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Summer SOFR Series
Approaching the Transition

Summer SOFR Series

- July 13: Libor: Entering the Endgame
- July 15: SOFR Explained
- July 22: Preparing to move from LIBOR Derivatives
- July 29: Accounting/Tax/Regulation
- August 3: Approaching the Transition
- August 7: Office Hours Live

Summer SOFR Series – Approaching the Transition

- David Bowman, Senior Advisor at the Board of Governors of the Federal Reserve
- Tom Deas, Chairman, National Association of Corporate Treasurers
- Roy Choudhury, Managing Director and Partner, Boston Consulting Group
- Jack Hattem, Managing Director, BlackRock
- Gary Horbacz, Principal, Structured Products Team, PGIM
- Susan Hughes, SVP LIBOR Transition Office, Wells Fargo
- Ben Kaufman, Research & Policy Analyst , Student Borrower Protection Center
- Adam Schneider, Partner, Head of LIBOR Platform, Retail and Digital Banking, Oliver Wyman
- Alexey Surkov, Partner, LIBOR Transition Services Co-Leader, Deloitte & Touche LLP

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Operations & Infrastructure

Roy Choudhury, Adam Schneider, Alexey Surkov

8 Key Recommendations for End Users

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Preparedness of end users is key for a smooth and orderly transition

1. Identify and assess the impact of **LIBOR exposures** (on and off-balance sheet) including but not limited to, floating rate notes, loans, investments, & derivatives.
2. Review legacy contracts to understand mutual **rights, obligations, and roles** of different parties (borrower, lender, administrative and calculation agent) and fallback language (trigger, fallback rate, spread) in the event of LIBOR cessation.
3. Assess the impact of LIBOR transition on **valuation, accounting, tax, financial disclosures and hedging strategy**, and need for actions to mitigate the impact.
4. Engage with **financial services providers** to proactively discuss transition strategy for legacy LIBOR transactions and when SOFR-based products will be available.
5. Be prepared for outreach from financial services providers and mobilize internal or external legal counsel to address **amendments or transition of legacy contracts** (including, adherence to ISDA protocol) with weak fallback language
6. Understand the **key differences between LIBOR and SOFR** (term vs. overnight; unsecured vs. secured; and benchmark administrator) and how SOFR is likely to behave differently through an economic cycle.
7. Review the guidance on **SOFR-usage and conventions** for interest calculation for SOFR-based contracts and assess impact on cash flows and operational readiness.
8. Engage with external data and systems providers to ensure operational readiness to transition away from LIBOR to SOFR.

ARRC Operations & Infrastructure Working Group
External Systems Working Group

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- External Systems Working Group mobilized to coordinate infrastructure readiness across financial market participants and external vendors.
- Co-ordinated a survey of systems providers to assess state of readiness:
  - Vendors have a good understanding of LIBOR Transition and its impact on their products and offerings; and
  - Vendors reporting Work on required changes are in different stages of development – significant progress expected in 2020.
  - Some vendors highlighted dependencies on the ARRC and financial market participants (e.g. product conventions)
- Conducted a number of deep-dive workshops focused on Securitization, Floating Rate Notes, Buy-side, and Consumer Products.
- Additional workshop planned for non-financial corporates.

ARRC Operations & Infrastructure Working Group
Internal Systems and Processes

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- ARRC's Internal Systems & Processes Sub-Working Group focuses on internal transition readiness across key systems, processes, modes, data, policies, and procedures. It Includes over 100 members representing regulators, banks, insurance firms, investment managers, exchanges, consulting and advisory firms, and other stakeholders
- The group developed ARRC Internal Systems and Processes: Transition Aid for SOFR Adoption
  - ✓ Covers transition activities across 10 categories and 50 selected sub-categories
  - ✓ Transition steps and activities for market participants to consider
  - ✓ Upstream and downstream systems and processes that may be affected
  - ✓ Dependencies that may influence the timing and sequence of transition activities
- Group's current and future focus areas include the following topics:
  - ✓ **Are your internal system updates on track? -** internal system readiness checklist
  - ✓ **Are you ready for vendor system changes? -** post-vendor internal readiness guidelines
  - ✓ **Keeping up with the ARRC? -** commentary on how other ARRC recommendations may affect internal systems & processes and related transition workstreams
- To join the sub-group or learn more, please contact ARRC Secretariat at arrc@ny.frb.org

The ARRC has recently released their recommendations on the best practices for completing the transition from LIBOR

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01

To the extent not already utilized, new USD LIBOR cash products should **include ARRC-recommended** (or substantially similar) **fallback language** as soon as possible

02

Third-party technology and operations **vendors** relevant to the transition should complete all necessary enhancements to **support SOFR by the end of 2020**

03

New use of USD LIBOR should stop, with timing depending on specific circumstances in each cash product market

04

For contracts specifying that a party will select a replacement rate at their discretion following a LIBOR transition event, the determining party should **disclose their planned selection to relevant parties** at least **6 months prior** to the date that a **replacement rate** would become effective

05

Additional recommendations around transitions timelines and internal programs will be elaborated in the following 2 slides

The ARRC has Set Target Dates for Ending New LIBOR Issuance

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Estimated USD LIBOR Market Footprint by Asset Class[1]

		Volume (Trillions USD)	ARRC Target Date to End New LIBOR Issuances
Over-the-Counter Derivatives	Interest rate swaps	81	June 2021
	Forward rate agreements	34	June 2021
	Interest rate options	12	June 2021
	Cross currency swaps	18	June 2021
Exchange Traded Derivatives	Interest rate options	34	June 2021
	Interest rate futures	11	June 2021
Business Loans	Syndicated loans[2]	1.5	June 2021
	Nonsyndicated business loans	0.8	June 2021
	Nonsyndicated CRE/Commercial mortgages	1.1	June 2021
Consumer Loans	Retail mortgages[3]	1.2	Sept 2020
	Other Consumer loans	0.1	---
Bonds	Floating/Variable Rate Notes	1.8	Dec 2020
Securitizations[3]	Mortgage -backed Securites (incl. CMOs)	1.0	June 2021
	Collateralized loan obligations	0.4	Sept 2021
	Asset-backed securities	0.2	June 2021
	Collateralized debt obligations	0.2	June 2021

[1] Source: Federal Reserve staff calcuations, BIS, Bloomberg, CME, DTCC, Federal Reserve Financial Accounts of the Unites States, G.19, Shared National Credit, and Y-14 data, and JPMorgan Chase . Data are gross notional exposures as of year-end 2016. [2] The figures for syndicated and corporate business loans do not include undrawn lines. Nonsyndicated business loans exlucde CRE/commercial mortgage loans.[3] Estimated maturities based on historical pre-payment rates; ARRC recommends no new LIBOR ARM applications after Sept 31, 2020.

> $5 Trillion Estimated USD LIBOR | $1-$5 Trillion | < $1 Trillion

Bank Checklist Update: Banks Need to Get to “Green”

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1	Program Organization and Management	✓ LIBOR Transition Office (LTO) organized and resourced ✓ Business and function workstreams mobilized with whom is on point well defined ✓ Watching US legislation to see if program needs will change
2	Workstream Mobilization	✓ Exposure assessments produced regularly (quarterly/monthly) ✓ Workplans and organization for each workstream in place
3	Back Book Remediation	✓ Contract review and fallback inventory well underway or complete ✓ Client renegotiation plans developed ✓ CCP move to SOFR discounting implementation in process
4	De-risking LIBOR Issuances	✓ Plan to end LIBOR issuances on best practice timelines ✓ New issuances have easy-to-implement fallback language ✓ Operational risk, client transition risk, conduct risk understood and managed
5	ARR Product Pricing	✓ New products under development including building a deep understanding of pricing ✓ Technical build-out on track for early 2021
6	Operations & Technology	✓ Comprehensive view of impacts and required capabilities ✓ Complete plan developed; updates underway; begun implementing priority systems
7	Models and Tools	✓ Impacted models identified and redevelopment scheduled in 2021 (CCAR 12/31/20)
8	Managing Financials	✓ Scenarios defined, financial assessments for fallbacks / new products in development ✓ Ready to evaluate implications on funding, hedging, FTP, and stress tests

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Buyside Transition

Jack Hattem

Gary Horbacz

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Nonfinancial Corporates

Tom Deas

LIBOR Exposures ($200 Trillion) – Most Sources of Exposure are Important for Corporates

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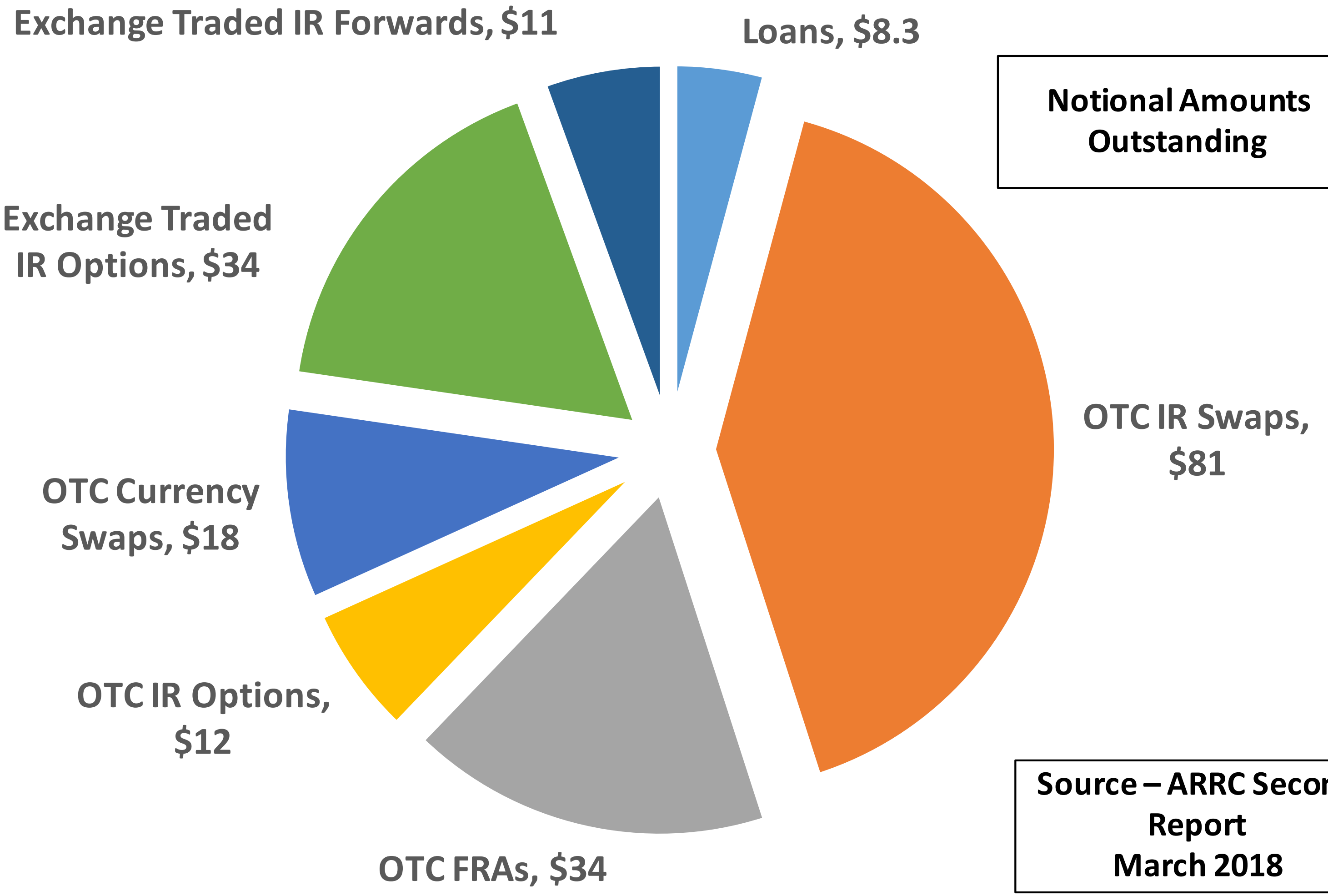

Notional Amounts Outstanding

Source – ARRC Second Report March 2018

Corporate Uses of LIBOR

- <u>**Financial Transactions with Banks and other Financial Institution Counterparties**</u>
  - **Revolving Credit Lines** (including CP back-up lines; also multi-currency lines in USD, EUR, GBP)
  - **Term Loans / FRNs / Asset Securitizations**
  - **Derivatives**
- <u>**Transactions with Affiliates within the Corporate Group and for External Reporting**</u>
  - **Inter-affiliate / intra-group loans** (used for daily cash concentration)
  - **Employee Benefit Payments** (to adjust for payment delays)
  - **Accounting** (FV Calcs, Lease Valuations, Capitalization of Interest, Derivatives)
- <u>**Commercial Transactions with Non-financial Counterparties: Suppliers & Customers**</u>
  - **Asset Purchase and Sale Agreements** (Adjustment for changing closing date, earnout calculations)
  - **Supply Agreements** (Adjustments for volume variances, late payments)
  - **Long-term Capital Goods Purchases** (Milestone timing adjustments)

Specific Transition Management Recommendations for Corporate Treasurers

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- <u>Amend Existing Financial Transactions with SOFR Fallback Provisions</u>
    - Corporate Treasury needs to work with its bank group and derivative counterparties to amend existing transactions to include fallback language and prepare for SOFR-based new transactions after June 30, 2021.
- <u>Amend Existing Intercompany Transactions and Internal Accounting Procedures for SOFR</u>
    - Update inter-company loans and derivative transactions to SOFR, and obtain required approvals, especially for foreign subsidiaries:
        - Foreign Exchange Control Authorities (SAFE, etc.)
        - Central Banks (Banco Central do Brasil, etc.)
    - Prepare SOFR-based Sarbanes-Oxley compliant reviews of valuations and fair-value calculations for financial statements
- <u>Put Together a Cross-Functional Team</u> (Treasury, Legal, Procurement, Sales Admin, etc.)
    - Identify and amend commercial transactions with suppliers and customers

Corporate Concerns about Taxes, Regulations, and Accounting during the Transition

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- In managing the transition from LIBOR to SOFR, contracts will have to be amended so as not to trip issues such as:
  - **Changing an agreed interest rate in a loan** greater than a *de minimis* amount **can trigger federal income tax recognition** as the old LIBOR-based loan is deemed to have been redeemed and replaced with a new SOFR loan. (See IRC §1001)
  - **Non-financial end-users can elect not to margin and centrally clear their derivatives positions** if they are hedging an underlying commercial risk. **If an interest rate swap is amended out of sequence with the underlying loan, the end-user exception may no longer apply.**
  - End-users may also link a derivative with an underlying exposure to obtain **hedge accounting treatment**, deferring income recognition on the hedge to integrate it with the income treatment on the underlying exposure.
- **The ARRC has highlighted these and similar transition issues to the relevant government and accounting organizations and obtained safe-harbors.**

Credit Agreement Considerations

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- **Credit agreement pricing grids are based on LIBOR plus a ratings-based credit spread**
- **Same IBOR spread now in multi-currency agreements for USD, EUR, GBP**
- **LIBOR includes an inter-bank lending spread while SOFR and the other IBOR replacements (such as ESTER for euro or SONIA for sterling) are secured or unsecured risk-free overnight rates**
- **LIBOR spreads have exhibited volatility**
- **The typical corporate borrower with no SOFR securities issued has no current market check on what its SOFR spread should be, making repricing its credit agreements to SOFR challenging**
- **Negotiating an appropriate credit spread adjustment across multiple currencies and maturities will be a challenge**
- **We could also use Simple Daily SOFR in Arrears with a negotiated spread adjustment much like we now use Prime for same-day Base Rate Borrowings in syndicated credit agreements.**

Potential Competitive Pricing Solution to Determine Corporate SOFR Credit Spreads

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- **Credit agreements in the 1980s and 90s often had a competitive bid pricing option:**
  - Borrowers could request competitive bids from existing members of their revolving credit bank group, but banks' participation in any bidding was optional on their part
  - Borrowers requested terms of either 1, 2, 3, or 6 months
  - Banks bid amounts at a spread over LIBOR
  - Borrowers accepted bids from lowest to highest with the total amount accepted the borrower's choice
- **SOFR spreads could be determined by reincorporating this process into new corporate credit agreements.**

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Resources for Consumer Products Transition

Susan Hughes

Consumer Products Transition Process

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Are you a stakeholder?

Understand your role in the transition process

- Many stakeholders will be actively involved in the transition process
- Some stakeholders, such as Borrowers or Asset-Backed Securities (ABS) Investors, will not have to undertake any activities to effect the transition; nonetheless, they should be aware of its impact

Be Prepared

- Do not underestimate the importance of and time needed for careful and diligent planning
- Know your contracts, your exposure, and your risks
- Be informed and be ready to engage with other stakeholders
- Be prepared to execute the transition on time

Target Date 12/31/2021

Impacted Stakeholders

- Borrowers (the "Consumer")
- Note Holders (the owners of the consumer loans)
- Loan Servicers
- Vendors
- ABS Issuers
- ABS Certificate Administrators
- ABS Trustees
- Investors in ABS

Resources and Tools to Prepare for the Transition Process

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The ARRC Consumer Products Working Group has collaborated to develop **LIBOR ARM and Student Loan Transition Resource Guides** (*coming soon*) that outline, among other things, voluntary steps impacted stakeholders may consider in preparing for the transition:

- ❑ Creating an Inventory of LIBOR Product Exposure
- ❑ Reviewing Contracts
- ❑ Developing a Transition Plan
- ❑ Managing Transition Activities
- ❑ Choosing a Replacement Index
- ❑ Managing Communications

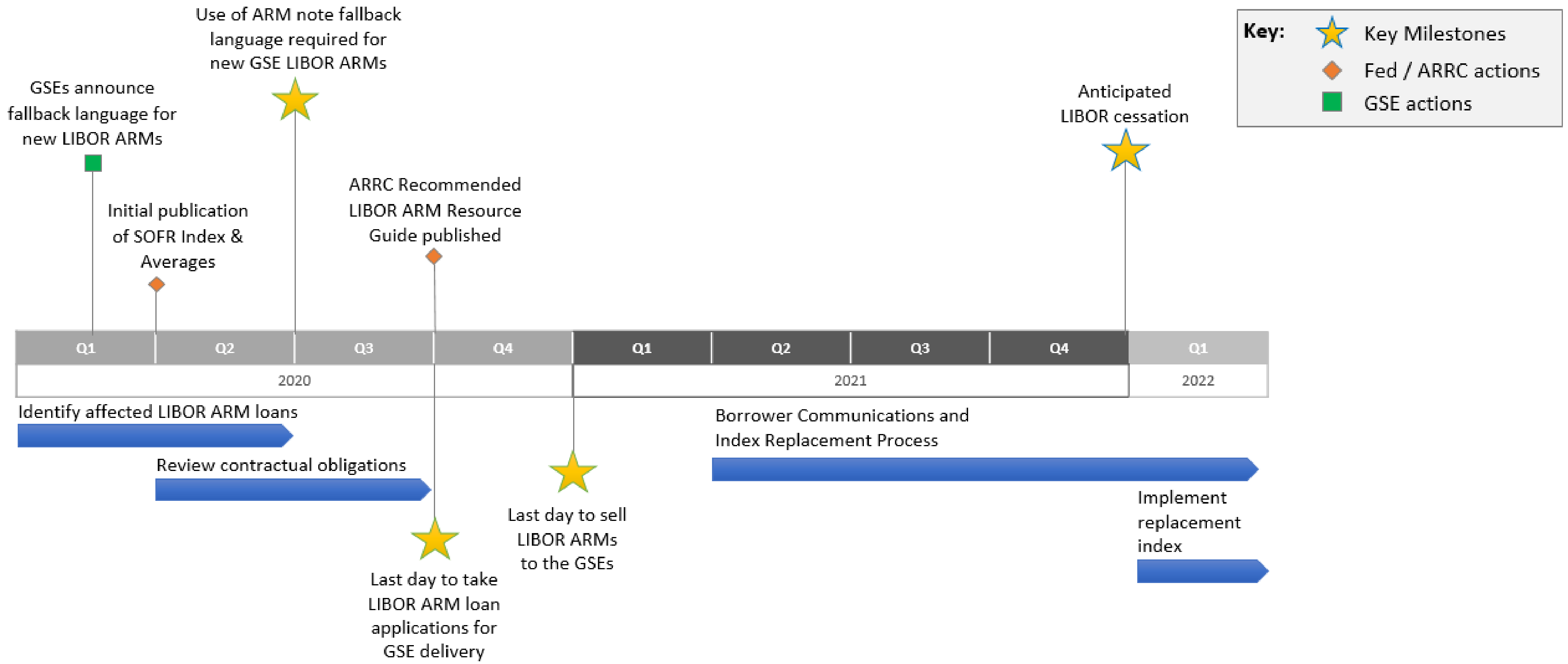
These Resource Guides are consistent with other ARRC published materials that support transition planning and execution, including:

- ✓ ARRC Buy-Side/Asset Owner Checklist and
- ✓ ARRC Internal Systems and Processes: Transition Aid for SOFR Adoption

General Consumer Product Transition Timeline

Key milestones and suggested readiness timeframes to support LIBOR transition

This timeline highlights some key industry milestones (announced or anticipated) and offers suggested timeframes for engaging in certain activities related to LIBOR transition; however, stakeholders may choose to complete their transition activities outside of the suggested windows of time based upon their firm's unique analysis, decisions and contractual terms.



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Student Loan Concerns

Ben Kaufman

Consumer products and the transition

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Background: student loan exposure

- **$80 billion** in variable-rate private student loans (PSL) referencing LIBOR[1]
- **3.3 million** borrowers impacted[2]
- Even before COVID, student loans delinquency rates **exceeded mortgage delinquency rates at the peak of the housing crisis**[3]
- An interest rate increase of as little as **0.5%** could cause private student loan default rates to **double** in certain borrower segments[4]

[1] *See* Fed. Res. Bank of NY, *ARRC Consultation on Spread Adjustment Methodologies for Fallbacks in Cash Products Referencing USD LIBOR* (Jan. 21, 2020), https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2020/ARRC_Spread_Adjustment_Consultation.pdf.

[2] *See* Jason Richardson & Karen Keli, By 2021, *Big Changes For Interest Rates Could Spell Trouble For Borrowers*, Nat'l Comm. Reinvestment Coalition (Apr. 25, 2019), https://ncrc.org/by-2021-big-changes-for-interest-rates-could-spell-trouble-forborrowers/.

[3] Fed. Res. Bank of N.Y., *Quarterly Report on Household Debt and Credit 2020:Q1*, https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/pdf/hhdc_2020q1.pdf.

[4] *See* Felicia Ionescu & Nicole Simpson, *Default Risk and Private Student Loans: Implications for Higher Education Policies*, Fin. and Econ. Discussion Series (2015), https://bit.ly/2SyxqHj (Table 7).

Student loan borrowers are at risk

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"If the 3-month LIBOR Index is no longer available, **we will substitute an index that is comparable, in our sole opinion, and we may adjust the Margin** so that the resulting variable interest rate is consistent with the variable interest rate described in this paragraph."[1]

+ **Mandatory arbitration**/class-action waivers[2]

+ Well-documented history of borrowers being **denied access to promised alternative repayment options** when loans become unaffordable[3]

+ Extreme market opacity

[1] Promissory Note, Discover Bank, https://www.discover.com/content/dam/dfs/student-loans/pdf/PCL_Prom_Note.pdf.

[2] *See* CFPB, *Arbitration Study* (Mar. 2015), https://files.consumerfinance.gov/f/201503_cfpb_arbitration-study-report-tocongress-2015.pdf.

[3] *See, e.g.*, CFPB, *CFPB Concerned About Widespread Servicing Failures Reported by Student Loan Borrowers* (Sep. 29, 2015), https://www.consumerfinance.gov/about-us/newsroom/cfpb-concerned-about-widespread-servicing-failures-reported-bystudent-loan-borrowers/ ("Many federal and private loan borrowers report experiencing serious problems accessing affordable repayment options or other repayment alternatives to avoid default."); CFPB, *CFPB Report Finds Distressed Private Student Loan Borrowers Driven Into Default* (Oct. 16, 2014), https://www.consumerfinance.gov/about-us/newsroom/cfpb-report-findsdistressed-private-student-loan-borrowers-driven-into-default/ ("Distressed borrowers report that they receive very little information or help when they get in trouble, that there are no affordable loan modification options available, and that the alternatives to default are temporary at best."); State of Illinois v. Navient, 17-CH-761 (Cir. Ct. Cook Cnty Ill. Ch. Div., filed Jan 18, 2017).

The path forward

Despite activity from the ARRC, much of industry has substantial work ahead

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Where we are	Where we need to be
Some "[i]ndustry participants have **failed to answer such basic questions** as what index they will adopt to replace LIBOR, when they will transition to it, and how they will ensure that borrowers remain protected and informed throughout the process."[1]	"[T]he choice of the replacement benchmark, spread adjustment to the replacement benchmark, succession timing, and mechanics should be easily comprehensible in order to be effectively communicated to stakeholders in advance of the transition away from LIBOR, and should seek to **minimize expected value transfer based on observable, objective rules determined in advance.**"[2]

[1] Letter from Student Borrower Protection Center, Americans for Financial Reform Education Fund, and the National Consumer Law Center to Thomas G. Wipf, Chair, Alternative Reference Rate Committee (May 29, 2020), *available at* https://protectborrowers.org/wp-content/uploads/2020/05/Student-loan-fallback-consultation-response-letter.pdf.

[2] Fed. Reserve Bank of N.Y., *Guiding Principles and Scope of Work for the ARRC Consumer Products Working Group* (2019), https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2019/ARRC_Consumer_Products_Guiding_Principles.pdf.

Principles for the transition

- Stop lending in LIBOR
- Clear, early consumer communications
- Transition to spread-adjusted SOFR
- Minimize value transfer throughout
- **Protect borrowers**

Student loan borrowers are at risk

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sbpc | STUDENT BORROWER PROTECTION CENTER

"[T]he transition from LIBOR to SOFR is one that borrowers of consumer financial products neither caused nor requested. These borrowers do not engage in wholesale unsecured interbank term lending in London. They do not currently have teams analyzing whether SOFR may expose them to basis risk. And most importantly, they did not manipulate LIBOR to boost profits on derivatives trades. **Yet, it is exactly these borrowers who may be punished because some of the largest financial institutions in the world did.**"[1]

"We believe that spread-adjusted SOFR, as determined using the ARRC's proposed methodology, is the best replacement for LIBOR for cash products."[2]

[1] Letter from Student Borrower Protection Center, Americans for Financial Reform Education Fund, National Community Reinvestment Coalition, and the National Consumer Law Center to Thomas G. Wipf, Chair, Alternative Reference Rate Committee (Mar. 6, 2020), *available at* https://protectborrowers.org/wpcontent/uploads/2020/03/LIBOR-Spread-Adjustments-Coalition-Letter.pdf.

[2] Letter from Student Borrower Protection Center, Americans for Financial Reform Education Fund, and the National Consumer Law Center to Thomas G. Wipf, Chair, Alternative Reference Rate Committee (May 29, 2020), *available at* https://protectborrowers.org/wp-content/uploads/2020/05/Student-loan-fallback-consultation-response-letter.pdf.

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Q&A