

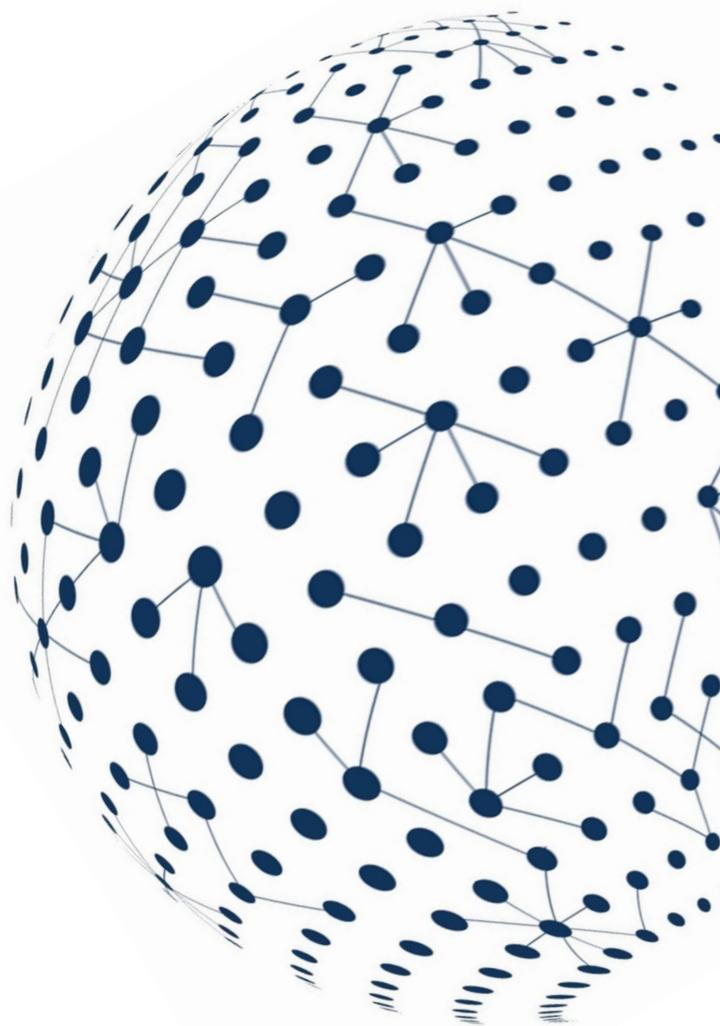


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Progress Report on LIBOR and Other Benchmarks Transition Issues

Reaching the finishing line of LIBOR transition and
securing robust reference rates for the future

16 December 2022



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Executive summary

The end of 2021 has marked a major milestone in the transition away from LIBOR.¹ The transition from LIBOR to overnight risk-free rates (RFRs) and efforts made to improve the robustness of interest rate benchmarks have increased market stability and integrity. This has required a sustained effort from the official and private sectors and as a result of the effort, there has been substantial progress. Most LIBOR settings have now ceased and while certain panel-based U.S. dollar (USD) settings are continuing until end-June 2023 to support the transition of legacy contracts, the market has already shifted new activity away from LIBOR and toward RFRs.

In April 2022, the FSB published a statement welcoming the smooth transition away from LIBOR to robust alternative rates across global markets². The statement emphasised that firms must have plans in place to ensure their preparedness for the cessation of the USD LIBOR panel and stressed the importance for market participants to transition from LIBOR and other IBORs that are set to be discontinued. Benchmark transition therefore remains an important task and priority for the FSB and the G20.

In June 2022, the FSB and the Basel Committee on Banking Supervision (BCBS) launched a follow-up questionnaire on supervisory issues related to LIBOR transition, which was distributed to members of the FSB and BCBS, and to non-FSB members in Regional Consultative Groups (RCGs) for responses.³ The stocktake complemented other efforts of the FSB and BCBS to facilitate a smooth transition away from USD LIBOR and synthetic LIBOR rates. The focus of the questionnaire was on identifying any continuing use of LIBOR contrary to FSB guidance, and the stock of legacy contracts that are still referencing LIBOR. The questionnaire had the following objectives: i) Monitor issues (if any) that have arisen at end-2021; ii) Identify any new use of LIBOR contrary to FSB guidance, covering any use of USD LIBOR (other than the small range of permitted exceptions) and synthetic GBP or JPY LIBOR in new contracts; iii) Collect updated exposures to LIBOR across jurisdictions; iv) Monitor the transition of legacy LIBOR contracts after end-2021; v) Understand the remaining transition and supervisory challenges regarding the transition of USD LIBOR.

Thanks to extensive and widespread transition efforts, significant progress was made especially among FSB jurisdictions where exposure to LIBOR is the highest. Steps have also been taken to improve the reliability and robustness of other interest rate benchmarks. Despite this, there is still important work to be done. The FSB encourages market participants to complete their transition efforts⁴ of any remaining LIBOR-linked legacy contracts, in order to avoid operational

¹ All GBP, EUR, CHF, and JPY LIBOR panels, as well as the 1-week and 2-month USD LIBOR settings, ceased as of end-2021. The 1-, 3- and 6-month GBP and JPY LIBOR settings are being published temporarily on a synthetic basis to support legacy contracts. While key panel-based USD LIBOR settings will continue until end-June 2023, this is only intended to support the run-off of a substantial proportion of legacy contracts.

² FSB (2022) *FSB Statement Welcoming Smooth Transition Away from LIBOR*, April.

³ An initial stocktaking exercise was undertaken by the FSB and BCBS in December 2019 on exposures to LIBOR and supervisory measures to address benchmark transition issues. The findings were set out in FSB's July 2020 *Report to the G20 on supervisory issues associated with benchmark transition*. A follow-up questionnaire was launched in November 2020 on exposures to LIBOR and supervisory measures to address benchmark transition issues. The findings were reported in the FSB's July 2021 *Progress report to the G20 on LIBOR transition issues: Recent developments, supervisory issues and next steps*.

⁴ FSB (2021), *Global Transition Roadmap for LIBOR*, June.

and wider market disruption. There may be some residual risk arising from relatively low awareness of transition among users of USD LIBOR in jurisdictions where LIBOR exposure is low. Market participants need to be taking active steps to address existing legacy contracts in preparation for the end of the remaining panel-based USD LIBOR settings and in preparation for the winding down of temporary synthetic LIBOR rates. Some jurisdictions have adopted legislation that is designed to provide targeted solutions for a subset of legacy contracts, so-called “tough legacy” contracts.⁵ While specific legislative approaches might differ, authorities have been coordinating closely with each other, with the aim of ensuring that these approaches will complement one another.

Looking ahead, it is essential that the financial system is anchored in robust reference rates that are underpinned by deep and liquid markets. The journey to robust reference rates has been a marathon. The progress that has been made has demonstrated that a successful journey to a strong, and robust reference rate environment is both beneficial and achievable, but it has also underscored the significant scale of this critical effort. The FSB encourages market participants to use the most robust reference rates to achieve the intended benefits and avoid the need to repeat this exercise.

1. Introduction

Transition away from LIBOR and more generally increased use of robust benchmarks has long been a priority for the FSB. While use of LIBOR as a reference rate had been increasing dramatically over the years, the interbank transaction volumes underpinning LIBOR were decreasing, thereby generating an “inverted pyramid dynamic” and weakening the robustness of LIBOR. The FSB identified that continued reliance of global financial markets on LIBOR posed clear risks to global financial stability. The FSB established the Official Sector Steering Group (OSSG) to strengthen confidence in the reliability and robustness of interest rate benchmarks and identify alternative RFRs and to lead work to ensure a smooth and timely transition to robust alternative benchmarks that are based on RFRs. Following this recommendation, LIBOR currency jurisdictions established national working groups to identify RFRs recommended as a robust replacement for LIBOR.

In its July 2021 progress report to the G20, the FSB noted that the publication of a majority of the LIBOR settings would be ceased in less than half a year and encouraged market participants and relevant stakeholders to continue to work towards ceasing the use of these LIBOR settings in new contracts after end-2021.⁶ On the international front, it noted that collaboration and coordination remain crucial in expediting the transition progress and encouraged authorities to set globally consistent expectations and milestones that firms will rapidly cease the new use of LIBOR, regardless of where those trades are booked or in which currency they are denominated.⁷

Closer to the end of 2021, the cessation date for most LIBOR settings, the FSB urged swift action to ensure preparedness for LIBOR cessation, issuing a statement with the key points that: i)

⁵ Tough legacy contracts refers to contracts that do not contain a workable fallback, and cannot, or cannot easily be amended in time before the transition deadline.

⁶ FSB (2021), *Progress report to the G20 on LIBOR transition issues: Recent developments, supervisory issues and next steps*, July

⁷ FSB (2021), *FSB statement on smooth and timely transition away from LIBOR*, June

Significant progress had been made in transitioning to RFRs, but market participants still needed to finalise preparations to cease new use of LIBOR by end-2021; ii) Transition should be primarily to overnight RFRs, the most robust benchmarks available, to avoid reintroducing the weaknesses of LIBOR; and iii) Active transition of legacy contracts remains the best way for market participants to have control and certainty over their existing arrangements.⁸

In April this year the FSB then issued a statement welcoming smooth transition away from LIBOR, primarily to overnight risk-free or nearly RFRs. The absence of any significant market disruptions was noted as a testament to the magnitude of market participants' efforts and the level of attention from the regulators and industry bodies to support the transition to RFRs. Given the significant use of USD LIBOR globally, the FSB emphasised that firms must have plans in place to ensure their preparedness for the cessation of the USD LIBOR panel before end-June 2023, as the continuation was only intended to support the run-off of a substantial portion of legacy contracts. More generally, to ensure financial stability, it was important that market participants transition from LIBOR and other IBORs that are set to be discontinued.⁹

This progress report on LIBOR and other benchmark transition issues provides a further assessment of transition efforts, in particular in advance of the 2023 timeline for remaining panel-based USD LIBOR settings. The report is structured as set out below:

- Section 2 provides the observation and key themes on LIBOR transition
- Section 3 reports on member jurisdictions' updates on other benchmark transition efforts
- Section 4 presents findings from the FSB's follow-up questionnaire on supervisory issues related to LIBOR transition.
- Section 5 sets out conclusions and next steps.

2. Observations and key themes on LIBOR transition

2.1. Success to date

Roughly a decade into the transition away from LIBOR, significant progress has been made in improving the resilience of the benchmark reference rate landscape, particularly over the past year as most LIBOR settings have ceased. In line with the FSB's goals in supporting a more sustainable basis for interest rate markets, activity has fundamentally shifted from use of LIBOR towards use of more robust reference rates.

2.1.1. *Strong progress in transition away from USD LIBOR to SOFR in 2022*

Across various FSB jurisdictions, supervisors have encouraged firms to cease new use of USD LIBOR after end-2021, subject only to some limited exceptional use to support an orderly transition. In line with such guidance, the FCA made rules under the UK Benchmarks Regulation

⁸ FSB (2021), *FSB Statement to Support Preparations for LIBOR Cessation*, November

⁹ FSB (2022), *FSB Statement Welcoming Smooth Transition Away from LIBOR*, April.

to restrict use of USD LIBOR after end-2021.¹⁰ Consistent with these actions, market participants have taken steps to stem the flow of new LIBOR exposures and to support the deep and liquid markets referencing RFRs, which provide more robust foundations for interest rate markets.

Adoption of the secured overnight funding rate (SOFR), the Alternative Reference Rates Committee's (ARRC) recommended replacement for USD LIBOR, has been significant. SOFR is a fully transactions-based rate underpinned by a daily average of roughly US \$1 trillion in transaction volume based on thousands of transactions. In cash markets, SOFR is now the predominant reference rate, with almost all USD floating rate notes and all USD adjustable-rate agency mortgages being tied to SOFR. In addition, almost all new USD loans currently reference term SOFR and for syndicated loans, nearly 100% of USD syndicated lending references SOFR, compared to 30% in December 2021.

In OTC derivatives, SOFR average daily interest rate risk traded, as measured by duration-adjusted trading volumes, grew to over 90% of interdealer swaps traded in the outright linear swaps market in October 2022, from less than 20% in July 2021.¹¹ In exchange-traded derivatives, SOFR futures average daily trading volumes are now roughly three times more than those of Eurodollar futures after being less than a quarter of Eurodollar futures volumes at the start of the year. In May 2022, CME announced a "SOFR First for Options" initiative to accelerate the growth of SOFR options trading, consistent with the Commodity Futures Trading Commission Market Risk Advisory Committee's "SOFR First" recommendation. Since the launch of the CME initiative, SOFR average daily options activity grew to surpass that of Eurodollar options.

The progress in transitioning away from USD LIBOR and to SOFR has been broad-based from a global perspective, with significant gains made across regions (Annex 2). Looking beyond LIBOR, various FSB jurisdictions continue to make progress to improve the resilience of markets that are reliant on interest rate benchmarks, including by improving existing IBORs, as well as encouraging increasing use of more robust RFRs. Further detail on the progress made to improve non-LIBOR interest rate benchmarks is available in Section 3.

2.2. Remaining LIBOR transition steps

Notwithstanding the work to date, there are remaining steps to be taken to ensure the orderly transition and cessation of the remaining panel-based USD LIBOR settings, which continue to be published in order to support the transition of legacy contracts but are set to cease after end-June 2023.

2.2.1. *Transition of legacy contracts must be a top priority*

Transition away from USD LIBOR remains the top priority for the next months. As of the end of 2020, it was estimated that over US \$70 trillion of USD LIBOR exposures would remain

¹⁰ See the FCA [announcement](#) from December 2021.

¹¹ ARRC (2022) [November 9 Meeting Readout](#)

outstanding beyond the cessation of remaining USD LIBOR tenors after end-June 2023.¹² Over 90% of this exposure is in derivatives, which can be addressed through adherence to the ISDA Protocol and CCP conversion events.¹³ The remainder of the exposures include approximately US \$2 trillion in bonds and securitisations, US \$2 trillion in business loans, and US \$1 trillion in consumer loans. These exposures can be reduced further through remediation activity. Market participants are encouraged to avoid a “pile up” situation at end June 2023, where the extent of contracts requiring fallback implementation and / or contract renegotiation pose operational or market disruption risks.

In the US, the ARRC has published a Legacy Playbook,¹⁴ which is a guide to support the transition of legacy products referencing USD LIBOR. This is a key source of information on the remaining steps to transition legacy products and key considerations when taking them.

2.2.2. Legislative approaches seek to help address tough legacy contracts

In the US, federal legislation (LIBOR Act) was enacted in March 2022 to establish a uniform process for replacing USD LIBOR in “tough legacy” contracts governed by US law that do not provide a clearly defined and practicable benchmark replacement. Under the LIBOR Act, references to USD LIBOR in these tough legacy contracts (in the overnight, 1-, 3-, 6-, 12-month tenors) will be replaced, by operation of law, with a SOFR-based benchmark replacement that the Federal Reserve Board (FRB) has identified in regulations. The LIBOR Act also provides a safe harbour, under which a party who has discretion to select a successor rate may choose the benchmark replacement identified by the FRB. The FRB sought public comment on a proposed regulation¹⁵ that would implement the LIBOR Act and has issued the final rule.¹⁶

To support an orderly wind-down of sterling and yen LIBOR at end-2021, the FCA required continued publication of the 1-, 3-, and 6-month sterling and yen LIBOR settings under a ‘synthetic’ methodology for a limited time period using its powers under the UK Benchmarks Regulation. These synthetic rates are permitted in legacy contracts, except cleared derivatives, and provide a temporary bridge for contracts to transition away before the permanent cessation of these rates. Thanks to progress made, especially in December 2021, there has been limited reliance on synthetic LIBOR.

The FCA signalled since March 2021¹⁷ that it intends to compel the publication of synthetic yen LIBOR for one year only. In line with that, the FCA has announced the permanent cessation of yen LIBOR at end-2022.¹⁸ Market participants should be prepared for its permanent cessation.

¹² Based on estimates in 2021 [ARRC progress report: the Transition from US Dollar LIBOR](#). The 2021 FSB survey which extended the coverage in terms of the number of jurisdiction in the assessment estimated the number to be USD \$ 95 trillion

¹³ LCH and CME intend to covert cleared USD LIBOR referencing derivatives in H1 2023.

¹⁴ ARRC (2022), [LIBOR Legacy Playbook](#), July.

¹⁵ See the Federal Reserve Board [press release](#) from July 2022

¹⁶ See the Federal Reserve Board [press release](#) of 16 December 2022

¹⁷ FCA (2021) [FCA announcement on future cessation and loss of representativeness of the LIBOR benchmarks](#), March

¹⁸ FCA (2022) [Further consultation and announcements on the wind-down of LIBOR](#), November

For synthetic sterling LIBOR, the FCA announced the cessation of 1- and 6-month settings at end-March 2023,¹⁹ following its consultation in June 2022 on winding down synthetic sterling LIBOR. Its consultation also asked for views on when the 3-month synthetic sterling LIBOR setting could cease in an orderly fashion. In line with consultation feedback, the FCA announced its intention to continue to require the administrator of LIBOR, the ICE Benchmark Administration Limited (IBA), to publish the 3-month synthetic sterling LIBOR setting until end-March 2024, after which it will cease permanently.²⁰ The FSB reminds those market participants who still have contracts referencing 3-month sterling LIBOR to take necessary steps to ensure they are prepared for publication to cease at that time.

To understand transition progress and any insurmountable barriers firms may face in transitioning away from USD LIBOR, in particular those contracts that are not within the scope of the US LIBOR Act, the FCA sought feedback in its June 2022 consultation.²¹ Taking into account consultation responses, the FCA published a further consultation in November 2022 to consult on its proposals to require IBA to publish the 1-, 3-, and 6-month USD LIBOR settings under an unrepresentative synthetic methodology, based on the CME Term SOFR and the ISDA fixed spread adjustment, for a temporary period until end-September 2024.²² It also seeks views on its proposal to permit all legacy contracts, except cleared derivatives, to use a synthetic USD LIBOR. Following this consultation, the FCA expects to announce its final decisions in late Q1/early Q2 2023.

2.3. Achieving market stability through a strong reference rate foundation

Significant work has been undertaken by the private and official sectors to ensure that the financial system is anchored in robust reference rates. It is in the interest of all stakeholders that this work is not undermined to the extent that another transition exercise is required.

2.3.1. Anchoring the financial system in overnight RFRs

The FSB continues to encourage adoption of overnight RFRs as the most robust available benchmarks, noting that primarily using overnight RFRs in advance or in arrears will strengthen the resilience of the global financial system and support market functioning.

To support a globally consistent shift away from USD LIBOR to robust alternatives, IOSCO is undertaking a one-time review of certain recently created 'credit sensitive rates' (CSRs) and SOFR term rate alternatives to USD LIBOR that present themselves as compliant with IOSCO's Principles for Financial Benchmarks. The aim of the review is to assess whether and/or how these alternative benchmarks and their intended scope of use align with certain IOSCO principles and whether the transition from USD LIBOR to alternative benchmarks has led, as intended, to users having access to more robust and reliable benchmarks and sufficient information to enable them to assess the suitability of these benchmarks. IOSCO's review assessment will be based upon Administrators' implemented policies and processes (supported

¹⁹ See the FCA [statement](#) published in September 2022.

²⁰ FCA (2022) [Further consultation and announcements on the wind-down of LIBOR](#), November

²¹ FCA (2022) [Winding down 'synthetic' sterling LIBOR and US dollar LIBOR](#), June

²² FCA (2022) [CP22/21: Consultation on 'synthetic' US dollar LIBOR and feedback to CP22/11](#), November

by evidence); it will be carried out on a self-assessment basis, followed by desk-based reviews, data analysis and interviews with the Benchmarks Administrators. The review period will cover the 12-months ending 30th June 2022. It will assess the in-scope USD LIBOR alternative rates against IOSCO's Principles for Financial Benchmarks 6, 7, and 9 (the Principles). The Principles are respectively on "benchmark design", "data sufficiency", and "transparency of benchmark determinations". The objective of the review is to assess how the USD LIBOR alternative benchmarks align with IOSCO Principles 6, 7, and 9, using SOFR (ARRC's recommended USD LIBOR alternative rate) as a comparator.²³

In September 2021, IOSCO issued a statement on CSRs,²⁴ noting concerns that some of LIBOR's shortcomings may be replicated through use of CSRs that lack sufficient underlying transactions volumes. It called on administrators of CSRs to assess whether their benchmarks are based on active markets with high volumes of transactions, representing the underlying interest they intend to measure, and whether such benchmarks are resilient during times of stress.

In April 2022, the FSB recognised²⁵ that in some cases there may be a role for forward-looking term rates derived from overnight RFRs (these may also be described as "RFR-derived term rates") and has set out the circumstances where the limited use of RFR-based term rates would be compatible with financial stability. In the UK, there is minimal use of SONIA term rates in new business, in line with the FSB's guidance and the recommended use cases by the Working Group on Sterling Risk-Free Reference Rates.²⁶

Some jurisdictions have only required overnight and compounded RFRs in order to transition. For example, in Switzerland, the National Working Group recommended the Swiss Average Rate Overnight (SARON) as the alternative to CHF LIBOR, which following the cessation of CHF LIBOR at end-2021, is used in its various forms (e.g. overnight, compounded in arrears or compounded in advance) in derivatives and cash markets.

Term RFR rates have proven to be a useful additional tool in the LIBOR transition, but they are different from other forms of RFRs (e.g. overnight, compounded in arrears and averages) because Term RFRs are based on derivative market transactions, and they rely on the continued existence of a deep and liquid derivatives market based on overnight RFRs. There has been wide acknowledgement that the bulk of derivative transactions should be based on underlying OIS and futures markets in order to construct and sustain robust Term RFRs. Thus, use of Term RFRs in derivatives markets should remain limited so that Term RFRs can remain sustainably available for the limited appropriate use cases. The FSB notes that certain administrators of Term RFRs have placed restrictions on use within their licensing agreements and encourages all administrators of these rates to strongly consider matching their licensed scope of use to the recommendations of the official sector and National Working Groups.

²³ The following Term SOFR rates and CSRs will be assessed: CME (Chicago Mercantile Exchange) Term SOFR; IBA (ICE Benchmark Administration) Term SOFR; Ameribor; and Bloomberg Short-Term Bank Yield Index (BSBY).

²⁴ IOSCO (2021), *Statement on Credit Sensitive Rates*, September.

²⁵ FSB (2022), *FSB Statement Welcoming Smooth Transition Away from LIBOR*, April.

²⁶ Working Group on Sterling Risk-Free Reference Rates published its recommendations on limiting the use of Term SONIA based on the product type of the contract and the clients of the respective contract.

We must keep the gains that have been made and avoid falling back to a system where there is an inappropriate amount of activity based on rates that weren't designed to carry such weight. In addition, contracts referencing Term RFR need to have robust fallbacks in place, in many cases linked to the overnight RFR, should these Term Rates cease to be published.

2.3.2. Avoiding the need to repeat transition

The FSB recognises and acknowledges the scale and complexity of the steps undertaken through LIBOR transition and the improvements made to other interest rate benchmarks. The substantial progress has improved global financial stability and market integrity.

Notwithstanding the progress that has been made, market participants should act swiftly to ensure they can complete transition efforts in a timely and orderly manner in order to avoid market disruption and to reduce reliance on temporary official sector solutions, such as synthetic LIBOR.

It is essential that extensively used benchmarks are especially robust and reflect credible, liquid underlying markets. This will contribute to financial stability and reduce the risk of reintroducing the vulnerabilities seen with LIBOR. To avoid repeating the transition exercise, the FSB continues to encourage adoption of overnight RFRs, as these rates are the more robust and liquid options. Whilst there is a role for term RFRs in certain jurisdictions, use of term RFRs should remain limited and compatible with financial stability. To improve interest rate benchmarks and the transition to RFRs has been required an extensive and sustained effort – one that we hope will not need repeating. The FSB will maintain its focus on the reference rate landscape going forward and will continue to monitor the impact of that landscape on financial stability.

3. Member jurisdictions' updates on other benchmark transition efforts

Australia

Australia's local credit-based benchmark BBSW remains robust, and under Australia's multiple-rate approach market participants can choose robust reference rates that best suit their products and situations. Work is continuing to promote financial products having robust fallbacks. This includes requirement that securities issued on or after 1 December 2022 that reference BBSW must include robust fallback provisions to be eligible as collateral in the Reserve Bank of Australia's liquidity facilities.

Canada

Canada is reforming its own interest rate benchmark regime, with Refinitiv Benchmark Services (UK) Limited (RBSL), the administrator of the Canadian Dollar Offered Rate (CDOR), having announced that they will cease to publish CDOR after 28 June 2024. This follows a public consultation after the Canadian Alternative Reference Rate working group's (CARR) white paper recommended the cessation of CDOR. CARR, the NWG responsible for Canadian reform

efforts, has developed a two-stage plan to transition the Canadian market from CDOR to the Canadian Overnight Repo Rate Average (CORRA). Market participants are expected to transition their derivative and securities activities to overnight CORRA by June 2023, with the loan market having an additional year to transition away from CDOR. These milestone dates have been reinforced by the expectations set by the Office of the Superintendent of Financial Institutions (OSFI) for Canadian federally regulated financial institutions. To facilitate the transition of loan products away from CDOR, CARR has agreed to begin the process of trying to develop an IOSCO-compliant 1- and 3-month Term CORRA benchmark calculated from CORRA futures. CARR expects that a Term CORRA benchmark will be primarily used in loan products and trade finance and that the vast majority of the current exposure to CDOR would transition to using overnight CORRA.

CARR is working closely with all stakeholders to ensure a smooth benchmark transition in Canada. The transition from CDOR to CORRA benefits greatly from all the work that has been done in other jurisdictions with respect to transitioning from LIBOR. CARR has adopted many of the approaches that were successful in other jurisdictions, including announcing CORRA first initiatives for Q1-2023 to help transition derivative liquidity from CDOR to CORRA.

The cessation of CDOR will also have major implications for the Canadian money market, leading to the potential disappearance of Canadian Bankers' Acceptances (BAs) which currently constitute about 20% of the Canadian money market. The Canadian Fixed-Income Forum²⁷ is currently holding a number of workshops with stakeholders to determine the various alternative money market products that could replace BAs.

European Union

In January 2022, ESMA became the supervisor of the EURIBOR administrator, the European Money Markets Institute (EMMI). EMMI is subject to the requirements and obligations of the EU Benchmarks Regulation as the administrator of the EU critical benchmark EURIBOR. After the development and adoption of the EURIBOR Hybrid Methodology in 2019, based on a waterfall approach, EMMI was authorised under the EU Benchmarks Regulation for the provision of EURIBOR by the Belgian FSMA in July of that year²⁸. The authorisation of EMMI under the EU Benchmarks Regulation was not affected by the transition of supervisory responsibilities from the Belgian FSMA to ESMA.

Since 2021, EMMI carries out an annual review of EURIBOR Hybrid Methodology aiming at confirming that the EURIBOR remains robust, resilient, and representative of its underlying market as well as identifying any potential for further beneficial recalibrations of the calculation method. In June 2022, EMMI published the results of its second annual review of the EURIBOR Hybrid Methodology, which identified four non-material adjustments²⁹ to improve the Hybrid Methodology. These adjustments were implemented by EMMI and the panel banks on 3 October

²⁷ CFIF is a senior-level industry group set up by the Bank of Canada to discuss developments in fixed-income market structure and functioning, market practices and related policy issues.

²⁸ See FSMA [announcement](#), published in July 2019.

²⁹ The European Money Markets Institute (2022) *Outcome of the second annual review of the Hybrid Methodology for EURIBOR*, June.

2022. ESMA supervises any changes to the Hybrid Methodology to ensure that all applicable regulatory obligations are fulfilled and EURIBOR remains representative of its underlying market.

In relation to the EURIBOR panel of contributing banks, on 29 September 2022 EMMI and the Raiffeisen Bank International AG (RBI) announced that RBI will become a contributor to EURIBOR starting on 2 November 2022³⁰. RBI is the first bank to re-joining the EURIBOR panel since the benchmark manipulation scandals in 2012 led to an outflow of contributors.

The euro short-term rate (€STR) is an unsecured rate, reflecting the costs which a set of euro area banks incur for borrowing overnight funds from other banks and non-bank financial institutions. It has been published by the ECB since October 2019 and was recommended by the EUR RFR WG as the near risk-free rate for the euro area. On 15 April 2021, the ECB started publishing a compounded index based on €STR and compounded €STR average rates covering 1-week, 1-month, 3-month, 6-month and 12-month tenors.

EONIA, an interbank overnight lending reference rate, was discontinued on 3 January 2022 and replaced by €STR, following a public announcement by its administrator, EMMI, in May 2019. EONIA discontinuation was thoroughly assessed by the EUR RFR WG, which, in 2019, recommended a transition path from EONIA to the €STR and an EONIA to €STR legal action plan. Between October 2019 and January 2022 EONIA was calculated with a reformed methodology tracking €STR, with EONIA becoming equal to €STR plus 8.5 bps (this fixed spread corresponding to the historical difference observed between the two rates due to their different underlying interests). To ensure the highest level of legal certainty concerning EONIA contracts, on 22 October 2021 the European Commission enacted the statutory replacement of EONIA by €STR plus 8.5bps, in accordance with its powers under the EU benchmarks Regulation.³¹ This replacement rate applied to all tough legacy contracts referencing EONIA from 3 January 2022.

Since the replacement of EONIA with €STR, the use of €STR in the EU and in other jurisdictions has continued to grow in terms of volumes and, as of June 2022, €STR-referencing derivative contracts represent more than 30% of all euro-denominated interest rate derivatives reported in the EU. On 26 September 2022, the EUR RFR WG issued a recommendation³² inviting market makers to take all reasonable steps to make derivatives referencing €STR available to customers, highlighting that further development of €STR derivative products will contribute to more robust forward-looking term €STR rates that, together with the compounded €STR rates, can be used as EURIBOR fallback rates.

Finally, the work on EURIBOR fallback rates has continued in 2022. Two administrators, Refinitiv and EMMI in cooperation with IBA, developed their own projects to publish forward-looking €STR term rates to be used, together with compounded €STR rates, as EURIBOR fallback rates. These projects were presented at the EUR RFR WG meeting of 17 June 2022³³ and are consistent with the recommendation on a €STR-based forward-looking term structure

³⁰ The European Money Markets Institute (2022), *RBI becomes a contributor to EURIBOR*, September.

³¹ See the *Commission Implementing Regulation (EU) 2021/1848*, issued in October 2021.

³² ESMA (2022), *Recommendation from the Working Group on Euro Risk-Free Rates on the availability of derivative products referencing €STR*, September.

³³ The presentations of the two administrators are available at ESMA (2022), *Summary of the Hybrid Conference of the Working Group on Euro Risk-Free Rates, Friday, 17 June 2022*.

methodology, published by the EUR RFR WG in 2019.³⁴ EMMI and IBA announced their intention to publish their forward-looking term rates, named EFTERM, as of mid-November 2022.

Mexico

The national IBOR transition process has moved forward. The development of the market linked to the Overnight TIIE (which is the Mexican RFR, first published in January 2020) is being incentivized through the National Working Group on Reference Rates. Additionally, after the Mexican Government issued bonds referenced to the Mexican RFR (Overnight TIIE) in October 2021 (Bondes F), some other financial institutions have started to issue debt linked to the new RFR (one development bank and two commercial banks).

The analysis to discontinue the use of previous term TIIEs is in progress.³⁵ The use of these rates for new instruments would be banned (most likely by December 2023 for the three and six months tenors, and by December 2024 for 28 day tenor, which is by far the most used tenor in Mexico). In order to avoid legal obstacles, we are considering that in the Mexican case, instead of having fallback rates, it would be more appropriate to change the methodology of the Mexican IBORs, so that they are now based on the new RFR, and only permit the use of them for legacy contracts. For new operations, the new RFR is the rate that must be used. This is because it would be legally less costly than creating a new fallback rate. In Mexico this is a feasible strategy, because Banco de Mexico is the institution responsible for the calculation of the Mexican IBORs. We will continue to analyse this strategy under the context of the National Working Group in order to ensure a smooth transition.

Singapore

Good progress has been made in the on-going transition from the SGD Swap Offer Rate (SOR) to the Singapore Overnight Rate Average (SORA), which is the Singapore dollar (SGD) near risk-free rate. SOR is an FX implied rate that uses USD LIBOR in its computation and will be discontinued after June 2023. SORA markets have deepened significantly in the past few years to replace the SOR market. With central clearing extended to 31-years, monthly turnover volumes in SORA derivatives are now at the same level that transaction volumes in SOR were at before the transition commenced in 2020, while the outstanding stock for SORA derivatives is currently about S\$2 trillion. In cash markets, new use of SORA has increased by approximately 1300% (syndicated loans), 400% (corporate loans), 400% (SME loans), and 800% (retail loans) between August 2021 and June 2022, while SORA-OIS is now the dominant benchmark reference for the reset of perpetual securities in the bond market. Exposures to legacy SOR transactions have also declined. As at June 2022, outstanding SOR derivatives have declined from S\$3 trillion in early-2021 to about S\$0.6 trillion currently. Meanwhile, syndicated loan exposures have declined by 50% from S\$62 billion to S\$31 billion, and bilateral corporate loan exposures (in SME loans) have declined by 55% from S\$57 billion to S\$26 billion. Retail loan exposures are small and have more than halved to about 4,000 transactions as at June 2022,

³⁴ ECB (2019), *Recommendations of the working group on euro risk-free rates on the transition path from EONIA to the €STR and on a €STR-based forward-looking term structure methodology*, March.

³⁵ Note that in the Financial Stability Report from Banco de México to be published in December 2022, a technical box describes recent advances in the transition of reference rates in Mexico and explains that preliminary dates have been defined as of which TIIE rates for longer terms than one day will no longer be used as reference rates.

all of which would be converted to SORA by October 2022 via an industry-wide benchmark replacement process. Overall, we expect the industry to have unwound/transitioned a significant majority of SOR exposures by next year, with the remaining SOR contracts to be covered through implementation of adequate contractual fallbacks.

4. Supervisory issues associated with benchmark transition

4.1. Key takeaways

- 50 out of the 96 invited jurisdictions have responded to the survey and 47 jurisdictions have provided a quantitative update on their exposures to LIBORs. The response rate to the assessment questionnaire was similar to the follow-up questionnaire conducted in 2021.
- The data have revealed that the survey respondents are in a better position to transition this time round, given the lower post-deadline exposures (i.e. post-June 2023 USD LIBOR exposures in this survey: about USD 95 trn vs. post-2021 USD LIBOR exposures in last survey: about US\$116 trn).³⁶ A majority of these exposures are derivatives, which also have fallback provisions in place. It should be noted that the responses were as of end 2022 Q1 it is likely that further progress has been made since then.
- FSB jurisdictions, which account for ~98% of the global post-June 2023 USD LIBOR exposures, have also made meaningful progress in developing liquidity in financial products referencing RFRs and ceasing new use of LIBOR. The reliance on synthetic LIBOR has been insignificant, so as the use of alternative benchmarks such as CSRs. There is also a high level of adherence to the ISDA Protocol by banks, while some key jurisdictions reported uncertainty about uptake by non-banks.
- There are however remaining challenges in dealing with the tough legacy contracts. Elsewhere, transition and supervisory challenges, as well as the supervisory actions are in general similar to those in the last survey.
- The survey findings indicate that transition made meaningful progress. Going forward, further work would still be needed to address issues surrounding legacy contracts, system readiness, communication with stakeholders, and constraints in supervisory capacity and resources.

4.2. Overview of the responses to the questionnaire

FSB jurisdictions have made meaningful progress in transitioning away from LIBOR. The offering of new products that reference the RFRs is no longer considered as a major issue, and the liquidity of products referencing RFRs has also improved towards end-2021 and in early-2022. New contracts referencing USD LIBOR are mostly also written within the scope of permitted

³⁶ The previous survey's response deadline was end-2021.

exceptions. Also, the reliance on synthetic LIBORs has been insignificant, so as the use of alternative benchmarks such as CSRs.

The follow-up assessment questionnaire was sent to 96 FSB and non-FSB jurisdictions in June 2022.³⁷ A total of 50 responses were received (22 from FSB members, and 28 from non-FSB members). All but three (47) also submitted quantitative information on exposures.

Limitations of the questionnaire should be observed in interpreting the analysis. In terms of coverage, the analysis is based on the 50 qualitative responses that were received, out of about 100 jurisdictions that had been invited to take part in the questionnaire. The completeness and level of detail of the submitted responses also vary, which in part reflects authorities' varying stages and/or abilities to assess and analyse different transition-related issues.³⁸

In the analysis, the responses are grouped into LIBOR jurisdictions (the five LIBOR jurisdictions, with the Euro area jurisdictions counted as one), Non-LIBOR FSB jurisdictions, and Others (Non-FSB, Non-LIBOR jurisdictions).³⁹ The breakdown of jurisdictions is available in Table 1 below (a detailed breakdown is provided at Annex 1).

Table 1: Overview of respondent jurisdictions to the LIBOR follow-up survey⁴⁰

	FSB	Non-FSB	Total
LIBOR	5	-	5
Non-LIBOR	12	24	36
Total	17	24	41

The response rate to the assessment questionnaire was similar to the follow-up questionnaire conducted in 2021. For the 2021 questionnaire, 51 responses were received (25 from FSB member countries and 26 from non-FSB members). There was also a change in the composition of responses, with 12 jurisdictions responding to this round of the questionnaire, who did not provide a response to the 2021 questionnaire.

³⁷ These include the ECB, the Bank of Central Africa (BCEAO) and the Group of International Finance Centre Supervisors (GIFCS).

³⁸ Data on exposures for certain types of counterparts and contracts may not be available for jurisdictions that have submitted quantitative responses. The actual exposures could therefore be larger than the reported amount. Data quality might also reflect the nature of the exercise, which is an ad-hoc assessment with data gathered on a best effort basis.

³⁹ Of the LIBOR jurisdictions, both Japan and euro area jurisdictions have their equivalent IBORs. Japan has TIBOR, while EUR LIBOR was not widely used since the key EUR benchmark is EURIBOR. Euro area jurisdictions are counted as one and include ECB, Austria, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands and Spain.

⁴⁰ In Table 1, Euro area jurisdictions were counted as one (ECB, Austria, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands and Spain, "Euro Area")

4.3. Progress made on LIBOR transition

4.3.1. *Issues or disruptions on transition after end-2021*

The liquidity of products referencing RFRs has generally improved towards end-2021 and in early-2022, attributable to the clarifications from regulators on best practices and increased adoption of RFRs.

On SOFR, in previous surveys respondents had noted a lack of liquidity in derivatives products referencing RFRs, most notably in exchange-traded options. However, continued supervisory messaging to support SOFR adoption and the SOFR First initiatives have added liquidity and confidence to the market, supporting the increase in the volume of SOFR exchange-traded options. According to the update by the ARRC in September, the average daily SOFR futures volumes has surpassed average daily Eurodollar futures volumes, accounting for around 50% of the short-term interest rate futures market in July.

On SONIA, overnight SONIA, compounded in arrears has been fully embedded across the loan, bond and derivatives markets. SONIA term rates are available and the application to date has been within market's agreed use case. Successful CCP conversion processes during December 2021 saw some of the largest single day amendments to financial contracts. At the time of the survey, over £66 billion of LIBOR referencing bonds had converted to SONIA through consent solicitations, which represented over two thirds of the legacy stock by value - the majority of which were sterling contracts under UK law. More bonds have transitioned in the course of 2022 since the SRC survey was conducted.

Legacy contracts have been actively transitioned, but the issue of tough legacy contracts remains a concern in some jurisdictions. Some FSB jurisdictions responded that there are only limited legacy contracts left to be transitioned, while other non-FSB jurisdictions said their exposures to LIBOR were generally low. The additional time provided by synthetic LIBOR is also considered to be sufficient to transit the remaining syndicated loans to alternative rates.

In non-FSB jurisdictions, financial institutions (FIs) are still in the process of negotiating existing contracts. A few jurisdictions noted special challenges for more complex multi-currency, large syndicated loans, highly customised loans and businesses with small non-FI clients, as well as bilaterally cleared and structured derivatives. Some of the legacy contracts still do not contain the appropriate fallback language. In particular, one jurisdiction noted the difficulty in agreeing on fallback provisions with overseas financial institutions. Some FIs also indicated that they will need additional resources to execute contract remediation plans.

Some counterparts are reluctant to amend contracts, which could be due to the lack of immediate need or waiting for further developments in the market. For certain LIBOR-linked mortgage contracts, mortgage customers are generally not actively engaged in LIBOR transition, therefore it may be more challenging and time consuming for lenders to engage them on contractual amendments.

The offering of new products that reference RFRs is generally not considered as an issue in a majority of the jurisdictions. Some jurisdictions however responded that they have encountered difficulties in developing new products or persuading clients to use RFRs due to the absence of

market convention between term SOFR and compounded SOFR, as well as internal systems not being ready. One jurisdiction reported that a number of FIs can only offer syndicated loan that reference RFRs under very specific circumstances, forcing their clients and the rest of the syndicate to accommodate their limitations. Another jurisdiction noted that banks will require more industry guidance on Sharia compliant modes of financing involving new rates.

FIs in most FSB jurisdictions have generally followed the guidance of the US authorities and committees, in which new USD LIBOR contracts are written on an exceptional basis. One FSB jurisdiction responded that there have been some “spillover” USD LIBOR loans, which are deals that were negotiated in 2021 but closed in early 2022. FIs also continue to permit customer draw-downs on uncommitted lines of credit referencing USD LIBOR, as well as to permit customers to add on exposures to legacy USD LIBOR loans.

Nonetheless, one FSB jurisdiction and some non-FSB jurisdictions have observed the use of USD LIBOR in new contracts (other than the permitted exceptions). One FSB jurisdiction responded that 30% of the new derivative contracts is still linked to USD LIBOR. One non-FSB jurisdiction observed that certain markets, such as private credit markets and cross-currency swap markets, were less prepared to cease new use of USD LIBOR at the start of 2022, as SOFR volumes were lagging.

Elsewhere, the reliance on synthetic LIBORs has been insignificant. In case of potentially minor and/or time-limited breaches to the prohibition on new use of synthetic rates at the beginning of 2022, bilateral engagements with relevant firms have been arranged by the authorities for remedial actions.

The use of alternative benchmarks other than RFRs such as CSRs has been minimal across most jurisdictions. Most FIs noted that there is little client demand for CSRs and are not actively offering them to clients. In case of reported CSRs usage, FI is typically a participant in a syndicated deal. Only one FSB jurisdiction noted that any FIs are using the Bloomberg Short Term Bank Yield Index (BSBY).

FIs in a majority of FSB jurisdictions have not observed any significant issues associated with system readiness. These issues are however more prominent in non-FSB jurisdictions.

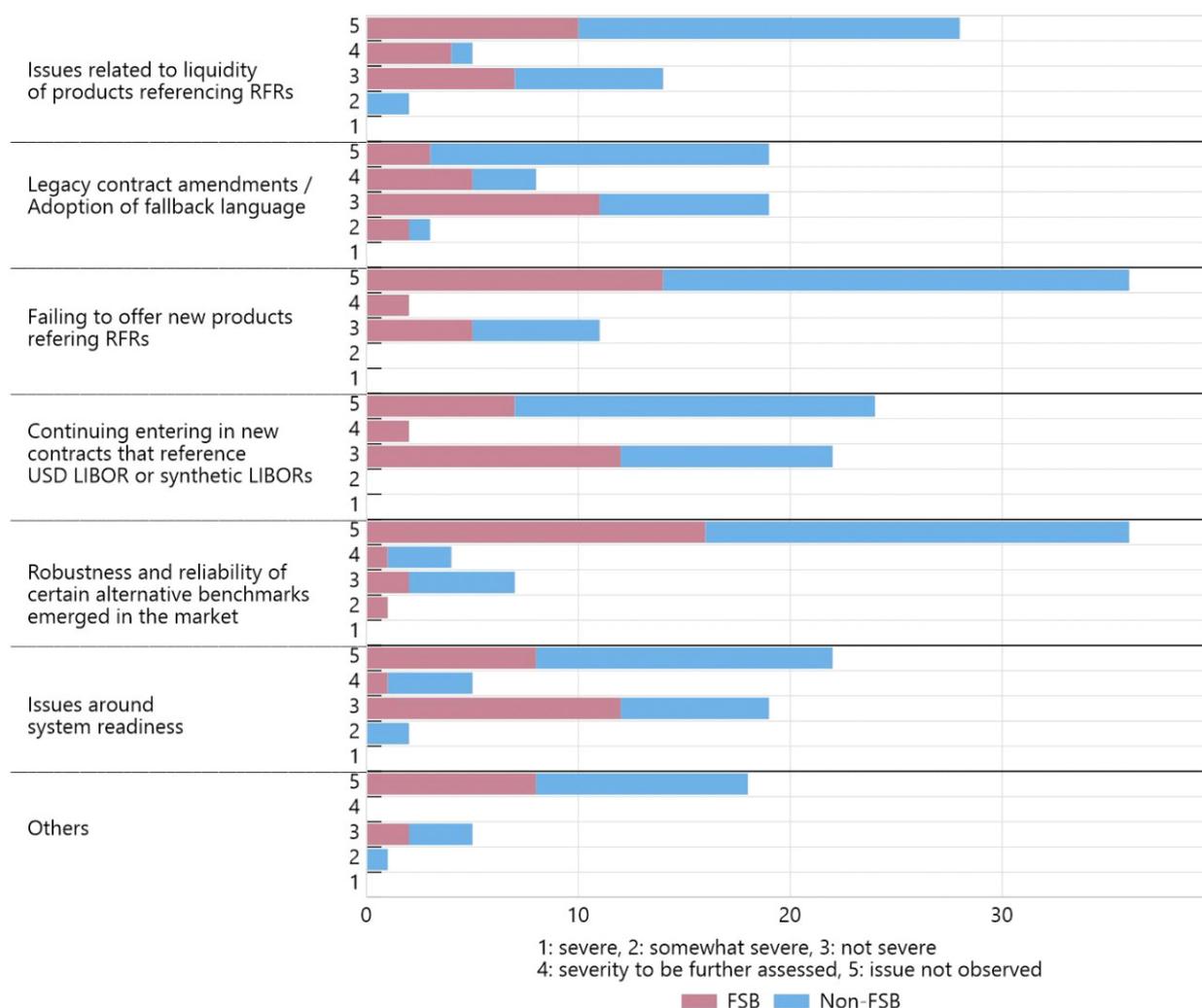
FIs in FSB jurisdictions have largely been on track in completing the enhancement or updates to their systems to support the operational readiness of RFRs. A few FSB jurisdictions pointed out certain remaining issues. For example, some FIs have been late in their system upgrades, with some outstanding issues related to definition of contracts that require migration to the systems and migration process. For smaller FIs, system updates are still in progress but these have not led to inability in managing the risks of LIBOR transition. One jurisdiction noted that there is a lack of readiness of individual FIs’ counterparties.

One respondent also expressed concern over the: (i) lack of readiness of less aware counterparties to actively perform the transition to RFRs before the LIBOR discontinuation deadline; (ii) dependency on the readiness and the roadmap of syndication agents and issuers to perform the transition; (iii) confusion due to unaligned market conventions across asset classes, which require additional engagement for remediation post transition; and (iv) complex transactions involving multiple counterparties and requiring lengthy negotiations.

In contrast, FIs in non-FSB jurisdictions have identified several issues around system readiness. One jurisdiction identified issues related to the determination of forward looking interest rates, the parallel existence of synthetic LIBOR and RFRs, and the adjustment of the internal transfer pricing model. Another jurisdiction responded that there has been limited operating system support for calculating RFR compounded long term cashflows. There have also been delays in the adoption of systems due to valuation issues.

Issues or disruptions identified by respondents

Graph 1



Source: FSB questionnaire

4.3.2. Adoption of RFRs and CSR

In general, there has been good progress in the adoption of RFRs in new contracts in FSB jurisdictions across assets, liabilities and derivatives. Cases where USD LIBOR has been used in new contracts fall within the scope of permitted exceptions under a well-controlled environment. In non-FSB jurisdictions, other than for a few exceptions where new contracts are still referencing LIBOR, there have been little exposures to LIBOR in the first place.

Derivatives

A majority of jurisdictions responded that USD LIBOR has only been used in new contracts within the scope of permitted exceptions under a well-controlled environment, mainly for the purpose of hedging adjustment on USD LIBOR assets or derivatives stocks. One FSB jurisdiction observed that the adoption of RFRs in new short-dated maturity derivatives trades were slower than longer-dated ones. Several non-FSB jurisdictions indicated that, at the time of the survey, SOFR has only been used in slightly more than half of the new contracts, although a gradual increase in the adoption of SOFR has been observed over the course of 2022.

Assets

On corporate or business loans, FSB jurisdictions generally responded that SOFR is used in either all or a majority of new contracts. In case where LIBOR is still referenced in new corporate or business loans, they also fall within the permitted exceptional circumstances. One jurisdiction however noted that the total gross exposures of new corporate loan contracts referencing SOFR account for just 16% of new loans in LIBOR and SOFR. A number of non-FSB jurisdictions have also identified new issuance of corporate or business loans that are still referencing LIBOR, with no indication of whether these new issuances fall into the permitted circumstances. One jurisdiction however noted that a majority of these new issuances will be expired before mid-2023.

On consumer loans, FIs in most jurisdictions reported that either new contracts have largely been referencing RFRs, or there has been little to no new consumer loan business linked to LIBOR in the first place.

On bonds, RFRs have widely been used for new transactions in FSB jurisdictions. One FSB jurisdiction however reported a small number of new issuance that are still referencing LIBOR. Non-FSB jurisdictions generally have very few issuances of LIBOR linked bond assets, but one jurisdiction responded that only half of the new floating bonds are referencing SOFR in Q1 2022.

On securitisation, FSB jurisdictions generally responded that new exposures have been referencing RFRs, other FSB jurisdictions have noted little to no new exposures or a lack of relevant data. A majority of non-FSB jurisdictions have either low or no exposures to securitisations or no data, while the remaining ones have mostly completed the transition.

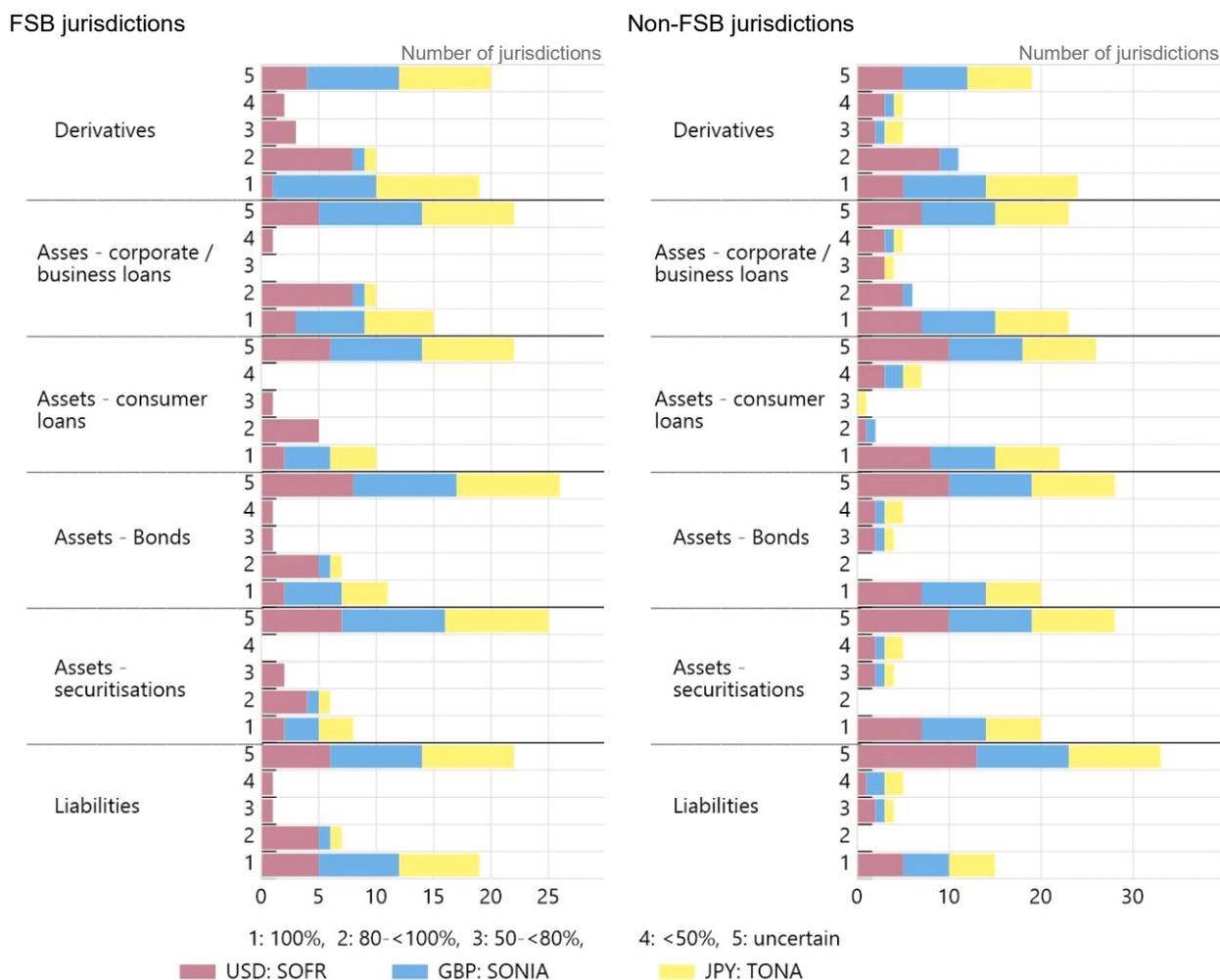
Liabilities

FSB jurisdictions with data generally indicated that new issuances of debt have been referencing RFRs. One FSB jurisdiction noted that financial agents were starting to use SOFR in new liability contracts for interbank operations but volume was still low. The situation in non-FSB jurisdictions is similar, in which some have adopted RFRs, while others have no exposures to USD, GBP and JPY. Several jurisdictions reported issuance of new contracts referencing LIBOR. One jurisdiction responded that a majority of these contracts will expire before mid-2023.

Use of RFRs in new contracts

By product

Graph 2



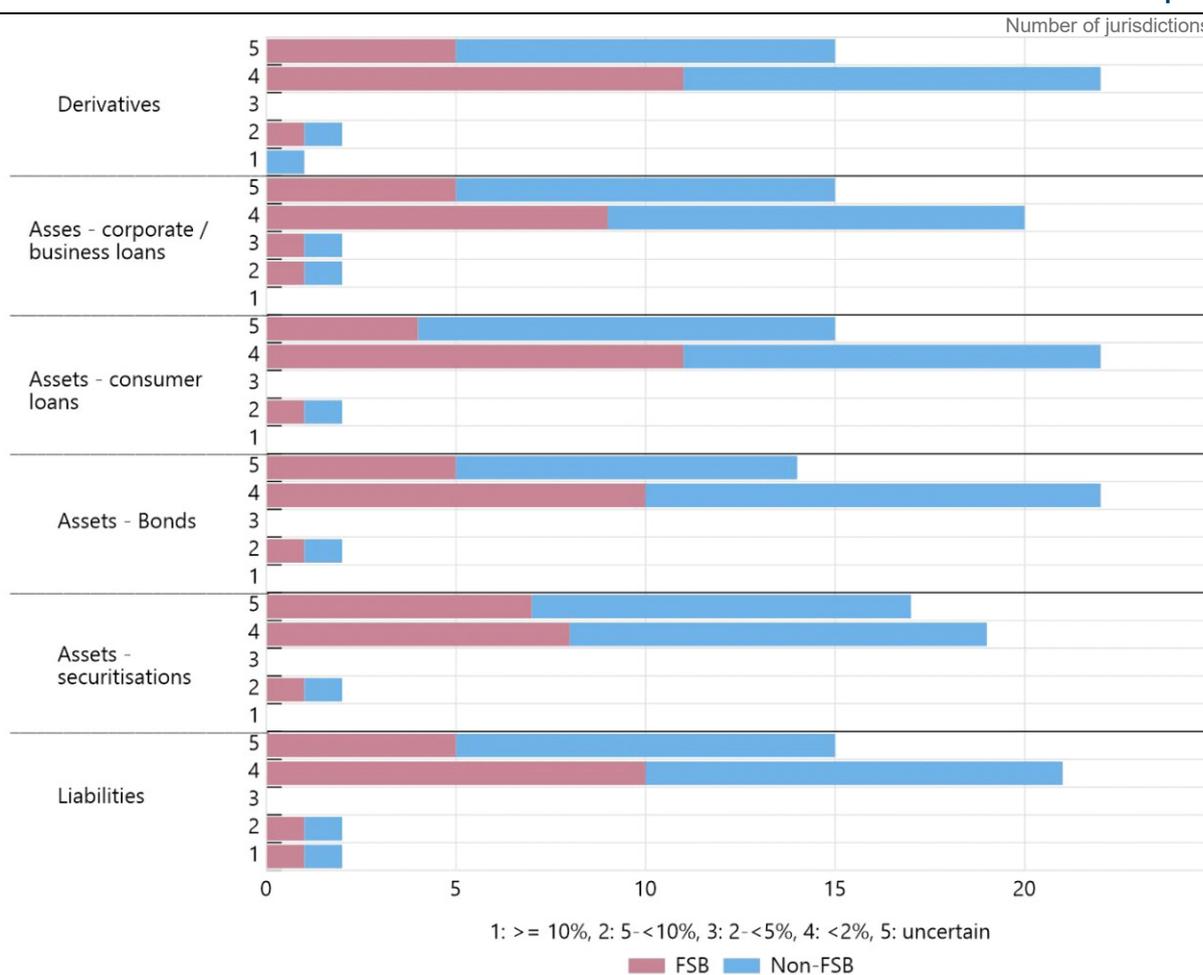
Source: FSB questionnaire

Use of credit sensitive rates

A majority of FSB jurisdictions reported that they either have no or very modest exposures to CSRs. As regards corporate and business loans, one jurisdiction noted that new CSR contracts as a share of new SOFR contracts was modest. However, there was a small number of FIs in one jurisdiction that reported relatively higher volumes of CSR loans.

The use of credit sensitive rates

Graph 3



Source: FSB questionnaire

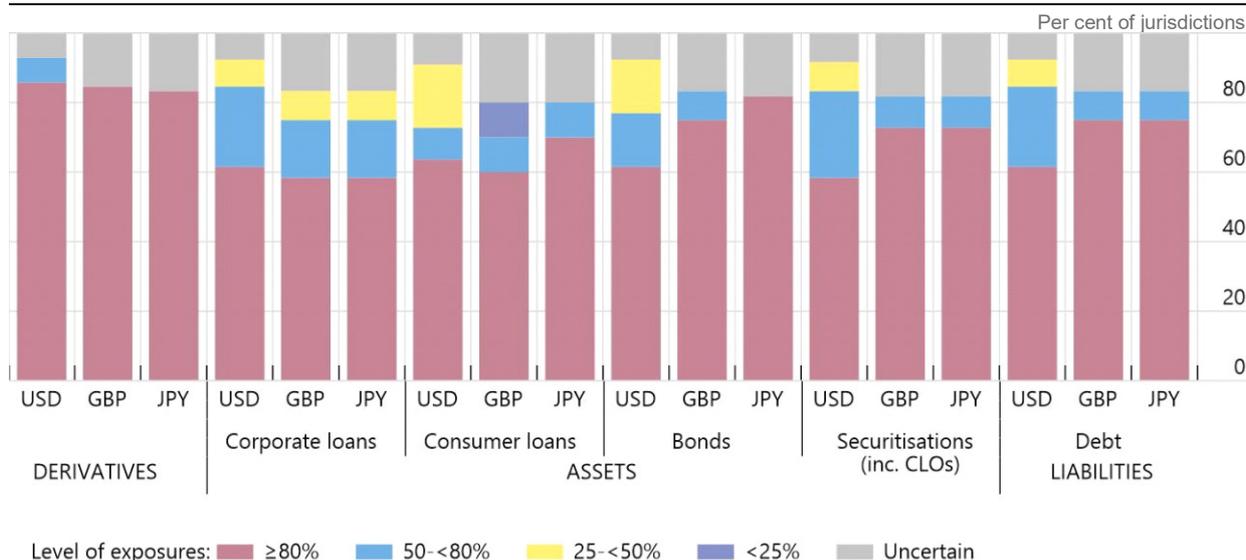
4.3.3. Adoption of fallback language

FSB members generally reported a high level of review of contractual fallback language and assessment of whether fallback need to be amended across LIBOR currencies and products. A few members reported lower levels of review for USD LIBOR products given the extended deadline for USD LIBOR cessation but indicated that they expected this to be a focus going forward. One member noted that focus had been on larger corporate loans and that a significant number of small USD LIBOR consumer loans remained outstanding. While a number of other non-FSB members expressed general uncertainty about the level of the review, some reported high levels of review for most products, with a few indicating lower levels of review for USD LIBOR cash products but generally indicating a belief that this would be addressed or did not represent a significant amount of exposure.

FI's progress in reviewing fallback language

FSB jurisdictions

Graph 4



Source: FSB questionnaire

Of the responding FSB members, 5 reported that FIs had reviewed 80 percent or more of contracts across all products and currencies. Two others reported similarly for USD LIBOR products and did not collect information for synthetic GBP or JPY LIBOR. Two other members reported uncertainty about securitisations but high levels of review across all other products and currencies.

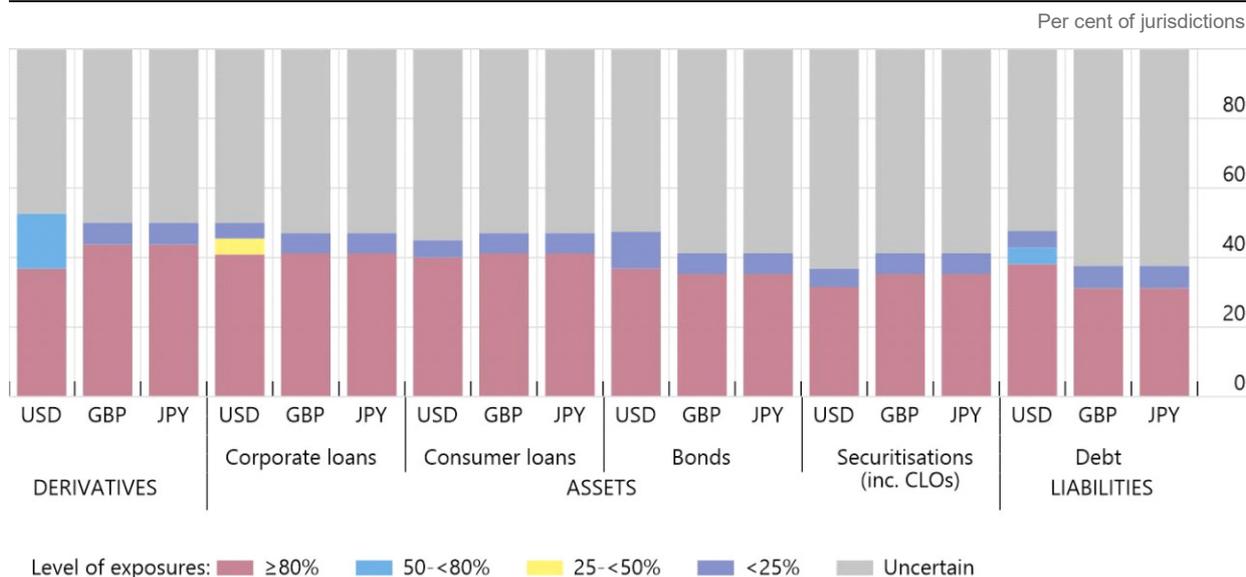
A few FSB members reported lower levels of review (50-80 percent or 25-50 percent) for certain types of USD LIBOR loan or securities contracts while generally reporting a high level of review for derivatives. One of these respondents noted that focus had been on GBP and JPY LIBOR given the 2022 end dates and that review of USD LIBOR contracts was on track. Another noted that although there was a somewhat lower level of review for some products, it did not believe that there were major problems in its FIs' USD LIBOR contracts. Another of these respondents noted that they saw a significant amount of small consumer LIBOR loans and effort has so far been on the larger corporate borrowers, but stated that banks will emphasize this in the second half of 2022.

A number of non-FSB respondents reported that FIs had reviewed 80 percent or more of contracts across all products and currencies where there were exposures. Some non-FSB respondents reported general uncertainty across all products and currencies. Two reported high assessment rates for derivatives, but uncertainty for other products, while one reported 50-80 percent assessment rate for debt liabilities but uncertainty for other products.

FI's' progress in reviewing fallback language

Non-FSB jurisdictions

Graph 5



Source: FSB questionnaire

A few non-FSB respondents reported that less than half of USD LIBOR cash contracts had been assessed (although some reported 50-80 percent assessment rates for USD LIBOR derivative contracts). One of these respondents noted that most contracts are pending renegotiation and another noted that its data was for 2021 and believed that more progress has been made this year.

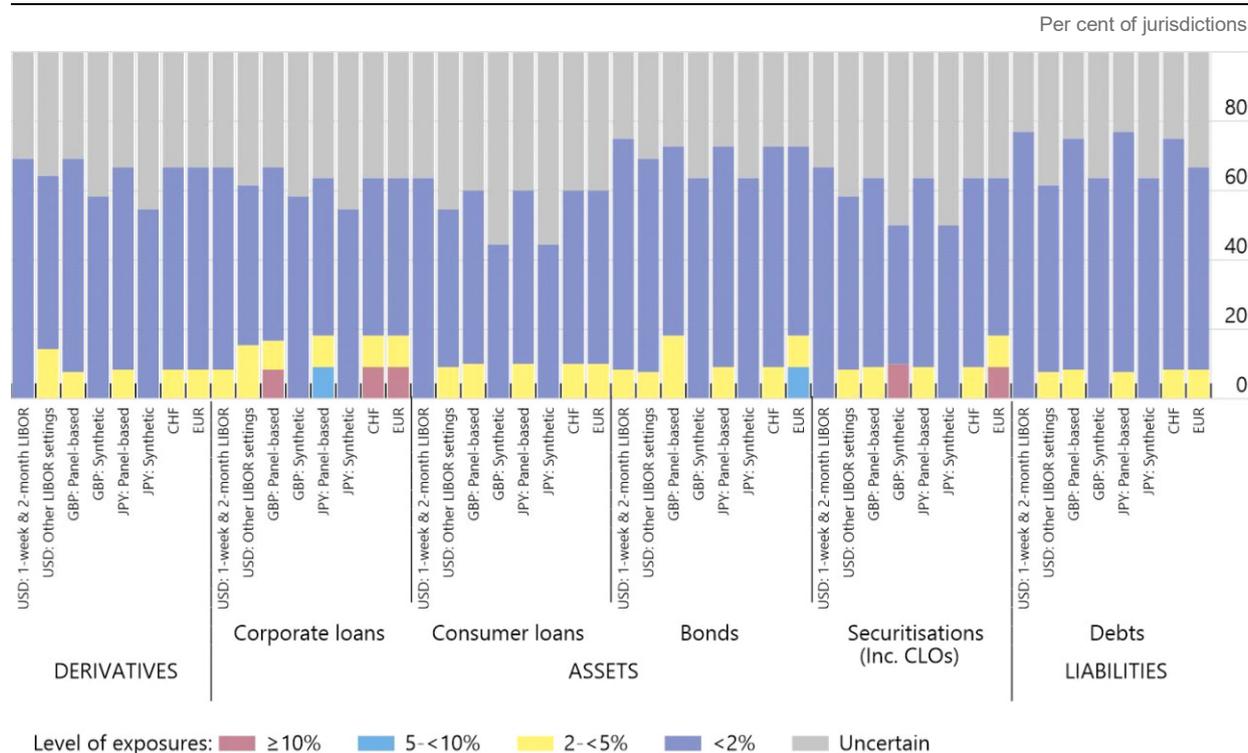
Most FSB members with access to data believed that the proportion of LIBOR exposures remaining past cessation dates would be low, but a few noted higher levels of remaining USD LIBOR exposures in certain products, although they also noted that they expected remediation efforts to continue. One member also noted a higher level of remaining GBP LIBOR debt liabilities. Most non-FSB respondents expressed uncertainty about the remaining proportion of exposures, although a number believed the exposures would be low or manageable. Only a few non-FSB respondents reported expecting a higher level of exposure.

A number of FSB members expected less than 2 percent of LIBOR contracts to remain past cessation across all currencies and products where they reported or measured exposures. One jurisdiction expected that less than 2 percent of non-dollar LIBOR currencies would remain (based on estimates in early 2022) but reported uncertainty about USD LIBOR exposures.

LIBOR exposures that i) could not be updated/transitioned or ii) are expected to remain outstanding after the corresponding cessation dates

FSB jurisdictions

Graph 6



Source: FSB questionnaire

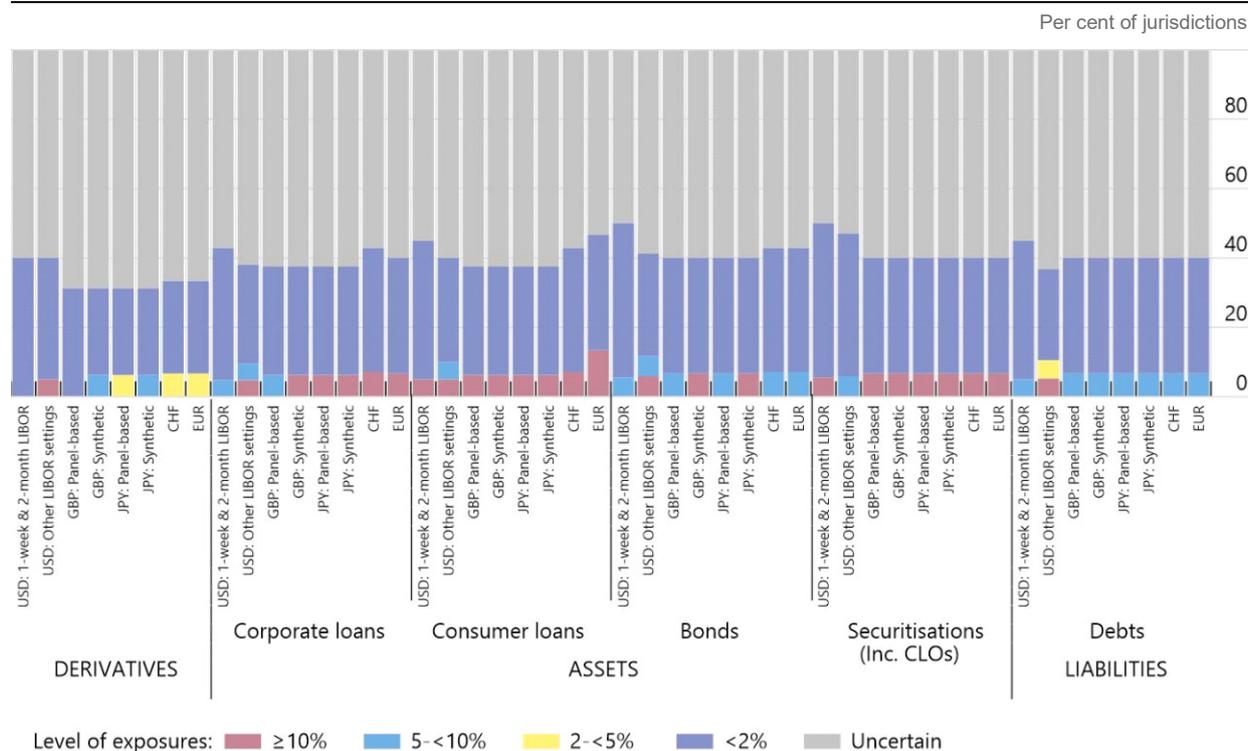
A few FSB members generally expressed uncertainty about the maturity of exposures. One member generally expressed uncertainty about non-dollar LIBOR currencies but expected 2-5% of USD LIBOR exposures would remain past cessation. One member expected that more than 10 percent of USD LIBOR derivative, business loan, and debt liabilities would remain past cessation, but both noted that remediation plans were in progress. Another reported high expected exposures for USD LIBOR products (greater than 10 percent for derivatives, business loans, and securitizations and 5-10 percent for debt liabilities). The member also noted that USD derivatives with reference to ICE swap rates are still classified as without robust fallbacks, but that recently communicated ARRC recommendations are expected to accelerate the transition for these derivatives.

Amongst non-FSB respondents, the most common response was general uncertainty across currencies and products where there were thought to be exposures. However, some of those respondents noted that there were low or manageable exposures to LIBOR. Roughly a quarter of non-FSB respondents generally reported that less than 2 percent of exposures would remain where there were exposures.

LIBOR exposures that i) could not be updated/transitioned or ii) are expected to remain outstanding after the corresponding cessation dates

Non-FSB jurisdictions

Graph 7



Source: FSB questionnaire

One respondent reported higher amounts of remaining exposures across a number of products and currencies, while another reported greater than 10 percent of USD LIBOR exposures would remain.

Almost all FSB members reported a high level of adherence to the ISDA Protocol by banks, especially Systemically Important Banks (SIBs), but some key jurisdictions reported uncertainty about uptake by non-banks. One member reported low adherence by its banks, noting that in certain jurisdictions banks were waiting for an Islamic version of the ISDA protocol. A number of non-FSB respondents again reported general uncertainty about the level of adherence, but those with data reported high or majority adherence by banks and lower levels of take-up by non-banks.

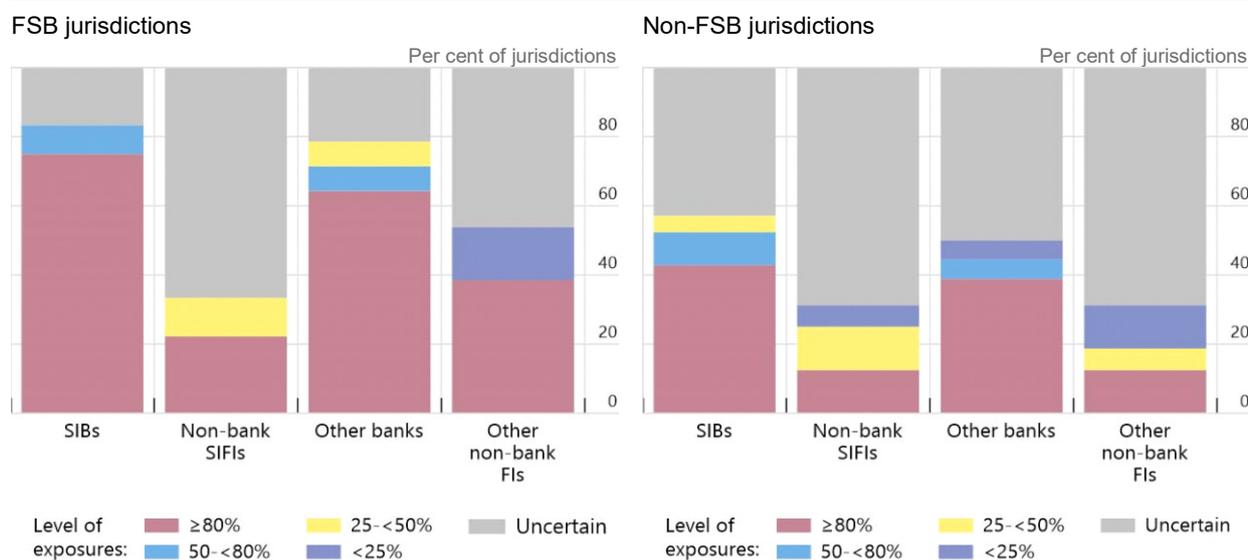
Six FSB members all reported high adherence to the ISDA protocol across entities with derivatives exposures. Two reported high adherence among banks but uncertainty about take-up among non-banks. Another reported high adherence for banks and non-bank FIs but uncertainty about non-bank *Systemically Important* FIs (SIFIs), while two others reported high adherence by SIBs but uncertainty for other entities.

One member reported lower adherence among non-bank SIFIs and other banks, while another reported low adherence by banks generally, noting that ISDA has not issued market wide protocol for Shariah compliant derivatives. Some have indicated that they are waiting for the Islamic version of the protocol to be circulated by IIFM.

A number of non-FSB respondents reported general uncertainty about adherence to the ISDA protocol among FIs where there were thought to be exposures. A few reported high adherence among banks but uncertainty about nonbanks. Others reported that less than half of either banks or non-bank FIs had adhered

Adherence to ISDA fallback protocols

Graph 8



Source: FSB questionnaire

4.3.4. Evidence on LIBOR exposures and key metrics

The follow-up questionnaire asked respondents to provide data on FIs' USD LIBOR exposures that will mature before and after end-June 2023 and on the use of synthetic LIBOR settings, including information on the incorporation of fallback provisions on USD LIBOR contracts that mature after end-June 2023. Similar as last year, the questionnaire focussed on total exposure with a breakdown by key product groups. The data was submitted at a group level and on a best-effort basis.⁴¹ In terms of coverage, the number of submissions to this questionnaire have improved for non-LIBOR non-FSB jurisdictions (shown as "Others" in the graphs below) compared to last year's survey, however it declined slightly for LIBOR and non-FSB jurisdictions.⁴²

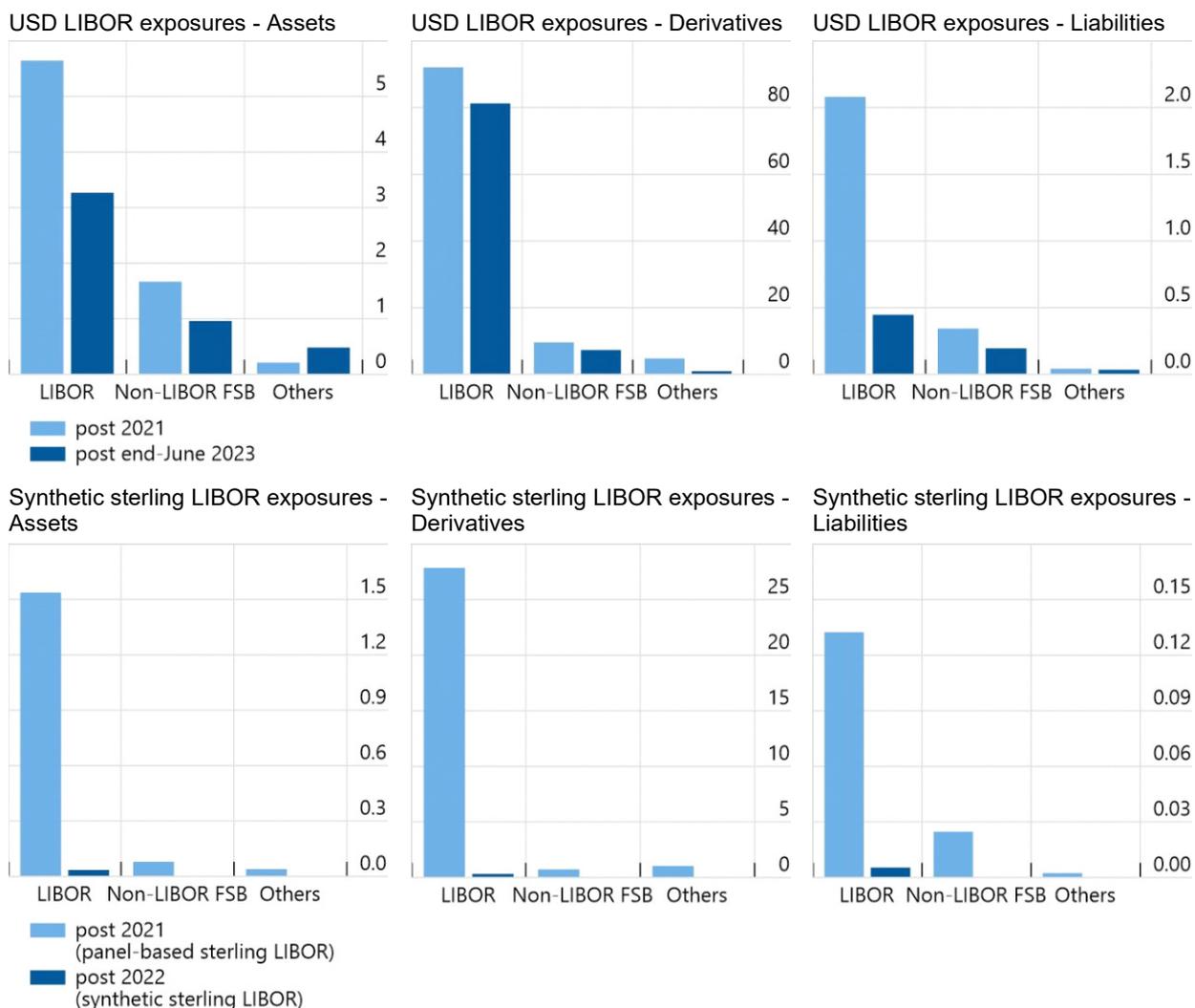
⁴¹ It should be observed that the data reported here reflect in most instances data supervisory authorities have collected from regulated institutions. These may be substantively lower than the overall LIBOR exposure across all jurisdictions, in particular for the most common of the LIBOR currencies.

⁴² Responses received by LIBOR jurisdictions: 13 for 2022 survey vs 14 for 2021 survey (one jurisdiction mentioned, with regard to its decision not to respond to the 2022 survey, that the remaining LIBOR exposures for banks not subject to direct ECB supervision were not significant). Responses received by non-LIBOR FSB jurisdictions: 11 for 2022 survey vs 13 for 2021 survey. Responses received by other jurisdictions: 23 for 2022 survey vs 12 for 2021 survey.

USD LIBOR (synthetic sterling LIBOR) exposures post end-June 2023 (post-2022) by group and currency

Comparison with previous report; in trillions of US dollars

Graph 9



¹ For derivatives, the total amounts have not been adjusted for double counting exposures due to issues with data completeness and differences in the calculation of total derivatives in the data template. Non-centrally cleared exposure only. See Annex 3 for more details.

² Euro area jurisdictions are counted individually, thus there are more than five jurisdictions under the LIBOR category.

Source: FSB questionnaire

LIBOR jurisdictions continue to have the largest estimated assets, liability and derivatives exposures to LIBOR rates - with USD being the greatest single currency exposure (Graph 9 and Table 2). LIBOR jurisdictions' and FSB jurisdictions' assets and liability exposures to USD LIBOR have decreased since the last survey, however exposures for derivatives saw little change. USD LIBOR exposures remain low for the other reporting jurisdictions, although the exposures for assets have more than doubled compared to the previous survey.

Exposures to synthetic LIBOR rates are relatively low for all groups and currencies and have decreased significantly compared to the panel-based LIBOR rates in the previous survey (Graph 9). Exposures to GBP LIBOR continue to be the second largest exposures but they account for about 1% of the exposures shown in the previous report.

Table 2: Total USD LIBOR (and synthetic sterling LIBOR) exposure post end-June 2023 (post-2022) In trillions of US dollars

	USD	GBP
Assets	4.712	0.038
LIBOR	3.268	0.035
Non-LIBOR FSB	0.960	0.001
Others	0.483	0.000
Liabilities	0.676	0.006
LIBOR	0.447	0.005
Non-LIBOR FSB	0.195	0.000
Others	0.033	0.000
Derivatives	89.551	0.374
LIBOR	81.300	0.329
Non-LIBOR FSB	7.279	0.045
Others	0.971	-

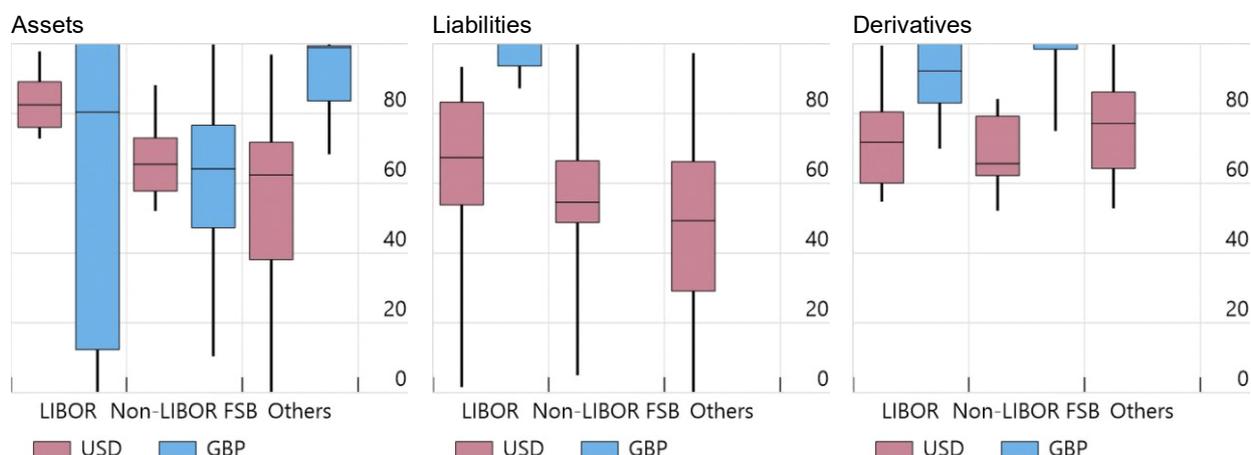
Note: Figures may not add up to total due to rounding

The median proportion of USD LIBOR exposures that mature post end-June 2023 range between 49-82% (Graph 10), with this ratio being generally higher for LIBOR jurisdictions. The proportion of assets exposures to synthetic sterling LIBOR that matures post-2022 shows a higher variation for LIBOR and non-LIBOR FSB jurisdictions, but the median range is similar. For derivatives, the majority of USD LIBOR (synthetic sterling) exposures mature post end-June 2023 (post-2022) for all jurisdictions.

Distribution of the ratios of USD (and synthetic GBP) LIBOR exposures post end-June 2023 (post-2022) to total LIBOR exposure by jurisdiction and currency

In per cent

Graph 10



¹ Box plot showing the distribution of the ratios of post end-June 2023 (post-2022) to total USD LIBOR (synthetic LIBOR) exposures for each jurisdiction grouping and currency. A box is drawn from the group's first quartile to the third quartile. The horizontal line in the box is the median of the group. The top of the vertical line above the box is the maximum of the group, and the bottom of the vertical line below the box is the minimum. Ratios larger than 100% and below 0% have been removed. Box plot is not shown for certain items where limited data is obtained.

Source: FSB questionnaire

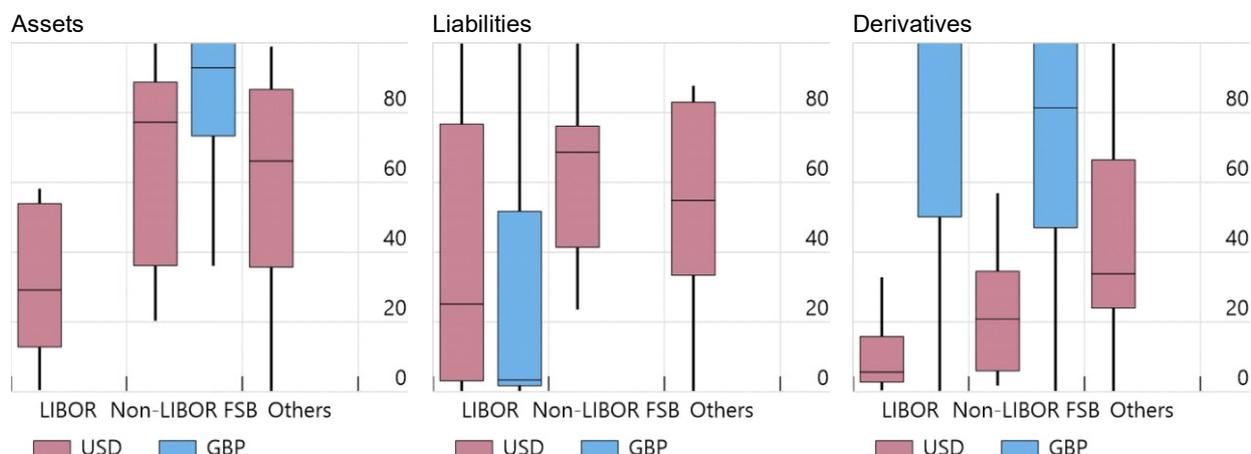
With regards to the RFR exposure, LIBOR jurisdictions have the largest exposure (Table A3-1 in Annex 3). The largest RFR exposure is to USD. In terms of the ratio of RFR exposure to LIBOR exposure post 2022/ post end-June 2023, this ratio is almost one for the GBP and 0.3 for USD. Non-FSB jurisdictions have very small RFR exposure across all currencies and product types.

Graph 11 shows the distribution of the ratios of LIBOR exposures without a fallback post end-2022 / post end-June 2023. Overall, LIBOR jurisdictions have the lowest proportion of LIBOR exposures without a fallback. For non-LIBOR non-FSB jurisdictions, we see heterogeneity in the extent of exposure without a fallback across product types, with some having no fallback exposure at all. For non-LIBOR FSB jurisdictions, proportions of LIBOR exposures without a fallback also vary, suggesting that some jurisdictions have very little exposure with fallbacks while some have made significant progress in transition.

Distribution of the ratios of USD (synthetic GBP) LIBOR exposures post end-June 2023 (post-2022) without a fallback by jurisdiction and currency

In per cent

Graph 11



¹ Box plot showing the distribution of the ratios USD LIBOR (synthetic LIBOR) exposures without a fallback post end-June 2023 (post-2022) for each jurisdiction grouping and currency. A box is drawn from the group's first quartile to the third quartile. The horizontal line in the box is the median of the group. The top of the vertical line above the box is the maximum of the group, and the bottom of the vertical line below the box is the minimum. Ratios larger than 100% have been removed. Box plot is not shown for certain items where limited data is obtained.

Source: FSB questionnaire

To identify products that may need additional support in transitioning, data on product level distributions of LIBOR exposure without fallbacks for assets and derivatives was collected (Graph A3-1). For derivatives, contracts with non-FIs on one side appear less transitioned. In comparison, derivatives where both counterparties are FIs and cross-currency contracts are more transitioned. As regards cross-currency contracts, the proportion of exposure without fallbacks has decreased as compared to last year's survey, suggesting efforts given to transition. Looking at assets, consumer loans in LIBOR jurisdictions have made the furthest progress in transitioning. The median ratios of exposures without a fallback are however higher for bonds. In general, the proportion of exposures without a fallback is relatively higher for GBP than USD; however, their progress varies by jurisdiction.

4.4. Major transition and supervisory challenges

Respondents to the survey cited lack of ability to change or to agree on fallback provisions for legacy LIBOR provisions, lack of action / engagement from non-FIs as the remaining challenges recognised by market participants when migrating legacy contracts that refer to remaining USD LIBOR and synthetic LIBORs (JPY and GBP), with some also citing market infrastructure readiness for market participants in the transition of remaining legacy contracts.

Market participants provided details regarding the challenges to transitioning remaining legacy contracts from a practical perspective. This indicates that steady progress is being made on global benchmark reforms, but there are still some challenges that need to be addressed on an ongoing basis.

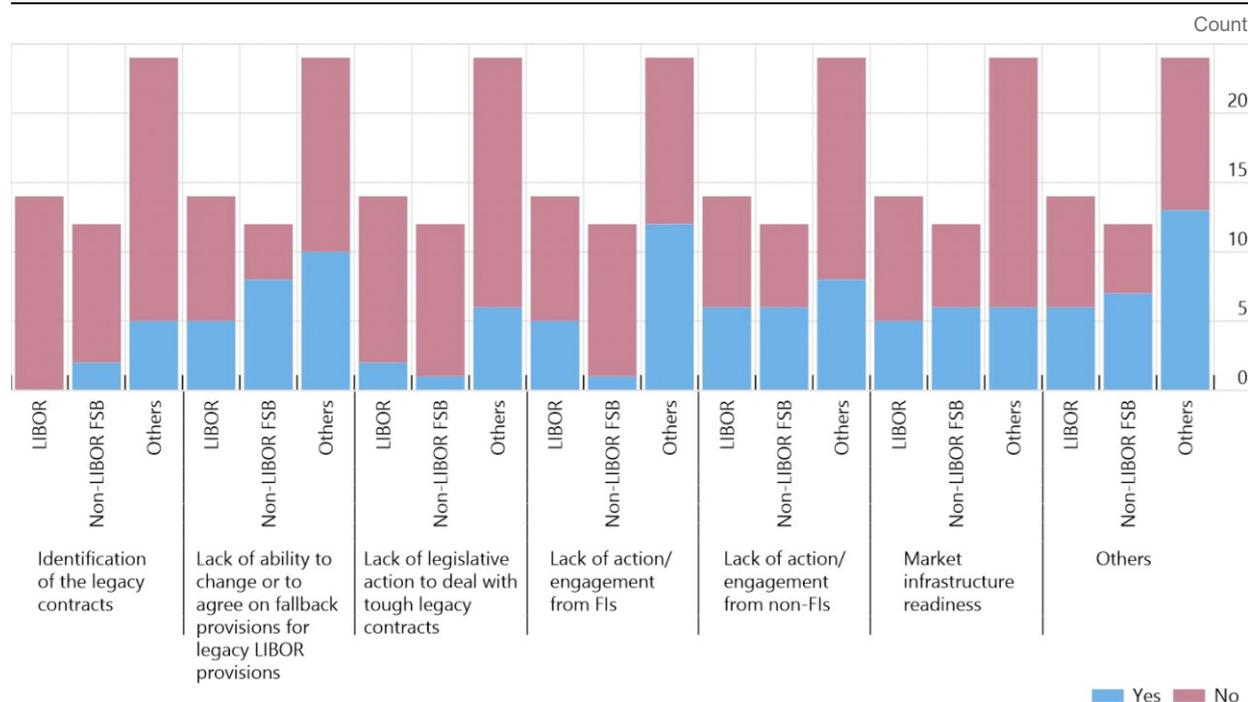
Among other challenges, one jurisdiction cited syndicated loan agreements requiring multiple financial institutions as remaining transition challenge. Another jurisdiction noted that banks should establish adequate communication protocols on LIBOR transition with different stakeholders. And another jurisdiction noted that banks need to promote their transition efforts

in a globally consistent manner, taking into account different situations of transition in each region.

In addition to the above, one jurisdiction cited the lack of preparation for entering into contracts based on the term rate of the new RFR and the lack of liquidity of products that reference the RFR, and some other jurisdictions cited the renewal of IT systems by financial institutions following the transition away from LIBOR. These specific issues from a more practical perspective were identified compared to last year, suggesting a more detailed or thorough coverage of transition issues.

Market participants' key challenges in the transition of remaining legacy contracts¹

Graph 12



¹ This graph counts Euro Area responses individually. The breakdown of responses is as follows: LIBOR: 14; Non-LIBOR FSB: 12; Others: 24.

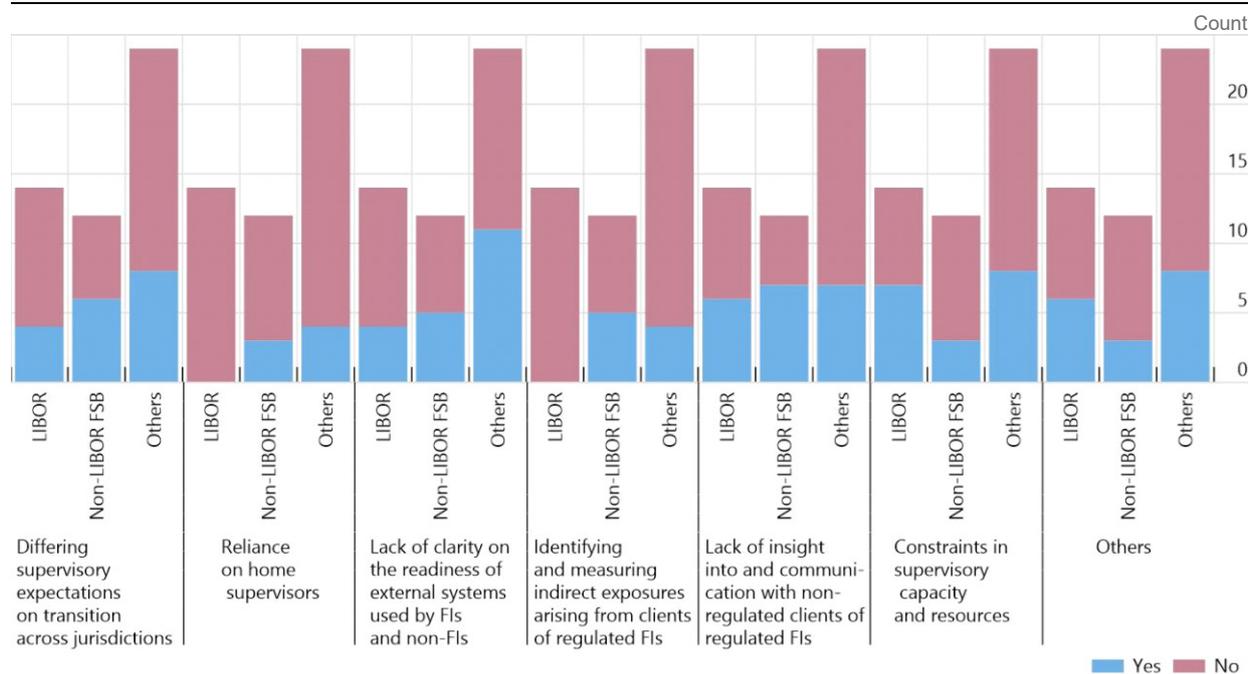
Source: FSB questionnaire

Responses suggest that supervisors are facing fewer challenges as the global effort to transition from LIBOR has progressed. However, there are some remaining challenges for supervisors in the transition of legacy contracts. The main ones include lack of insight into and communication with non-regulated clients of regulated FIs, constraints in supervisory capacity and resources and differing supervisory expectations on transition across jurisdictions. Respondents also cited the lack of clarity on the readiness of external systems used by FIs and non-FIs as one of their major supervisory challenges. Supervisors continue their efforts in finding solutions to address each remaining point.

Jurisdictions addressing the challenge of "Constraints in supervisory capacity and resource" use a risk-based approach to data collection and external audit reports to assess the robustness of banks' transition plans to benchmark interest rates, or automate data collection and reduce the scope of manual intervention to focus on data monitoring and analysis and follow up on a timely basis with financial institutions. Other jurisdictions have targeted supervisory programmes to monitor the transition of residual synthetic LIBOR exposures and legacy USD LIBOR contracts

or that focus their supervisory resources on financial institutions with the largest legacy LIBOR exposures.

Remaining supervisory challenges in the transition of legacy contracts¹ **Graph 13**



¹ This graph counts Euro Area responses individually. The breakdown of responses is as follows: LIBOR: 14; Non-LIBOR FSB: 12; Others: 24.

Source: FSB questionnaire

Regarding other regulatory and supervisory issues related to prudential requirements, respondents noted there were challenges in modelling stresses using newer RFRs, referring to lack of historical data; and there was also the challenge of adequately monitoring the risks of transition. Positively, respondents noted that internal models and valuations used by their supervised entities had already been amended to incorporate RFRs. Most FSB jurisdictions have reportedly finalised or nearly finalised their supervisory assessment programmes, though several non-FSB jurisdictions responses noted they were in the early stages of their assessment programmes or were yet to begin their evaluations.

Four FSB members provided additional regulatory and supervisory issues related to prudential requirements and a further nine comments were received from other jurisdictions. These issues mainly focussed around robustly modelling stress using newer RFRs, the burden to supervisory authorities to adequately monitor the risks of transition, and updating internal valuation models.

Both FSB and non-FSB jurisdictions cited the lack of historical data for newer RFRs (such as SOFR) has posed challenges in modelling stress scenarios for a range of instruments. Authorities noted the key challenge in modelling stress scenarios with RFRs relates to identifying a model which can provide outputs with a short history of available data. To provide reassurance that modelling using newer RFRs is still achievable despite a short time-series, private institutions and price vendors have generated indicative rates to approximate historical RFR data, which can subsequently be used to model stress scenarios. One FSB jurisdiction noted they required bank-by-bank considerations and adjustments to identify and model stress periods for regulatory reporting.

There were mixed views across FSB jurisdictions over whether the impact of changing internal models to incorporate RFRs was material. Encouragingly a number of jurisdictions noted that internal models and valuations used by their supervised entities had already been amended to incorporate RFRs. Of the jurisdictions that view the changes as material, one reported that due to the prevalent nature of LIBOR, regulated institutions have requested changes to a broad range of models beyond their stress models to support their regulatory reporting. This reflects earlier enhancements of the internal model change process to incorporate RFRs.

Broader prudential issues were also raised, with one non-FSB jurisdiction noting that there is an additional supervisory burden where RFR data is not separately reported, as supervisors need to undertake manual analysis to understand the data.

More broadly, whilst most FSB jurisdictions have reportedly finalised or nearly finalised their supervisory assessment programmes, several non-FSB jurisdictions responses noted they were in the early stages of their assessment programmes or were yet to begin their evaluations.

4.5. Supervisory actions

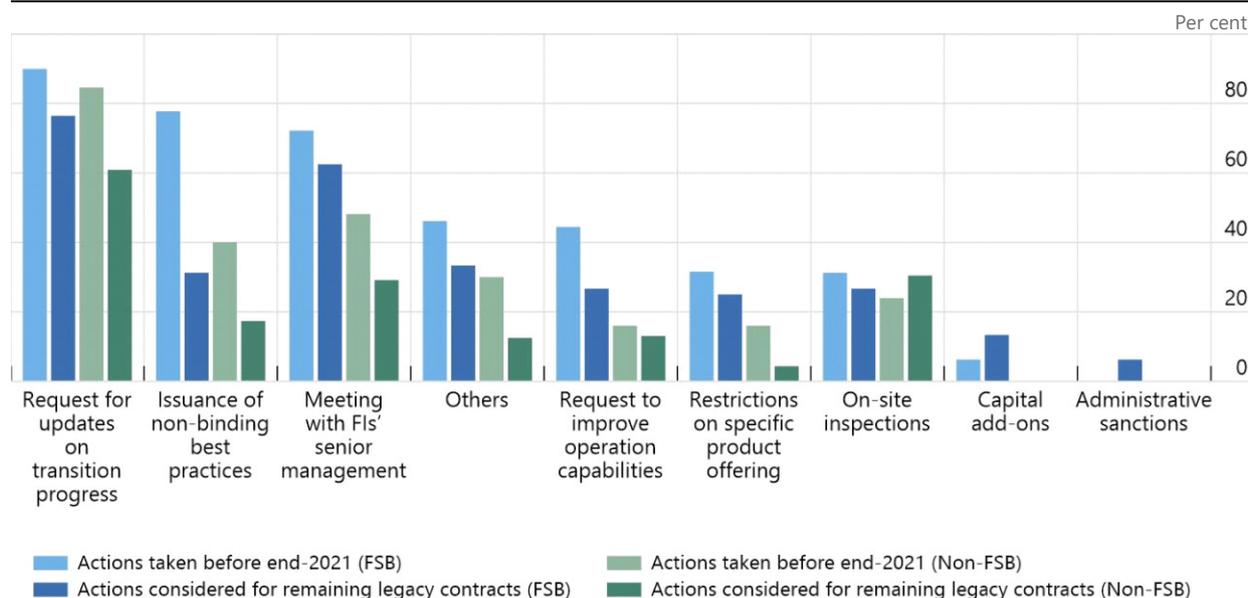
FSB jurisdictions and non-FSB jurisdictions were largely consistent in the types of supervisory actions they employed to address LIBOR exposures. Monitoring updates on transition progress and discussions with firms' senior management were far more commonly employed than supervisory actions that sanctioned or required more capital of firms. Nonetheless, non-FSB jurisdictions were generally less likely to use supervisory action than FSB jurisdictions, reflecting the limited size of LIBOR exposures in most non-FSB jurisdictions. Indeed, a few non-FSB jurisdictions explicitly noted that, given the small size of local firms' LIBOR exposures, additional supervisory measures were not needed.

For both sets of jurisdictions, a wider variety and greater number of supervisory actions were also employed for reducing exposures before end-2021 than for the transition of remaining legacy contracts, likely reflecting the difference in scale of these issues.

LIBOR jurisdictions typically reported using a larger number of tools than the average FSB or non-FSB jurisdiction. EU jurisdictions noted larger LIBOR exposures were largely addressed through the EU Single Supervisory Mechanism, through which larger banks are centrally supervised.

Frequency of supervisory actions, by type of jurisdiction

Graph 14



Source: FSB questionnaire

4.5.1. Description of tools

The most frequently cited tools by authorities in both FSB and non-FSB jurisdictions were requests to provide updates on transition progress, meeting with senior management and the issuance of non-binding best practices. Together, these tools represent a means of providing oversight while allowing firms to be flexible in identifying the most efficient or commercially viable path to reduce or eliminate their exposures to LIBOR.

- Requests to provide updates on transition progress largely comprised data collection exercises that sought both quantitative information on LIBOR exposures and qualitative information on transition plans and timelines. Coverage of these surveys varied: both the largest and highest-risk banks were typically included, but some jurisdictions also covered small/medium-sized banks, securities companies, insurance companies, or other firms.
- Meetings with senior management were typically framed as being ongoing, regular meetings (in some cases part of existing supervisory dialogues). Some FSB jurisdictions targeted these meetings specifically to firms with larger LIBOR exposures.
- FSB jurisdictions used a variety of different means of disseminating best practices to firms, including through “Dear CEO” letters, press releases, and circulars. These best practices typically comprised of supervisory expectations regarding the actions that FIs (and in some cases non-FIs) should take to ensure a smooth transition from LIBOR. A large LIBOR jurisdiction noted a range of best practices that were provided to broker-dealers in relation to their dealing with retail clients and customers.

One LIBOR jurisdiction noted that they focused specific efforts on a set of firms with the largest LIBOR exposures, although all firms with material LIBOR exposures were expected to provide regular updates.

Some jurisdictions also employed tools such as requests to improve operational capabilities, restrictions on specific product offerings, and on-site inspections.

- Requests to improve operational capabilities focused in several cases on firms' operational dependency on vendors or technology platforms. This included asking FIs to have technological platforms ready for LIBOR transition and have contingencies or workarounds in place until vendor solutions were delivered. Another jurisdiction noted that they had made a specific request for some firms to speed up their transition progress.
- Restrictions on specific product offerings generally comprised supervisory expectations that firms take on no new LIBOR exposures after the end of 2021.
- On-site inspections, consisting of discussions with management, were typically noted as being a part of the ongoing supervision of financial firms, with a couple jurisdictions noting that some visits were done specifically in relation to LIBOR exposures.

Very few jurisdictions noted using capital add-ons. No jurisdiction mentioned using administrative sanctions or other legal actions. A few jurisdictions noted that they either had no legal basis to do so or the risk had not risen to the level of safety and soundness concerns.

Some jurisdictions described "other" idiosyncratic tools, which largely consisted of additional monitoring and supervisory engagement. One LIBOR jurisdiction noted that FIs had supervisors for additional clarification on which situations they would be allowed to take on new LIBOR exposures. An FSB jurisdiction noted reviewing prospectus disclosures for benchmark transition-related information.

4.5.2. Steps to expedite the transition of legacy contracts

FSB jurisdictions noted several potential steps that firms and authorities can take to facilitate the transition of legacy contracts.

Firms

- For non-cleared derivatives, firms should consider signing up to the ISDA protocol, which facilitates contract conversions from LIBOR to a fallback rate based on the chosen RFRs.
- As early as possible, firms should engage (i) internally with legal, accounting, and IT departments, (ii) externally with infrastructure providers on whom they may depend, and (iii) with clients and counterparties. This should include developing action plans for dealing with counterparties and clients who are not yet prepared for LIBOR transition.
- A LIBOR jurisdiction noted that an industry transition to a central methodology to communicate rate changes via a Depository Trust Company (DTC) system would provide a strong foundation for the remainder of the transition.

Authorities

- Supervisors should continue to focus on LIBOR transition and monitor their progress towards an orderly transition.
- Decisions on issues such as statutory replacement rates should facilitate legal certainty and where appropriate provide harmonised solutions internationally.
- Continued strong, public messaging by international bodies and US/UK authorities is necessary to reinforce the importance of transitioning legacy contracts.
- Continued close cross-border coordination and information-sharing among banking supervisors/ regulators is needed, particularly for cross-border transactions.

Most non-FSB jurisdictions noted that, due to the low levels of LIBOR exposures of firms they regulated, additional actions were not needed to speed the transition of legacy contracts. Nonetheless, some noted that they were conducting additional outreach and educational efforts were planned, and the scale of residual exposure to LIBOR was being monitored.

5. Conclusion

Roughly a decade into the transition away from LIBOR, significant progress has been made in improving the resilience of the benchmark reference rate landscape, particularly over the past year as most LIBOR settings have ceased. In line with the FSB's goals in supporting a more sustainable basis for interest rate markets, activity has fundamentally shifted from use of LIBOR towards use of more robust reference rates. Strong progress in particular has been observed in transition away from USD LIBOR to SOFR in 2022.

The FSB encourages authorities and market participants alike to keep momentum for the last stage of transition, which is important due to the extensive use of US dollar LIBOR across jurisdictions. This requires continued international coordination and consistency in outcomes for legacy contracts where practicable. Achieving market stability in the longer term requires, when it comes to markets, relying on benchmark rates that have a strong reference foundation, which means anchoring the financial system in overnight RFRs. It is essential that extensively used benchmarks are especially robust and reflect credible, liquid underlying markets. This will avoid the need to repeat the transition effort experienced by the global financial community in transitioning away from LIBOR.

At the international level, a coordinated approach to addressing the remaining issues, such as legacy contracts, continues to be of the essence. From a supervisory standpoint, attention continues to be needed to system readiness communication with all stakeholders, and constraints in supervisory capacity. The FSB stands ready to facilitate coordinated efforts and offer support through RCGs where appropriate for the remaining transition away from USD LIBOR and legacy contracts.

Annex 1: List of respondents to the LIBOR follow-up survey

	FSB	Non-FSB	Total
LIBOR	<ul style="list-style-type: none"> • Euro area jurisdictions⁴³ • Japan • Switzerland • United Kingdom • United States 		5
Non-LIBOR	<ul style="list-style-type: none"> • Argentina • Australia • Canada • China • Hong Kong • India • Indonesia • Korea • Mexico • Saudi Arabia • Singapore • Türkiye 	<ul style="list-style-type: none"> • Armenia • Bahrain • Botswana • Chile • Colombia • Costa Rica • Denmark • Ghana • Guatemala • Honduras • Hungary • Iceland • Israel • Kuwait • Malaysia • Mauritius • Panama • Paraguay • Peru • Poland • Thailand • Trinidad and Tobago • Uruguay • Zambia 	36
Total	17	24	41

⁴³ Euro area jurisdictions are counted as one and include responses by ECB, Austria, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands and Spain.

Annex 2: Progress in transition away from LIBOR in some jurisdictions

Australia

The industry is well placed for the transition from USD LIBOR given the favourable experience with transitioning from non USD LIBOR. For derivatives, most financial institutions have moved fully to USD risk-free rates, apart from limited risk management activities in line with international guidance. Regulators are continuing to actively engage with industry to ensure that the pace of transition is appropriate.

Canada

Canadian firms have continued to make good progress in their transition away from USD LIBOR - following the guidance introduced in many jurisdictions, including from the Office of the Superintendent of Financial Institutions (OSFI),⁴⁴ to stop using USD LIBOR after December 31, 2021 - with the transition to alternative rates proceeding without significant issues. SOFR derivative activity now exceeds that of USD LIBOR, with USD LIBOR derivative trades relating primarily to risk reducing activity, while new loan activity is shifting primarily to Term SOFR.

European Union

EU authorities and institutions are monitoring the impact of the USD LIBOR discontinuation on the EU financial system and has carried out the following actions. On 24 June 2021, the European Commission, EBA, the ECB Banking Supervision and ESMA published a joint statement⁴⁵ strongly encouraging market participants to stop using USD LIBOR as a reference rate in new contracts as soon as practicable and in any event by 31 December 2021.

In Q3 2022, members of the Working Group on Euro Risk-Free Rates (EUR RFR WG⁴⁶), the industry group leading the interest rates reform in the EU, were asked to respond to a survey concerning the discontinuation of the USD LIBOR in the EU. The goal of such survey was to gather market intelligence on the level of exposures towards USD LIBOR in the EU (as of mid-2022) and collect opinions on the main issues of the transition away from USD LIBOR from an EU point of view. The respondents to the survey highlighted that while market participants in the EU were familiar with the process of transitioning away from LIBOR rates, specific concerns persisted in relation to syndicated and bilateral loans referencing USD LIBOR. In accordance with the data provided by the members of the EUR RFR WG, as of mid-2022, syndicated and bilateral loans are the largest asset class of USD LIBOR tough legacy contracts in the EU, representing almost 40% of total tough legacy exposures. Another relevant portion of USD LIBOR tough legacy contracts in the EU is composed of non-cleared derivatives whose counterparties have not adhered to the ISDA Fallbacks Protocol, representing around 30% of

⁴⁴ See the OSFI [letter to Federally Regulated Financial Institutions \(FRFIs\)](#), published in June 2021.

⁴⁵ European Commission, European Central Bank, EBA, ESMA (2021), [Joint public statement: Forthcoming Cessation of all LIBOR settings](#), June.

⁴⁶ See ESMA, [Working group on Euro Risk-Free Rates](#).

total tough legacy exposures.⁴⁷ Finally, a recurring key message that emerged from the replies to this survey is that, in view of the international role of the USD LIBOR and the large number of cross-border contracts, possible legislative and / or supervisory actions concerning the end of USD LIBOR should be consistent across different jurisdictions.

The results of this survey concerning the use of USD LIBOR in the EU were considered also by the European Commission to assess whether the use of its statutory replacement powers will be needed for this rate. The EUR RFR WG will continue to monitor the ongoing transition away from the USD LIBOR in the EU to ensure any outstanding issue will be brought to the attention of EU authorities.

Hong Kong

For the Hong Kong banking sector, the number of contracts referencing the remaining USD LIBOR settings which required renegotiation was estimated to have fallen by 90%, from a peak of 79,600 contracts (or HK\$15 trillion) at end-September 2020 to 7,500 contracts (or HK\$1.2 trillion) at end-December 2021, and further to 4,900 contracts (or HK\$1.1 trillion) at end-June 2022. The HKMA has been closely monitoring the industry's preparations for transitioning away from the remaining USD LIBOR settings through a regular survey and ongoing communication with banks.

To raise the banks' awareness of LIBOR transition requirements and request them to speed up their preparations, the HKMA has followed up with individual banks through bilateral calls with senior management or meetings with board of directors. The HKMA has also issued a series of circulars to share with the banking industry the latest developments on LIBOR transition and its supervisory expectations with regard to the actions that banks should take to ensure a smooth transition.

Based on the latest survey results, banks have identified the followings as major transition challenges: (i) a lack of action and engagement on the part of non-FI customers and (ii) unfamiliarity with products referencing alternative reference rates (ARRs), particularly among small corporates. To help address these challenges, the HKMA has been working with industry associations (e.g. TMA, APLMA and ASIFMA⁴⁸) to make available tools (e.g. leaflets for promoting corporate customers' awareness of LIBOR transition and information notes related to key options to replace USD LIBOR) to facilitate banks to help their corporate customers transition away from LIBOR.

Japan

The Financial Services Agency, Japan (JFSA) and the Bank of Japan (BOJ) confirmed with major banks in their recent hearings that no new USD LIBOR transactions had been conducted, except for some cases specified in the U.S. authorities' guidelines. Hence, the JFSA and the

⁴⁷ Although more than 95% of derivative contracts are not tough legacy contracts. To be noted that between June 2023 and June 2025 the total value of outstanding USD LIBOR tough legacy contracts in the EU will decrease around 25%.

BOJ consider that the system for suspending new transactions is well established. Each bank has formulated a transition plan for contracts that reference USD LIBOR and mature beyond the end of June 2023, and is confirming the intentions of customers and negotiating with them, with the aim of completing the transition process as early as possible. Major banks noted, however, that the transition of overseas syndicated loans for which overseas financial institutions are agents is somewhat delayed.

The JFSA, in cooperation with the BOJ, will continue to monitor the progress on the transitions through hearings with individual financial institutions and the Surveys on the Use of LIBOR toward end-June 2023 of the cessation of USD LIBOR publication.

As of end-December 2021, on LIBOR-based contracts in currencies other than USD (JPY, GBP, CHF and EUR), more than 90 percent of financial institutions had no contracts or had already decided on their transition policies based on agreements between the parties to contracts. Hence, the transition other than USD LIBOR is considered to have completed by large. Especially, the transition for JPY LIBOR-based contracts has been smoothly achieved thanks to cross-sectoral cooperation in the Japanese financial markets' participants.

Moreover, transactions using alternative reference rates after the start of 2022 have been conducted without any particular issues thanks to the deliberations at the "Cross-Industry Committee on Japanese Yen Interest Benchmarks" and the discussions with financial institutions. Under these circumstances, the Committee announced in March 2022 that it would shift its activities to the newly established "Cross-Industry Forum on Interest Rate Benchmarks" since the transition on JPY LIBOR-based contracts in the Japanese markets had progressed smoothly and its activities had come to an end. The Forum provides opportunities to exchange opinions for a wide range of market participants on the above issues.

The use of synthetic JPY LIBOR remained temporary only in 2022 since the number of synthetic JPY LIBOR-based contracts was limited and banks have already succeeded in reaching agreements with their customers to transition to alternative reference rates by the next scheduled date of interest rate revision.

Although the number of synthetic GBP LIBOR-based contracts remaining is limited, the transitions of PFI loans which require consent from local authorities have been delayed. It is planned to make the delayed transitions accelerate to be completed promptly, also having in mind the cessation of the publication of 1- and 6-month synthetic GBP LIBOR in March 2023.

The FCA has announced its decisions with regards to synthetic GBP LIBOR as mentioned under section 2.

As needed, the JFSA and the BOJ individually check with financial institutions about chosen alternative reference rates. It is not supposed that the use of vulnerable alternative reference rates is prevailed in Japan.

Mexico

The transition away from USD LIBOR in Mexican markets has continued without major concerns in the last months. The smooth transition in the derivatives market could be explained by the efforts of several authorities, including Mexican authorities, to promote the use of the new RFRs.

Banco de México published a press release on 8 October 2021 in which it encouraged all local participants to stop using LIBOR as soon as possible. In the derivatives market, the transition has advanced with great results: In the IRS market, new LIBOR-linked operations transacted in the last two months represent less than 25% of total operations in the market (only transactions involving foreign interest rates are considered). This is a significant change considering that in the last two months of 2021, LIBOR-linked operations represented more than 85% of total operations at each month. Those changes in using LIBOR have been followed by an increase in issuing of IRS contracts linked to RFR. In August, new RFR-linked contracts represented almost 70% of this IRS market. The Cross-Currency Swap (CCS) market has observed a similar behaviour; there has been an important decrease in the use of LIBOR after December 2021. In this context, RFR-linked contracts went from 3 percent of the total amount of new CCS contracts in December 2021 to more than 50 percent of CCS contracts issued in August 2022.

In the cash market, the transition has not been as smooth as in the derivatives market. Many market participants complain that there is no clarity in which fallback rates they must use once USD LIBOR panel ceases to exist at end-June 2023. As a result, they fear the possible legal consequences they may face. Banco de Mexico is closely monitoring this process.

Singapore

The transition from LIBOR continues to proceed smoothly in Singapore. Singapore banks managed a smooth transition when non-USD LIBOR currency panels, as well as the 1-week and 2-month USD LIBOR settings, ceased in end 2021. The ISDA Fallback Protocol for derivatives and the relatively mature RFR markets in GBP and other currencies had contributed to the smooth transition by setting out clear contractual fallback provisions and market reference prices respectively. The transition from USD LIBOR is also progressing steadily. MAS continues to closely monitor the progress of banks in preparing for the discontinuation of USD LIBOR settings in other tenors. A January 2022 survey noted minimal utilisation of synthetic LIBOR (for runoff of legacy contracts) and credit sensitive rates by banks in Singapore. Banks have also taken active steps to implement contractual fallbacks in outstanding USD LIBOR contracts, with a view to complete the repapering of legacy USD LIBOR contracts by end-Jun 2023.

South Africa

Generally, South African authorities continue to monitor domestic systemically important banks' existing exposures and transition. The 2021 USD LIBOR cessation milestone for relevant settings was completed relatively seamlessly. As with the 2021 cessation, firms seem to place more reliance on the use of fallback language, as opposed to active transitions to alternate risk free rates. The market will continue to follow the Fed's rulemaking for SOFR replacements under the LIBOR Act for contracts that do not have adequate fallback language as the June 2023 USD LIBOR panel cessation approaches.

Annex 3: Quantitative analysis assumptions and data quality points

- Where jurisdictions put “0” in the data template, it is assumed that they know there is no exposure to that product. Unknown or blank responses have been treated the same and excluded from this analysis.
- Total derivatives have been assumed to be the non-centrally cleared exposure only. Where the submission included both centrally cleared exposure and non-centrally cleared exposure in the total, this has been amended to just the non-centrally cleared exposure. (This does have the impact of making some of the derivative total subset exposure being larger than they are for the non-centrally cleared total)
- Where total asset exposure is blank or is less than the combined total of Bonds, Securitisations, Corporate/business loans and Consumer loans, the total has been assumed to the total of those 4 products.
- When looking at exposure in a ratio form, the analysis is completed on submissions that included data on both parts of the ratio. For example, for the ratio between USD LIBOR post end-June 2023 and total USD LIBOR exposure, the submission must have submitted data for both before and after end-June 2023 to be included.
- For derivatives the total amounts have not been adjusted for double counting exposures due to issues with data completeness and differences in the calculation of total derivatives in the data template.

Table A3-1: Total RFR exposures (In trillions of US dollars)

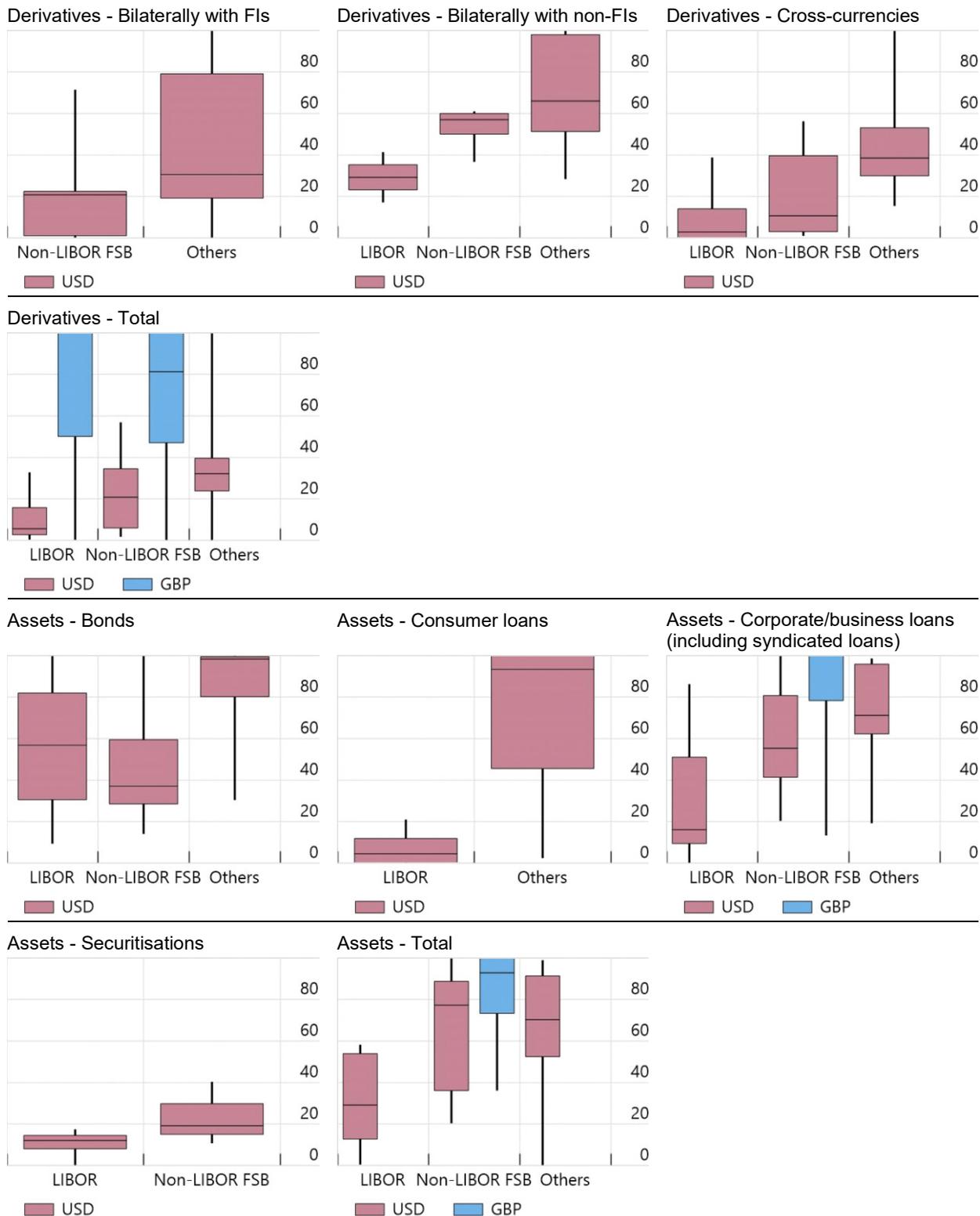
	USD	GBP
Assets	1.251	0.029
LIBOR	0.792	0.002
Non-LIBOR FSB	0.445	0.024
Others	0.015	0.002
Liabilities	0.528	0.002
LIBOR	0.356	0.000
Non-LIBOR FSB	0.168	0.001
Others	0.005	0.000
Derivatives	28.252	0.382
LIBOR	27.156	0.345
Non-LIBOR FSB	0.984	0.037
Others	0.112	0.001

Note: Figures may not add up to total due to rounding

Distribution of the ratios of USD LIBOR (synthetic GBP LIBOR) exposures without fallback post end-June 2023 (post-2022) by product¹

In per cent

Graph A3-1



¹ Box plot showing the distribution of the ratios of post end-June 2023 (post-2022) to total USD LIBOR (synthetic LIBOR) exposures for each jurisdiction grouping and currency. A box is drawn from the group's first quartile to the third quartile. The horizontal line in the box is the median of the group. The top of the vertical line above the box is the maximum of the group, and the bottom of the vertical line below the box is the minimum. Ratios larger than 100% have been removed. Box plot is not shown for certain items where limited data is obtained.

Source: FSB questionnaire