Annex 1

Results of Survey on Reform of Interest Rate Benchmarks for Q4 2019

1. Hong Kong banking sector's exposures referencing LIBOR (LIBOR exposures)

(HK$ trillion, as at end-September 2019)	Assets	Liabilities	Derivatives
Total amount of LIBOR exposures (note)	**$4.5**	**$1.6**	**$34.6**
as a % of total assets or liabilities denominated in foreign currencies	30%	11%	N/A
LIBOR exposures which will mature after end-2021	**$1.5**	**$0.5**	**$16.1**
of which without adequate fall-back			
outstanding amount	$1.4	$0.5	$14.7
as a % of total LIBOR assets, liabilities or derivatives	33%	32%	46%

Note: Includes exposures referencing LIBOR in five currencies (i.e. USD, EUR, GBP, JPY and CHF), as well as benchmarks calculated based on LIBOR, including Singapore Dollar Swap Offer Rate (SOR), Thai Baht Interest Rate Fixing (THBFIX), Mumbai Interbank Forward Offer Rate (MIFOR) and Philippine Interbank Reference Rate (PHIREF).

2. Hong Kong banking sector's exposures referencing HIBOR (HIBOR exposures)

(HK$ trillion, as at end-September 2019)	Assets	Liabilities	Derivatives
Total amount of HIBOR exposures	**$4.7**	**$0.2**	**$12.2**
as a % of total assets or liabilities denominated in HKD	49%	2%	N/A

3. AIs' preparation for transition to alternative reference rates (ARRs)

Key components in AIs' preparatory work for transition to ARRs	% AIs having the component in place
Establishment of a steering committee and/or appointment of a senior executive for overseeing the preparation for transition	63%
Development of a bank-wide transition plan	38%
Quantification and monitoring of LIBOR exposures	48%
Impact assessment across businesses and functions	42%
Identification and evaluation of risk associated with the transition	38%
Identification of affected IT systems and development of a plan to upgrade these systems	39%
Identification of affected internal models and development of a plan to modify these models	36%
Development of a plan to introduce ARR products	28%
Development of a plan to reduce LIBOR exposures	25%
Development of a plan to renegotiate LIBOR-linked contracts	24%

4. Key challenges identified by the industry in preparing for the transition

i. There was no standard and consistent fall-back languages in the industry for adoption by AIs and other market participants in their existing contracts referencing LIBOR.

ii. The liquidity for products referencing ARRs was comparatively low.

iii. There was no well-established term structure for ARRs.

iv. There was limited guidance available to assist smaller institutions in preparing for the transition.

v. AIs needed to implement significant changes to their information technology systems, internal models and processes within a short timeframe to cater for the transition to ARRs.

vi. Certain types of financial contracts referencing LIBOR were difficult, if not impossible, for AIs to renegotiate with their customers or counterparties.

vii. AIs might face conduct risk when dealing with their customers along the transition to ARRs.

viii. Awareness of the benchmark reform and the need for transition to ARRs were comparatively low among non-AI customers and counterparties.

ix. It was not clear whether and, if so, how the transition to ARRs would affect AIs in respect of taxation, accounting and regulatory framework.

x. The status of Hong Kong Interbank Offered Rate (HIBOR) vis-à-vis Hong Kong Dollar Overnight Index Average (HONIA) as the local interest rate benchmark over a longer term was uncertain.

Note: The HKMA, in consultation with the Treasury Markets Association, will consider providing more assistance to the banking industry in overcoming these challenges.

Annex 2

Latest Developments in Benchmark Reform and Transition to Alternative Reference Rates

1. Transition targets and roadmaps

i. The Working Group on Sterling Risk-Free Reference Rates in the UK (RFRWG) published in January 2020 its priorities and updated roadmap for the year. These include some specific transition targets, such as ceasing the issuance of cash products linked to GBP LIBOR by the end of September 2020 and taking steps to enable a further shift of volumes from GBP LIBOR to Sterling Overnight Index Average (SONIA) in derivatives markets.

ii. After discussing the impact of the Covid-19 outbreak with the Bank of England and RFRWG, the UK Financial Conduct Authority (FCA) issued a statement in March pointing out that the central assumption that firms cannot rely on LIBOR being published after the end of 2021 has not changed.

iii. The Alternative Reference Rates Committee in the US (ARRC) announced in April 2020 its objectives for the year to support the transition away from LIBOR and voluntary use of the Secured Overnight Financing Rate (SOFR). These objectives include, among others, introducing measures to support SOFR use and liquidity, and creating tools to aid market participants in making the necessary changes (e.g. proposals for industry timelines, checklists and market conventions).

2. Development of fall-back languages for contracts referencing LIBOR

i. The International Swaps and Derivatives Association (ISDA) announced preliminary results of its consultation on implementing pre-cessation fall-back provisions for derivatives referencing LIBOR, and will move forward to update the 2006 ISDA Definitions and publish a protocol accordingly.

ii. The ARRC released recommendations on the fall-back languages for certain USD LIBOR cash products, including residential adjustable rate mortgages, bilateral business loans, floating rate notes, securitisations and syndicated loans.

iii. Loan Market Association and Asia Pacific Loan Market Association have proposed changes to loan facility documentation to cater for the transition to ARRs.

3. Development of products referencing ARRs

i. New issuance and trading volume of products referencing ARRs, such as floating rate notes, futures and swaps, have continued to increase. For example, according to an ISDA report[1], trading volume of SOFR futures increased from US$4.3 trillion in the first quarter of 2019 to US$11.0 trillion in the fourth quarter of 2019,

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[1] Interest Rate Benchmarks Review: Full Year 2019 and the Fourth Quarter of 2019, ISDA, January 2020.

while the trading of SOFR swaps also increased from US$6 billion in 2018 to USD393 billion in 2019 in notional value.

ii. OTC Clearing Hong Kong Limited issued a circular in March 2020 to propose the transition to the use of SOFR and Euro Short-Term rate (€STR) in discounting USD and EUR interest rate swaps and non-deliverable interest rate swaps.

4. Development of term structures and calculation conventions for ARRs

i. The RFRWG issued a paper in January 2020 to discuss the potential uses of SONIA compounded in arrears and Term SONIA Reference Rate (a forward-looking term rate representing the expected average of SONIA over a given period) for various types of derivatives and cash products.

ii. The Federal Reserve Bank of New York started publishing in March 2020 a SOFR compounded index and rolling period averages to provide a simple means for users to compute SOFR-based compound interest over a given period.

iii. The Bank of England is consulting on publishing compounded indices and averages for SONIA similar to those for SOFR.

5. Guidance on preparation for transition to ARRs

i. The ARRC is developing a set of best practices for the industry to help support the transition away from LIBOR, in addition to the Practical Implementation Checklist for SOFR Adoption issued in September 2019.

ii. The Treasury Markets Association developed a dedicated web page containing a collection of useful information on benchmark reform and transition to ARRs (https://www.tma.org.hk/en_market_LIBOR.aspx).