Pioneer of Consulting 4.0

REPORT

# APAC IBOR Transition Benchmarking Study.

July 2020

Banking & Finance.

sia-partners.com

# Content

# Editorial team.

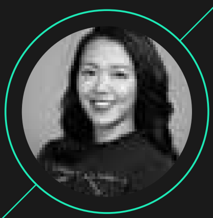
Maximilien **Bouchet**

Domitille **Mozat**

Ernest **Yuen**

Nikhilesh **Pagrut**

Joyce **Chan**



# Foreword.

Financial benchmarks play a **significant role in the global financial system.** They are referenced in a multitude of financial contracts, from derivatives and securities to consumer and business loans.

Many interest rate benchmarks such as the London Interbank Offered Rate (LIBOR) are **calculated based on submissions from a panel of banks.** However, since the global financial crisis in 2008, there was a notable **decline in the liquidity of the unsecured money markets combined with incidents of benchmark manipulation.** In July 2013, IOSCO Principles for Financial Benchmarks have been published to improve their robustness and integrity. One year later, the Financial Stability Board Official Sector Steering Group released a report titled “Reforming Major Interest Rate Benchmarks”, recommending relevant authorities and market participants to develop and adopt appropriate alternative reference rates (ARRs), including risk-free rates (RFRs).

In July 2017, the UK Financial Conduct Authority (FCA), announced that by the end of 2021 the FCA would **no longer compel panel banks to submit quotes for LIBOR.** And in March 2020, in response to the Covid-19 outbreak, the FCA stressed that the assumption of an end of the LIBOR publication after 2021 has not changed. Especially, the issuance of cash products linked to sterling LIBOR has to stop by the end of Q3 2020 and the number of contracts referencing LIBOR must be notably decreased by Q1 2021[1].

**In Asia,** most of the jurisdictions plan to adopt a **multiple-rate approach** for their respective local benchmark reforms, with enhanced benchmarks expected to remain alongside alternative RFRs (transaction-based and insulated from manipulations). However, Interbank Offered Rate (IBOR) transition is at **different stages of progress in APAC and seems particularly fragmented,** as uncertainty still exists in some jurisdictions (where the future of local benchmarks has not yet been settled)[2]. While most regulators in Asia are not willing to rule out their local benchmarks, some of these benchmarks take USD LIBOR as a direct input (e.g. in Thailand and the Philippines), implying the LIBOR transition must be managed carefully and without delay.

Since LIBOR demise is around the corner and only one year and a half is left for the transition, we believe it is time to consider how far market participants have progressed in the transition, and how much further they need to go. For that purpose, we conducted this APAC benchmark study to assess the **state of readiness for transition from LIBOR** (and other interbank offered rates) to alternative reference rates, as well as the **challenges and nuances that market participants face in the transition across Asia.**

[1] FCA Statement, 23 March 2020
[2] As referred on page 8 of this report

# Executive Summary.

The first half of 2020 has proven to be an unprecedented time with many firms operating under their business continuity plan (BCP) due to Covid-19. Despite the operational challenges, global firms with IBOR transition plan in place have continued to meet their key programme milestones. However, through ongoing discussions with APAC headquartered clients, it is clear that many of them are not prepared for the transition. This report aims to provide holistic insights into the progress of the transition in the region and explore the key challenges experienced by different financial institutions. Our survey covered 5 main areas of the benchmark reform:

- **Transition organization and governance:** how institutions are organising their IBOR transition process
- **Regulatory initiatives and litigation:** how institutions engage with the regulator and prepare for regulatory scrutiny related to the transition; what are their approaches to communicating with customers and mitigating disputes and litigation risks
- **Operations and systems:** what is the current institutions' level of operational and technology preparedness
- **Risk management and modelling:** what are the progress and challenges in updating risk management processes
- **Contract inventory and remediation:** how institutions are inventorying their legacy contracts

The findings from the survey draw out the key focus areas for firms on both the buy and sell sides as we edge closer to the transition deadlines.

## Methodology

- Discussions with financial institutions, including global and regional market players in the banking, asset management and securities services sectors.
- Interviews were structured through a standardised questionnaire, covering the 5 main areas of financial benchmark reforms.
- The findings presented in this report are based on the information provided during the interviews conducted from March to May 2020.
- The respondent panel consists of subject matter experts (SMEs) from the regulatory affairs, treasury, market and transformation functions, as well as people in charge of directing the LIBOR transition within their firms.

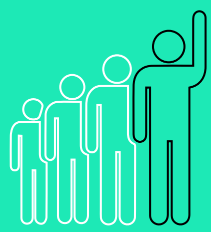
# Survey key findings.

## Transition Organisation & Governance

**82%**
have a mature Global led IBOR transition programme

**70%**
did not experience any transition delays due to Covid 19

Some regional banks and buy side firms have **not started transition planning**



## Regulatory Initiatives & Litigation

**67%**
require greater clarity from regulators especially on APAC IBORs

**82%**
have external communication plan to mitigate litigation risk

**91%**
have interactions with the regulators, though mainly with HKMA and MAS

## Operations & Systems

**55%**
completed front to back impact analysis for derivatives

All firms completed less
**than 50%**
of their transition

**17%**
completed target operating model design

**33%**
complete loans F2B impact analysis

## Risk Management

**62%**
have capability to run transition scenarios to measure risk impact

**8%**
completed risk identification and assessment

**15%**
completed factoring of liquidity ratios in their transition

**38%**
are in progress of assessing liquidity ratio impact

## Contract Inventory & Remediation

**18%**
began fallback option discussions with clients

**33%**
considered using AI & machine learning tools

**92%**
began contract review

Client engagement noted as **the biggest concern**

# Summary of APAC IBOR transitions[3].

| Jurisdiction | Currency | Key rates | Alternative reference rates | Approach | Transition necessary? |
|---|---|---|---|---|---|
| Hong Kong SAR | HKD | HIBOR | HONIA | **Multi-rate approach:** Enhanced HIBOR to continue alongside HONIA | X |
| Singapore | SGD | SIBOR | Reformed SIBOR | **Multi-rate approach:** Enhanced SIBOR to continue alongside SORA | X |
| | | SIBOR | Reformed SIBOR | | √ |
| Japan | JPY | JPY LIBOR | TONAR or TIBOR or OIS Rate | **Multi-rate approach:** JPY TIBOR is expected to continue alongside TONAR Euroyen TIBOR may be discontinued | √ |
| | | JPY TIBOR | TIBOR | | X |
| | | Euroyen TIBOR | TIBOR | | √ |
| Australia | AUD | BBSW | AONIA / RBA Cash Rate | **Multi-rate approach:** Reformed BBSW to continue alongside AONIA | X |
| New Zealand | NZD | BKBM | OCR | **Multi-rate approach:** BKBM to continue alongside OCR | X |
| Thailand | THB | THBFIX | THOR | **Short term:** multi-rate approach **Long term:** THBFIX and BIBOR might be decommissioned | √ |
| | | BIBOR | THOR | | |
| Philippines | PHP | PHIREF | Not identified yet | Not identified yet | N/A |
| | | PHP BVAL | Not identified yet | | |
| Indonesia | IDR | JIBOR | IndONIA | **Short term:** multi-rate approach **Long term:** JIBOR might be decommissioned | √ |
| Malaysia | MYR | KLIBOR | Not identified yet | Not identified yet | N/A |
| South Korea | KRW | CD Rate | Not identified yet | Not identified yet | N/A |
| | | KORIBOR | Not identified yet | | |

[3] Based on Sia Partners independent research as of June 2020

# APAC IBOR deep dives.

The maturity of the IBOR transitions in APAC differs country by country. Sia Partners has been actively monitoring the progress in the region based on close participation in industry working groups and discussions with our clients.

# Hong Kong.

| Rate | Description | Challenges | Current status |
|---|---|---|---|
| **HIBOR** | Set of reference interest rates for HKD deposits based on quotations provided by 12-20 banks and calculated by the Hong Kong Association of Banks (HKAB) | To remain compliant with international standards (IOSCO Principles for Financial Benchmarks) | Changes made to enhance the robustness of HIBOR (independent oversight through establishment of a Surveillance and Governance Committee and issue of new policies on conflicts of interest, complaints, whistleblowing and error correction)<br>Hong Kong Monetary Authority (HKMA) works with the Treasury Market Association (TMA) to ensure HIBOR compliance |
| **HONIA** | Effective overnight and risk-free reference rate of HKD unsecured lending transactions in the Hong Kong interbank market, executed through a panel of contributing brokers | Lacks sufficiently robust underlying transaction data<br>Lacks a term structure | TMA will work with the industry to promote development and trading of HONIA-based financial products<br>TMA will explore means of developing term rates for HKD, such as an Overnight Index Swap (OIS) market for HONIA-based transactions |

Both **LIBOR** and **HIBOR** are **used extensively** in the Hong Kong banking industry. As of September 2019[4], HK$4.5 trillion of authorized institutions (AIs)' assets referenced LIBOR, amongst which HK$1.5 trillion will mature after 2021, and HK$4.7 trillion are referencing HIBOR. Moreover, Hong Kong banking sector's derivatives exposures referencing LIBOR amounts to HK$34.6 trillion (of which **HK$16.1 trillion will mature after 2021**) while exposures referencing HIBOR totals HK$12.2 trillion.

The TMA has proposed to adopt the **HONIA as the ARR.** While lacking a term structure on its own, this reference rate is robust and based purely on transaction data. In December 2019[5], the TMA published the Consultation conclusions on technical refinements to HONIA (data source, reporting window and publication time) to enhance the robustness of the benchmark. While HONIA serves as an alternative to HIBOR, there is currently no plan to discontinue HIBOR. HIBOR has been in place for many years and is still widely recognised by market participants as a credible and reliable benchmark. Like a few other jurisdictions in the region, Hong Kong will adopt a multiple-rate approach. Meanwhile, TMA will continue to **strengthen HIBOR to ensure that it remains in compliance with international standards,** and reforms will be undertaken to underpin the HIBOR to transaction data to the greatest extent possible.

Regarding the transition from IBOR rates, HKMA issued several circulars in 2019[6]: the first one, in March, **urged AIs to prepare for the transition** and start identifying and evaluating key risks arising from the reform and formulating firm-wide action plans. The latest circular in October 2019 outlined **HKMA will conduct a regular survey to collect information** on AIs' exposures referencing IBORs and the progress of their preparatory work for the transition to take suitable follow-up actions (results of the first survey for Q4 2019 have been published in April 2020).

***LIBOR DISCONTINUATION***

**HIBOR:** TMA will continue to strengthen HIBOR to ensure that it remains in compliance with international standards
**HONIA:** Market participants are encouraged to incorporate HONIA into their business to reduce HIBOR exposures

**Multi-rate approach:**
HONIA and HIBOR will co-exist in the market and market participants are free to choose between them

**Before** — **2021** — **After**

[4] Results of Survey on Reform of Interest Rate Benchmarks for Q4 2019, HKMA, April 2020
[5] Consultation conclusion on technical refinements to HKD Overnight Index Average (HONIA), TMA, December 2019
[6] Circulars on interest rate benchmark reform, HKMA, March and October 2019

# Singapore.

| Rate | Description | Challenges | Current status |
|---|---|---|---|
| **SIBOR** | Daily reference rate based on the interest rates at which banks offer to lend unsecured funds to other banks in the Singapore wholesale money market (or interbank market) | Based on offered rates and not transaction data | Work is ongoing to enhance its robustness and anchor it to market transactions to the extent possible |
| **SOR** | Average interest rate on a FX Swap basis, as calculated from the actual transactions in USD/SGD FX swap with USD LIBOR as input | SOR is pegged to USD Libor | To be replaced by SORA |
| **SORA** | Average rate of unsecured overnight interbank SGD cash transactions brokered in Singapore | Overnight tenor only | Monetary Authority of Singapore (MAS) will explore the publication of SORA averages for various tenors |

There are two key SGD interest rate benchmarks that are widely referenced in financial contracts: SIBOR and SOR. Currently, SOR is used for cash market products (loans, bonds) and derivatives and SIBOR is used for cash market products (loans) but not for derivatives. **SOR** is an FX swap implied interest rate, computed from actual transactions in the USD/SGD FX swap market, and **using USD LIBOR as an input.** The mechanical dependence of SOR on USD LIBOR made it unreliable as a benchmark over the long-run and **SORA has been identified as the ARR.**

SORA is a transaction-based benchmark underpinned by a deep and liquid overnight interbank funding market. Published since 2005 by the MAS, the availability of a long historical time series for SORA allows market participants to perform technical analysis and model trends for risk management, asset-liability pricing, and trading simulations. Further SORA consultations and enhancements to the reformed SIBOR are expected in 2020. Transitional testing of a new enhanced waterfall methodology for SIBOR was conducted in the second half of 2019[7]. The Association of Banks (ABS) is expected to provide an update on the proposed enhancements to SIBOR by end of June 2020, including the targeted implementation date of the new waterfall methodology.
The industry has plans to **develop active trading of SORA derivatives from the first half of 2020.** ABS declared it will be focusing in the next few months on readying market conventions and infrastructure, building liquidity in SORA markets, engaging early adopters on pilot product structures for SORA usage in the cash markets, and helping customers' transition legacy contracts. On the other hand, **MAS will explore the publication of SORA averages for various tenors and/or a SORA index by the end of 2020.** ABS also stated that they will publish guidance on the use of compounded SORA rates in various cash market products in 3Q 2020, as well as a customer segmentation study to identify the types of products and market segments that could benefit from the use of compounded SORA rate. They also plan to provide industry guidance on appropriate fallbacks for cash market products to market participants by mid-2020, as well as **guidance on a deadline for market participants to cease originations of new SOR contracts** by the end of this year[8].
While it is unclear the exact exposure of the corporate loans held by Singapore banks that are priced using SOR (**SOR underpins the S$3.5 trillion SGD derivatives market[9]**), market observers had said that **the concern is less likely over an outsized exposure, but that of ensuring an orderly transition.**
The first DBS bond tied to SORA was issued on the 14th of May 2020[10].

[7] Press Release, ABS, 1 July 2019
[8] Steering Committee for SOR Transition to SORA, ABS, 19 March 2020
[9] The Business Times, 19 March 2020
[10] Press Release, DBS Bank, 6 May 2020

*LIBOR DISCONTINUATION*

**1H 2020**

**SIBOR:** Enhanced SIBOR used for cash market products (loans); but not for derivatives

**SOR:** SOR still used for some cash markets

**SORA:** Facilitate take-up of SORA (compounded) for derivatives. Develop term-SORA

**1H 2021**

**SIBOR:** Enhanced SIBOR's continued existence will consider bank funding structures and international developments

**SOR:** Encourage transition of legacy derivatives and cash market contracts to SORA

**SORA:** SORA (compounded) used for derivatives and some cash market products
Term SORA benchmark used for other cash market products

**After 2021**

**Multi-rate approach:**
SOR to be replaced by SORA

Enhanced SIBOR to continue alongside SORA

# Japan.

| Rate | Description | Challenges | Current status |
|---|---|---|---|
| **JPY LIBOR** | Average interbank interest rate at which banks on the London money market are prepared to lend one another unsecured funds denominated in Japanese yen | Expected to be discontinued after 2021 | To be replaced by: • TONAR (unsecured risk-free rate) • TIBOR (unsecured interbank offered rate) • OIS Rate |
| **TONAR** | Transaction-based benchmark, representing the risk-free unsecured interbank overnight interest rate | Overnight tenor only TONA futures trading is currently suspended, eliminating a possible data source for TONA term structure development | Trading of TONA Futures is expected to resume at some point in 2020 • OIS rate is an option for a forward term rate for TONA (does not include information derived from futures trades) |
| **JPY TIBOR** | Average interest rates quoted by reference banks on the unsecured Japanese interbank call market | N/A | N/A |
| **Euroyen TIBOR** | Average interest rates quoted by reference banks on the Japan offshore market | May be discontinued | Possibility to develop an "adjusted JPY TIBOR" Fallback rate should be individually determined and agreed between the parties to the contract |

In April 2014, the Japanese Bankers Association (JBA) transferred its TIBOR calculation and publication operations to a new administrator – the Japanese Bankers Association TIBOR Administration (JBATA) – to be in line with the IOSCO Principles. The JBATA calculates the JBA TIBOR by using banking quotes for five different maturities (from one week up to 12 months).

JBA TIBOR has been reformed in July 2017 to integrate and clarify the calculation and determination processes of reference banks' submission rates. More than **$35 trillion transactions are referencing either JPY LIBOR or TIBOR**[11]. JPY LIBOR transactions cover derivatives ($27.7 trillion), business loans ($1.3 trillion) and Bonds ($27.8 billion for floating rates only). Moreover, many **derivatives contracts** traded by financial institutions and institutional investors are **underpinned by the Euroyen Tibor** as the benchmark rate. In December 2016, the "Study Group on Risk-Free Reference Rates" identified **TONAR as the Japanese yen RFR.** The market volume of uncollateralised overnight call rate transactions was $0.14 trillion in July 2018[12].
In August 2018, the Bank of Japan (BoJ) set up a "Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks" to **improve the integrity and robustness of benchmarking rates** ahead of the discontinuation of the JPY LIBOR (for cash products such as loans and bonds as derivatives transactions are covered by the International Swaps and Derivatives Association (ISDA)). A public consultation was held on the appropriate choice of alternative benchmarks to JPY LIBOR. **A term reference rate,** which would be calculated based on future expectations of the Japanese risk-free rate, **received the most support as an alternative benchmark to JPY LIBOR for both loans and bonds[13].**
A "Task Force on Term Reference Rates" was formed by the BoJ in July 2019 to **establish a framework for calculation and publication of Term Reference Rates based on the risk-free rate TONA[14].** Several options have been proposed amongst which the **development of a forward term rate based on futures** (however the trading of overnight call rate futures is currently suspended on the Tokyo financial Exchange), and an **OIS rate** (not including information derived from futures trades). **Term rates** are expected to be **developed and implemented by mid-2021** and temporary use of other options will need to be explored until their development for the transition.

[11] IBOR Global Benchmark Survey, 2018
[12] Bank of Japan, October 2018
[13] Public Consultation on Japanese Yen Interest Rate Benchmarks, BoJ, July 2019
[14] Press Release, BoJ, 30 July 2019

In March 2020, the Financial Services Agency (JFSA) and the BOJ communicated a summary of the results of a survey conducted amongst Japanese financial institutions on the use of LIBOR. The summary underlined that **most of the Japanese financial institutions surveyed are in the process of preparing the business operations to the LIBOR transition or have not started yet.** The JFSA and the BoJ highlighted they will deliberate on the need to set more specific core targets and conduct on-site monitoring, considering the progress in financial institutions' preparations for LIBOR transition[15].

***LIBOR DISCONTINUATION***

**Before**

**JPY LIBOR:** Conclude new contracts referencing alternative benchmarks
Change language in existing contracts that refer to LIBOR

**TONAR:** The BOJ's Committee will support the development of Term Reference Rates by mid-2021

**JPY TIBOR & Euroyen TIBOR:** JBATA will, in cooperation with relevant authorities and organizations, undertake efforts to raise awareness of future retaining Japanese Yen TIBOR and promote the use of Japanese Yen TIBOR in new transactions
Euroyen TIBOR would not cease before 12-2021

**2021**

**After**

**Multi-rate approach:**
JPY LIBOR expected to be discontinued and replaced by TONAR (and a long-term rate to be developed)

Reformed TIBOR to continue alongside TONAR

Euroyen TIBOR may be discontinued or integrated to the JPY TIBOR to create a new benchmark (JBATA currently envisions a preparation period of approximately two years following the permanent cessation of LIBOR)

[15] Survey Results on the Use of LIBOR and Main Actions Needed, FSA and BoJ, 13 March 2020

# Australia.

| Rate | Description | Challenges | Current status |
|---|---|---|---|
| **BBSW** | Denotes the cost for highly rated banks in Australia to issue short-term bank paper for each monthly tenor between one month and six months | Some BBSW tenors are exhibiting a degree of illiquidity | The Royal Bank of Australia (RBA) has encouraged market participants to adopt robust fallbacks for BBSW (such as AONIA rate) |
| **RBA Cash Rate / AONIA** | Average interest rate on unsecured overnight loans between banks | Overnight tenor only | Use BBSW rate for longer tenors in the short term<br>RBA has expressed support for efforts to develop a Term AONIA |

The publication of AUD LIBOR has been discontinued in 2013 and replaced by the BBSW. Thus, Australian market is founded on mainly two benchmarks: BBSW and Cash Rate.

The notional value of financial contracts that reference **BBSW rate** in Australia are estimated to **A$18 trillion** (including derivatives, loans and securities). BBSW is used as a reference rate in around one-third of non-government bonds denominated in Australian dollars, in almost all asset-backed securities issued by Australian securitization trusts, and in some issuance by state and territory governments. The RBA **cash rate** is the reference rate for around **A$7 trillion in derivatives contracts.** On average, around $4.2 billion in underlying volume is transacted in the interbank overnight cash market per day[16].

In 2018, the RBA launched programs to **strengthen the financial benchmarks and ensure they were aligned with the IOSCO Principles.** To this end, new methodologies have been implemented: BBSW is now largely transaction based for the critical 3- and 6-month tenors and the cash rate is calculated directly using the actual transactions in the cash market[17].

As markets transition from referencing LIBOR to RFRs, there may be some corresponding migration away from BBSW towards the cash rate. Even though referencing a credit-based benchmark (i.e. BBSW) is relevant for many financial products (e.g. corporate loans), for some of them an RFR may be more appropriate (e.g. floating rate notes (FRN) issued by governments). The **infrastructure is in place for BBSW and the cash rate to coexist** as the key interest rate benchmarks for the Australian dollar and a functioning derivatives market that allows users to exchange cash flows linked to these benchmarks already exist. In June 2019, the South Australian Government Financing Authority (SAFA) issued the **first FRN referencing the AONIA[18]**.

In April 2020, regulators released feedback on Financial Institutions' Preparation for LIBOR Transition[19], following the 'Dear CEO' letter sent by the Australian Securities and Investments Commission (ASIC) in May 2019. Responses confirmed that the **overall impact of LIBOR in Australia is substantial** and indicated that due to **liquidity concerns in alternative reference rates,** entities are continuing to write LIBOR-linked contracts. Regulators underlined they have taken this into consideration in the review process and acknowledge these external dependencies.

***LIBOR DISCONTINUATION***

**No change identified on the local rates:** Regulators encourage market participants to adopt standards of 'best practice when transitioning away from LIBOR:
- transition program
- client outreach and communication programmes
- readiness of IT systems and infrastructure
- base and alternative scenarios planning

**Multi-rate approach:**
BBSW to continue alongside AONIA, users can choose the benchmark that is most appropriate for their circumstances

**Before** — **2021** — **After**

[4] Results of Survey on Reform of Interest Rate Benchmarks for Q4 2019, HKMA, April 2020
[5] Consultation conclusion on technical refinements to HKD Overnight Index Average (HONIA), TMA, December 2019
[6] Circulars on interest rate benchmark reform, HKMA, March and October 2019

# New Zealand.

| Rate | Description | Challenges | Current status |
|---|---|---|---|
| **BKBM** | Short-term interest rate benchmark calculated on observed transactions and reflecting the supply and demand for Bank Bills (securities representing short-term debt obligations of a bank with a maturity up to six months) | The falling volumes traded at the BKBM rate set have raised concerns that the benchmark rate may not accurately represent the underlying market and thus is becoming less reliable | Use an alternative rate (OCR) when risk-free rates are more appropriate |
| **OCR** | Interest rate set by the Reserve Bank | N/A | N/A |

New Zealand's **benchmark interest rates** (i.e. BKBM) **have always been based on actual transactions, consistent with the IOSCO principles.** However, in 2015, it has been reformed by the New Zealand Financial Markets Association (NZFMA) to further improve its reliability and robustness. Some of the main changes have been: to introduce a better governance system (including the introduction of the Benchmark Oversight Committee), to widen the Trading Window from one to two minutes, the creation of operation guidelines that include rules and penalties for participants, and the move from banks contributing rates directly to the NZFMA to the capture by brokers.
While significant improvements have been made to the BKBM rate capture process over time, some issues still warrant attention. Most notably, there is **growing concern about the declining volumes of bank bills being traded** during the rate set. Between 2011 and 2017, the total monthly volumes of bank bills traded in the daily BKBM rate set have fallen from $25 billion to $3 billion[20]. Lower volumes indicate that the market is less liquid, resulting in more volatility in BKBM rates, doing harm to the rates' representativity and credibility.
The Reserve Bank of New Zealand (RBNZ) underlined though that most market participants think the BKBM remains a good benchmark for the New Zealand environment and there is no plan to discontinue this benchmark soon[21].
However, at the beginning of the year, the RBNZ highlighted that **market participants should adopt the new fall-back provisions that will be provided by the ISDA** into their **contracts referencing BKBM rates.** Furthermore, the NZFMA has advised that it intends to operate dual interest rate benchmarks, retaining BKBM and developing RFR. The new risk-free interest-rate benchmarks will be calculated independently to the BKBM fall-back benchmark rate, with the NZFMA currently developing a term structure methodology[22].
In January 2020, the **OCR has been selected** by the NZFMA in conjunction with market participants to act as the **risk-free fall-back benchmark interest rate** for BKBM rates to comply with FSB guidelines, and has been officially supported by the RBNZ[23].

***LIBOR DISCONTINUATION***

**No change identified on the local rates:**
Regulatory authorities encourage market participants who have contracts referencing LIBOR to transition to alternative benchmark rates, and adopting more robust fallback provisions in their contracts referencing IBORs (including BKBM rates)

**Multi-rate approach:**
BKBM and OCR will continue to coexist

**Before** — **2021** — **After**

[20] Reserve Bank of New Zealand, 2018
[21] The Reserve Bank Bulletin, RBNZ, June 2017
[22] Press Release, RBNZ, 28 January 2020
[23] Press Release, RBNZ, 28 January 2020

# Thailand.

| Rate | Description | Challenges | Current status |
|---|---|---|---|
| **THBFIX** | The synthetic rate for deposits in THB, which represents the effective cost of borrowing the THB synthetically by borrowing USD for the same maturity and swap out the USD in return for THB | LIBOR USD is used for THBFIX calculation | Use of adjusted THBFIX (Using SOFR + Spread) following ISDA recommendation (compounded in arrears with a spread based on mean/median approach) as fallback |
| **THOR** | A risk-free overnight rate based on repo markets that is expected to serve as alternative reference rate for new Thai Baht | N/A (New rate published since April 1st, 2020) | New rate published since April 1st 2020 |
| **BIBOR** | The rates at which contributing banks offer to lend THB funds to prime banks, in a reasonable market size, on an unsecured basis in the Bangkok interbank market | Survey based benchmark (not IOSCO compliant) | Bank of Thailand (BOT) issued a robust code of conduct for contributing banks as a guideline for rate submission methodology and procedure |

**The end of LIBOR submission will have a direct impact on the THBFIX,** a transaction-based benchmark rate implied from the USDTHB FX swap. Impacts from the reform might be material for Thailand since **THBFIX is predominantly used as the reference rate in various products, including loans, and interest rate and currency derivatives**[24]**.**
BOT has pushed a market **consultation focusing on the Adjusted THBFIX methodology in the case of LIBOR cessation.** The favored approach is to **include an adjusted THBFIX as fallback using ISDA approach to replace LIBOR** (SOFR compounded in arrear with a spread based on median/mean approach)[25].
In the long term, t**he favored RFR would be THOR based on repo market to serve as an alternative reference rate,** that BOT started publishing in April 2020. In addition, the global transition pushed the BOT to **reform BIBOR with a new code of conduct to match as much as possible IOSCO principles**[26]**.**

***LIBOR DISCONTINUATION***

**Before**

**THBFIX:** Renegotiate contract to include THBFIX Adjusted fallback for legacy Include THBFIX Adjusted fallback for new contract

**THOR:** Encourage the issuance of THOR linked product (compounded in arrear) Start of OIS trading

**BIBOR:** Establishments of new code of conduct, governance and process controlBIBOR 9-month ceased to be published due to lack of liquidity

**2021**

**After**

**THBFIX:** Enter into new contracts referencing LIBOR Free rate (i.e. THOR) THBFIX probably going to get decommissioned after adoption of THOR OIS

**THOR:** Framework ready for transition of legacy THBFIX contracts, to reduce outstanding THBFIX contracts both in cash products and derivatives

[24] Official Website, BOT, May 2020
[25] Responses to Market Participants' Feedbacks on Adjusted THBFIX Consultation, BOT, May 2020
[26] Annual Report 2014, BOT

# Philippines.

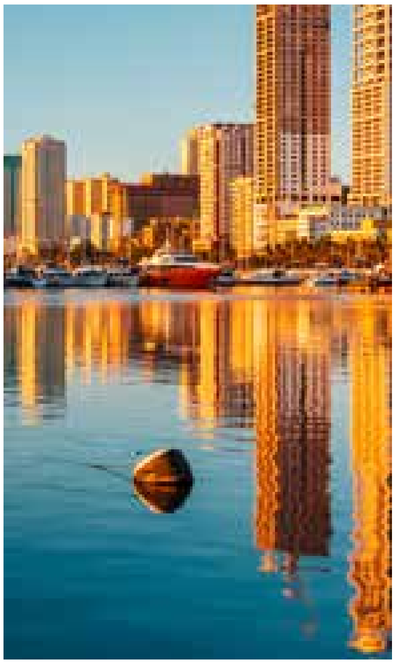
| Rate | Description | Challenges | Current status |
|---|---|---|---|
| **PHIREF** | Implied Peso interest rate derived from done deals in the interbank foreign exchange swap market. The PHIREF is used as the benchmark for the reset value for the peso floating leg of an Interest Rate Swap | LIBOR USD is used for PHIREF calculation | Not identified yet |
| **PHP BVAL** | Represents the benchmark rates for the Philippine peso in the government securities market | LIBOR USD is used for PHP BVAL calculation | Not identified yet |

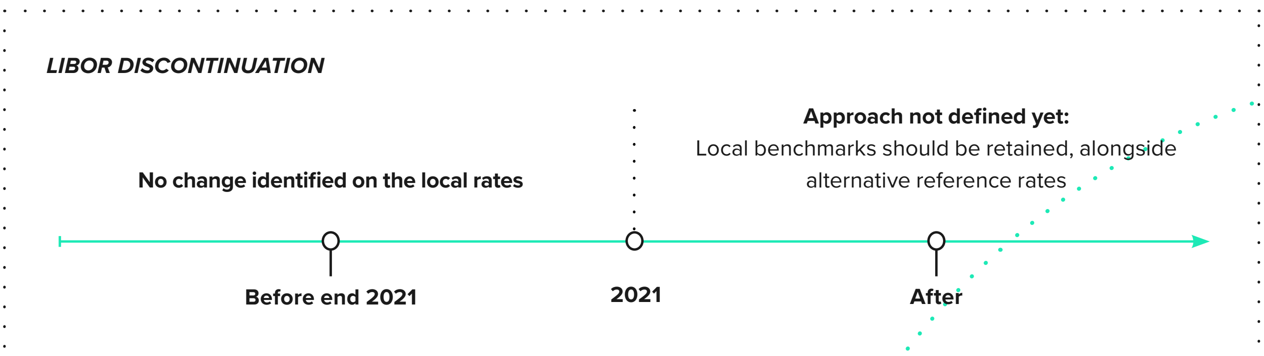
The **PHIBOR**, which represents the simple average of the interest rate offers submitted by participating banks daily, has been **ceased by the Bankers association of the Philippines (BAP) in 2013. Besides, the BAP replaced the PDST Reference Rates** and launched in 2018 the PHP BVAL Reference Rates, which represents the benchmark rates for the Philippine peso in the government securities market.

Today, **the financial benchmark reforms will affect three important rates on the Filipino markets:** the Bangko Sentral ng Pilipinas' (BSP) **PHIREF** (the interbank reference rate), **BVAL Reference Rates,** and the **US dollar/Philippine peso FX rate.**

Indeed, these rates are computed using the US dollar LIBOR, as they indicate the cost of borrowing in USD before swapping back to the Philippine Peso currency at the same tenor. So, if US LIBOR is discontinued, it needs to be replaced by an equivalent forward-looking term rate to prevent substantial alterations in the current value of contracts linked to these rates.

In November 2018, BSP issued **guidelines on marking-to-market financial instruments[27],** providing basis for establishment of reliable and market-based benchmarks and it is still planning to retain local benchmarks, even though **ARRs have not yet been identified[28].**






[27] Media Release, Bangko Sentral ng Pilipinas, 14 November 2018
[28] Study On Implications of Financial Benchmark Reforms, Executives' Meeting of East Asia Pacific Central Banks, February 2020

# Indonesia.

| Rate | Description | Challenges | Current status |
|---|---|---|---|
| **JIBOR** | Determined by Bank Indonesia (BI) based on the indicative offer rates quoted by a contributor bank to BI within the submission window time. JIBOR is the average of un-secured lending indicative interest rates, which is offered and aimed for transactions by a contributor bank to another for rupiah lending in Indonesia for multiple tenors | Lack of credibility<br>Declarative | Overnight tenor replaced with IndONIA<br>Increased credibility by:<br>- Underpinning quote rates to the greatest extent with transaction data<br>- Good governance |
| **IndONIA** | Based on the average interest rate for unsecured overnight rupiah lending reported by all banks to BI, based on market transactions | N/A<br>(New rate published since 1 August 2018) | N/A |

**IndONIA is an index of interest rate for unsecured overnight interbank rupiah lending transactions,** determined by the average interest rate for unsecured overnight rupiah lending based on market transactions and reported by all banks to Bank Indonesia.

**In 2019, IndONIA replaced the JIBOR as an overnight interest rate benchmark.** BI no longer publishes overnight JIBOR since the 2nd of January 2019 and financial contracts which used overnight JIBOR have shifted to IndONIA as reference rate for overnight tenor instead.

To **increase the credibility of JIBOR as a money market reference rate,** contributor banks have to **quote rates by underpinning it to the greatest extent possible with transaction data in order to better reflect market rates and the process of JIBOR** quotations should be conducted with good governance[29].

***LIBOR DISCONTINUATION***

**Before end 2021**

**JIBOR:** Develop liquidity in the longer tenors currently covered by JIBOR

**2021**

**After**

**JIBOR:** Disappear on the long run as IndONIA liquidity develops for longer tenors (1 week, 1 month, 3 months, 6 months and 12 months)

**IndONIA:** Develop liquidity in the longer tenors currently covered by JIBOR and aligning interbank rate with the policy rate

[29] Official Website, BI

# Malaysia.

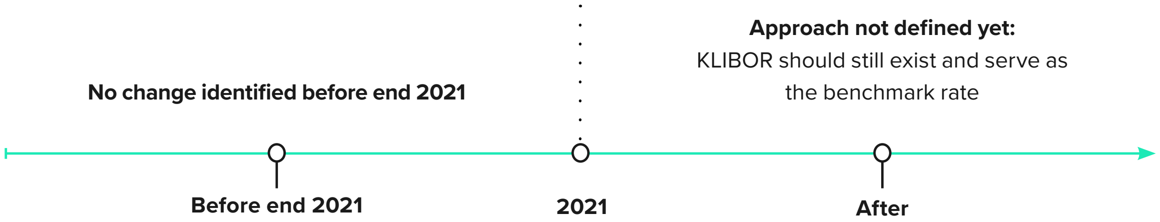
| Rate | Description | Challenges | Current status |
|---|---|---|---|
| KLIBOR | Average interest rate at which term deposits are offered between prime banks in the Malaysian wholesale money market or interbank market | Survey based and not transaction-based<br>Doubts about the reliability due to illiquidity of some of the tenors (e.g. 3-month futures contract) | Not identified yet |

The interbank offered rate, **KLIBOR, is widely used in financial contracts,** including retail and commercial loans and interbank transactions.

In 2017, the Malaysia's Central Bank **enhanced the standards of its interbank benchmark rates** to incorporate measures to further strengthen the integrity of the KLIBOR reference rate. These measures have been introduced following a review of the KLIBOR rate fixing process and covers the governance, oversight, accountability and transparency of the rates. The aim is to **align with international best practices** (IOSCO Principles), ensuring that the **rate setting process is undertaken in a reliable and accurate manner** to ensure the **integrity and credibility** of the rates being **quoted by the KLIBOR submitters[30].**

However, some **liquidity concerns remain** on the KLIBOR market, as illustrated by the phase out of the nine-month tenure in January 2018 by the Malaysia's central bank. This measure has been decided after industry's feedback on the limited market demand, relevancy and sufficiency of transactional data to support the 9-month KLIBOR rate setting process.[31]

*LIBOR DISCONTINUATION*




[30] KLIBOR Rate Setting Report, Bank Negara Malaysia, 27 December 2016
[31] Press Release, Bank Negara Malaysia, 29 December 2016

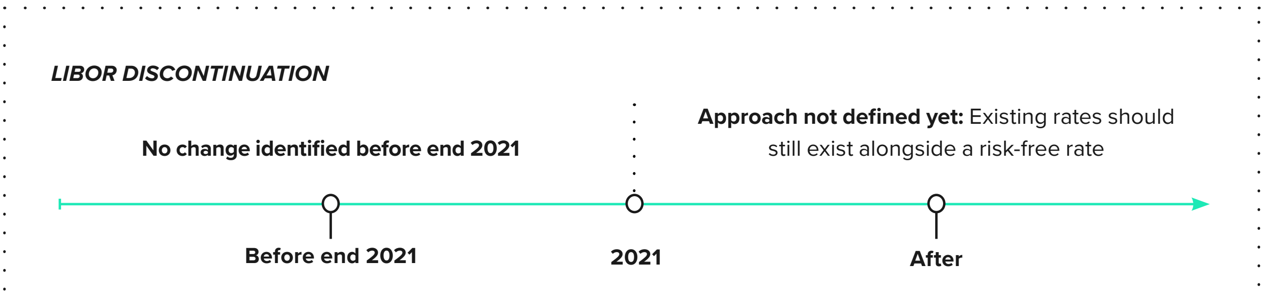
# South Korea.

| Rate | Description | Challenges | Current status |
|---|---|---|---|
| **CD rate** | 91-day Certificate of Deposit (CD) issued by triple-A rated banks. The Korea Financial Investment Association (KFIA) polls 10 local securities companies twice each day to calculate the rate | Insufficient volume of CDs (91-day) issued and in circulation. The rate has long been reliant upon expert judgement rather than actual transactions | Alternative RFR under development |
| **KORIBOR** | Average interest rate at which term unsecured deposits are offered between prime banks in the Korean wholesale money market or interbank market | Interbank offered rate, not based on actual transactions | Alternative RFR under development |

In June 2019, the Financial Services Commission (FSC) and the Bank of Korea (BOK) jointly launched a **taskforce to select an alternative to the current standard,** the KORIBOR, which is based on the declining local certificate of deposit market. The aim is **to develop a new benchmark by March 2021.** Meanwhile, the taskforce will also come up with measures **to boost the issuance of CDs and improve the current method of calculating CD rates[32].**

The taskforce is considering two options for the new risk-free rate: a benchmark based on repo transactions and an RFR based on short-term unsecured loans (call transactions). Earlier this year, dealers in South Korea have expressed their **preference for a next-day repo rate** considering declining volumes in the underlying market for the other option (as Repo volume is a lot higher than call transactions)[33]. The daily average balance of repo transactions hit KRW89.6 trillion in the first half of 2019[34], up from KRW51.9 trillion in 2016. Over the same period, we observe a **significant drop in overnight call transactions,** with daily average balances falling from KRW15.8 trillion to KRW10.6 trillion[35]. Industry groups also highlighted other advantages of a repo rate, such as a lower counterparty risk compared to a call rate, especially if only transactions backed by government bonds are considered.

As of now, **there is no immediate plans to discontinue the 91-day CD rate,** and market players say they will use the alternative RFR once it is available[36].




[32] Press Release, FSC, 17 June 2019
[33] Risk.net, 24 February 2020
[34] Korea Securities Depository
[35] Bank of Korea
[36] Risk.net, 24 February 2020

# Benchmarking study findings.

This section of the report explores the key findings of the study based on the discussions with financial institutions. It covers the 5 key areas of the transition including transition organization and governance, regulatory initiatives and litigation, operations and systems, risk management and modelling and contract inventory and remediation. The study aims to offer insights into how different firms surveyed in the region are preparing for the transitions and tackling the challenges in APAC.

To participate in the study and access the detailed survey results, please contact us

# Planning the next 12 months.

Firms in the region have taken different approaches to prepare APAC IBOR transitions with some not started their preparedness planning. Keeping the next 12 months on track will be crucial as the IBOR transition deadlines get closer and regulatory guidelines become clearer. It is vital that firms continue to stay focused in preparing for the transitions.

## Sell-side

### 1 Stay Current on Regulatory Developments

- Engage with regulators and industry groups to understand transition guidelines and best practices as requirements become clearer in the region
- Maintain an agile delivery plan to meet evolving regulatory requirements and challenges in the region

### 2 Kick-off Contract Remediation

- Establish the appropriate resource model at product level to manage contract remediation taking into account local specificities and cost vs volume
- Identify local requirements and assess feasibility of using AI/ machine learning tools to accelerate remediation process

### 3 Drive Client Communications

- Drive execution of client communication strategy and continue to monitor its effectiveness in meeting clients' needs and reducing conduct and litigation risks
- Train internal resources to understand the various transitions in the region to begin detailed client discussions
- Begin Initiation of negotiation and remediation of contracts with clients

### 4 Get Operations and Technology Ready

- Identify and mitigate key risks arising from non-preparedness of clients and non-market participants, such as clearers, custodians
- Identify key dependencies on vendors and establish an engagement strategy with vendors to close out risks and issues. Develop a potential workaround plandiscussions
- Begin Initiation of negotiation and remediation of contracts with clients

## Buy-side

### 1 Establish Formal Transition Governance

- Establish a programme governance framework to provide oversight across impacted functions and business lines
- Engage with all impacted stakeholders to align on roles and responsibilities as well as accountability
- Define clear milestones and work packages to drive deliverables

### 2 Initiate Impact Assessment

- Conduct a front to back assessment to identify business areas and support functions impacted by the transition and to quantity the magnitude of the impact
- Define target operating model and business strategy
- Develop remediation and transition plan to mitigate transition risks, such as conduct risks

### 3 Develop Communication Strategy

- Establish internal and external communications strategy, including client/ product categorisation, outreach prioritisation communication timelines
- Ensure conduct risks are thoroughly considered and mitigated
- Align communications plan with key transition activities, such as contract remediationdiscussions
- Begin Initiation of negotiation and remediation of contracts with clients

### 4 Ongoing Transition Monitoring

- Drive internal operational and technology preparedness to meet IBOR transition deadlines
- Monitor regulatory development and industry guidelines to ensure external requirements are met

# How Sia Partners can help.

"Sia Partners stands ready to assist clients with a comprehensive impact assessment including a platform review, data reference analysis, and systems traceability."

## Impact Analysis.

Cognitive and process driven solutions to review current state to determine business/functions, products, and size of assets that will be affected by the transformation to a new reference rate. Systems traceability exercise to determine scope of remediation required (i.e. Interest Rate Risk, Global Risk Management, Market Data, and other Interest Adjustments).

## Program Management Office and Support.

Program oversight of the entire project as well as additional resources to support key transition initiatives. This includes status reporting, leveraging existing project governance structure (steering committee and working groups), issue management, and escalation. Additionally, this will include participation in industry working groups so we can capture and deliver real-time information to you as it becomes available.

## Using automation techniques to accelerate your LIBOR transition.

Labor-heavy areas of the transition will need to look at innovative ways to approach their respective roadmaps. Contract remediation supported by Artificial Intelligence, Smart Workflow via Robotic Process Automation (RPA) will be paramount to effectively approach these workstreams.

## Support Operational and System Updates.

Management of required updates/ enhancements to operational and risk processes and systems in order to process transactions tied to ARRs and fallbacks. Additionally, these required updates could present extensive testing and validation efforts post update.

# What to Do to Prepare for the IBOR Transition.

## High level approach.

1 2 3 4

**Analyse:**
- Independent assessment
- Centralisation of internal documentation
- Articulation of strategic objectives

**Design:**
- Target operating model design
- Gap analysis
- Business cases

**Plan:**
- Implementation planning
- Budgeting
- Project governance structuring

**Execute:**
- Stakeholder coordination
- Cross functional delivery management
- Project tracking and reporting

## Project Support & Delivery.

- Customised approach & project governance tailored to your organisation and to the monetary indexes specific requirements (incl. impact analysis on IT tools & processes)
- Clear strategic prioritisation at the onset of the project
- Early SMEs & regulatory engagement
- Anticipation of sign-off requirements
- Cross-functional project governance

## Sia Partners to be Your Trusted Advisor.

- Experience in facilitating similar assessment projects across the financial services sector
- Combined expertise as consultants involved have specialised skillsets in Target Operating Model Definition and IBOR Transition
- High quality deliverables supported by multiple projects delivered in the relevant space

- Abou Dabi
- Amsterdam
- Baltimore
- Brussels
- Casablanca
- Charlotte
- Chicago
- Denver
- Doha
- Dubai
- Frankfurt
- Greater Bay Area
- Hamburg
- Hong Kong
- Houston
- London
- Luxembourg
- Lyon
- Milan
- Montreal
- New York
- Panama*
- Paris
- Riyad
- Rome
- Seattle
- Singapore
- Tokyo
- Toronto

*Sia Partners Panama, a Sia Partners member firm

siapartners

*Pioneer of Consulting 4.0*

# About Sia Partners.

Sia Partners is a next generation consulting firm focused on delivering superior value and tangible results to its clients as they navigate the digital revolution. With over 1,650 consultants in 17 countries, we will generate an annual turnover of USD 300 million for the current fiscal year. Our global footprint and our expertise in more than 30 sectors and services allow us to enhance our clients' businesses worldwide. We guide their projects and initiatives in strategy, business transformation, IT & digital strategy, and Data Science. As the pioneer of Consulting 4.0, we develop consulting bots and integrate AI in our solutions.

**www.sia-partners.com**