also possibly emerge. In addition, other jurisdictions could develop legislative proposals to address similar issues for contracts governed by the laws of these jurisdictions, as in the case of the recent UK and EU proposals.
- While many U.S. contracts that the ARRC's legislative proposal is designed to address are subject to New York law, the ARRC believes that it is sensible to pursue similar relief in other states and that Federal legislation, which could apply to contracts in all states as well as providing relief under federal laws, could also effectively address these contracts.
- Whether legislation is enacted at the federal or state level, efforts to address legacy contracts under U.S. laws are not mutually exclusive. What is of paramount importance is that the legal status of these contracts is addressed by appropriately-crafted domestic legislation.
- The ARRC believes that the legislative text specifically set out within the ARRC's draft NYS legislation is the approach best tailored for the smooth transition of such USD LIBOR contracts at either a state or federal level.

Attachment 2

Futures Market Trading Volume and SOFR Term Rates (Update)

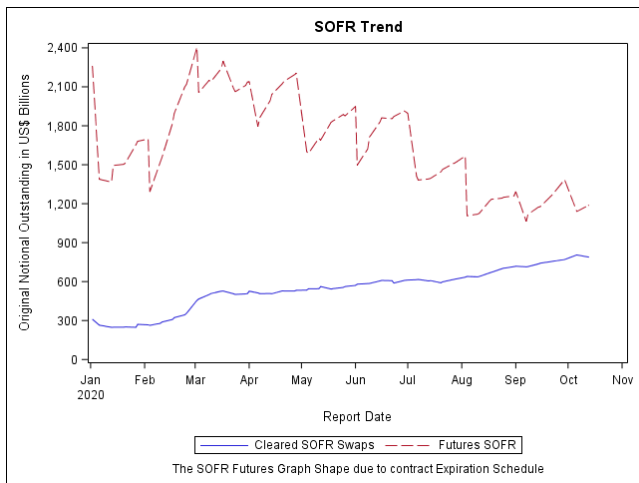
Danesh, Heitfield, and Park

Research and Statistics Division, Federal Reserve Board

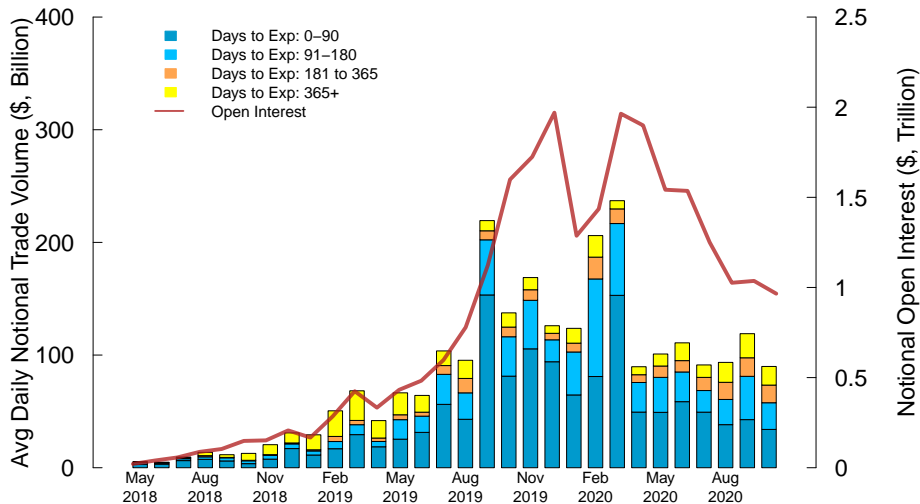
October 14, 2020

Disclaimer: The views expressed in this presentation are solely those of the authors and do not necessarily represent those of the Federal Reserve, the Alternative Reference Rates Committee or its members or ex officio members.

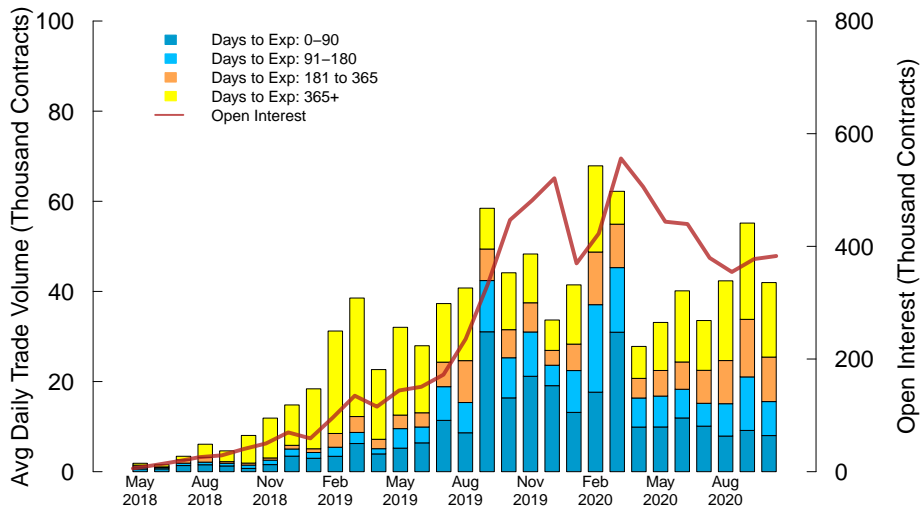
SOFR swaps are growing but outstanding notional futures have declined



SOFR volume by expiry (notional)



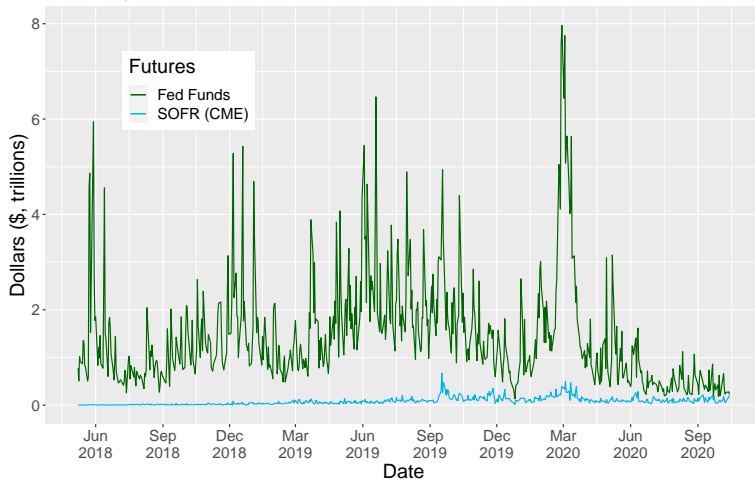
SOFR volume by expiry (contracts)



SOFR and FF futures volumes

Notional Volume

From May 08, 2018 to Oct 14, 2020

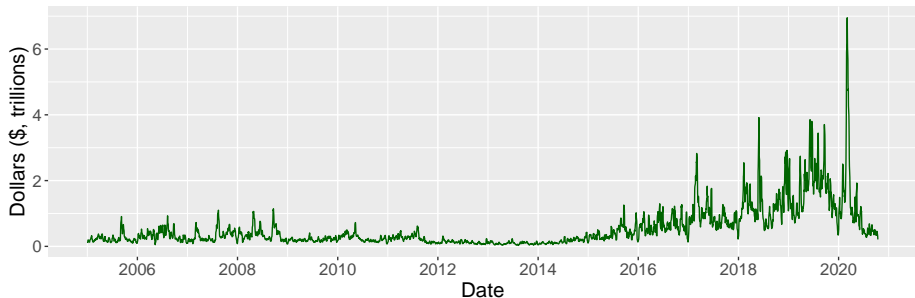


FF futures volumes since 2005

FF Futures volume also declined during the last period when rates were at the effective lower bound

Federal Funds Futures Notional Volume

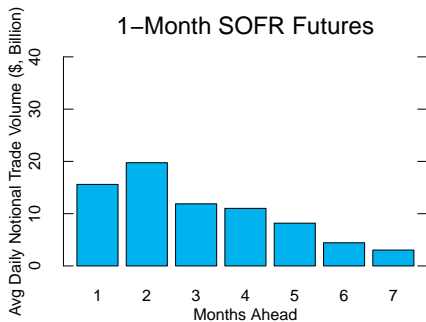
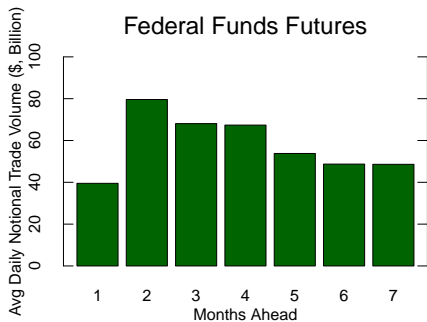
From Jan 03, 2005 to Oct 14, 2020 (5-day rolling average)



Volume is concentrated in near-term contracts

- The derivation of 1-month term rate relies on 1-month futures contracts maturing within two months and the first 3-month contract.
- The derivation of 6-month term rate depends on 1-month contracts maturing in less than seven months and the first three 3-month contracts.

Average Daily Notional Volume by Contract Month
April 12, 2020 - October 12, 2020

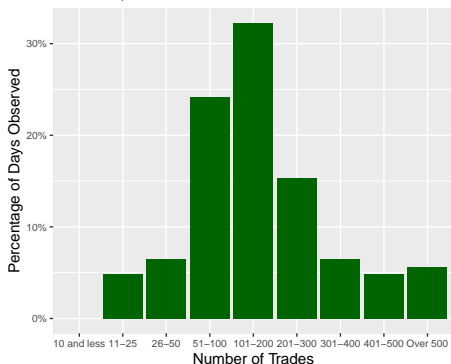


For some contracts, few or no trades may be observed

Trades/Day for 3-Month-Ahead Contract

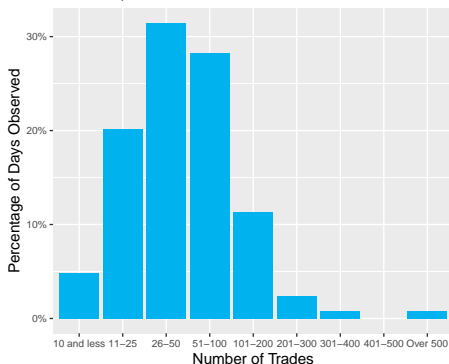
Trade Count Frequency – Fed Funds Futures

Data from Apr 12, 2020 to Oct 12, 2020



Trade Count Frequency – 1M SOFR Futures

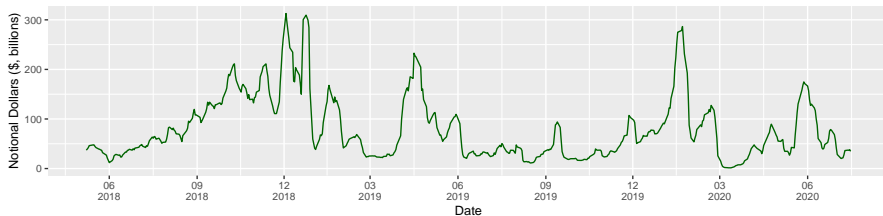
Data from Apr 12, 2020 to Oct 12, 2020



Top-of-the-Book Depth

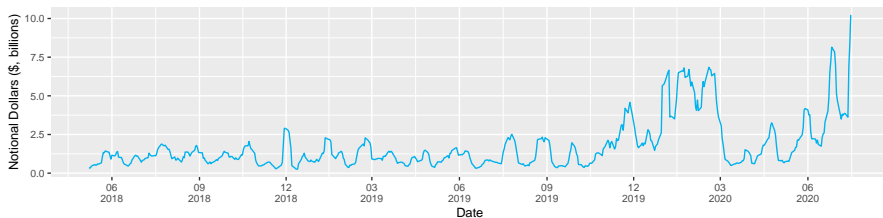
Fed Funds Futures Top-of-the-book Depth for Lead Contract (5-Day Moving Avg)

From May 08, 2018 to Jul 16, 2020



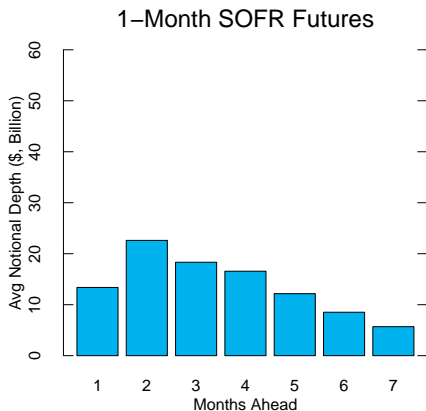
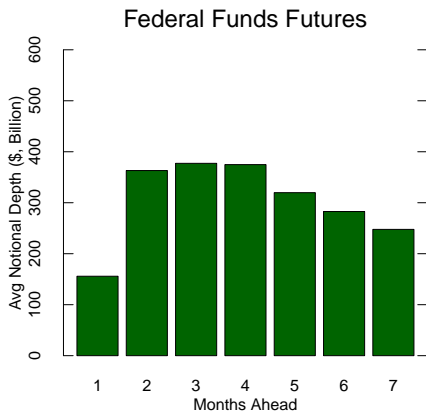
1-Month SOFR Futures Top-of-the-book Depth for Lead Contract (5-Day Moving Avg)

From May 08, 2018 to Jul 16, 2020



Limit Order Book Depth

- Liquidity is not evenly distributed among different expiries.



Date Range: May 2018 - Oct 2020

Price Impact

- Kyle's λ is a standard measure of price impact.
- λ is calculated from the regression:

$$\text{Return}_t = \lambda \times \text{Aggregate Trade}_t + \epsilon_t$$

where

$$\text{Aggregate Trade}_t = \sum_{i=1}^M \text{Sign}(\text{Trade}_i) \times |\text{Trade Volume}_i|$$

$$\text{Return}_t = \text{Log}(\text{Close Price}_{5\text{-min},t}) - \text{Log}(\text{Close Price}_{5\text{-min},t-1}).$$

Price Impact

Price Impact (Basis Points / \$1 Billion Notional)

| | Mean | Med | 25th Pctl | 75th Pctl |
|---|-------|-------|-----------|-----------|
| FF Futures (2020-04-01 - 2020-10-12) | 0.035 | 0.011 | 0.002 | 0.022 |
| 1M SOFR Futures (2020-04-01 - 2020-10-12) | 0.122 | 0.024 | 0.001 | 0.086 |
| 3M SOFR Futures (2020-04-01 - 2020-10-12) | 1.042 | 0.373 | 0.015 | 1.103 |

- Currently, SOFR futures are a lot more susceptible to large trades than Federal Funds futures.
- The price impact for the federal funds futures was much larger during the zero-lower-bound period.