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**Asia-Pacific financial services
regulatory outlook 2019**

Trust, Technology, and
Transformation

CENTRE *for*
**REGULATORY
STRATEGY**
ASIA PACIFIC

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Da Nang

VIETNAM

ODIA

Nha Trang

Ho Chi Minh City

Can Tho

Malay Peninsula

MALAYSIA

Kuala Lumpur

Singapore

SINGAPORE

GREATER SUNDAS

Belitung

Java Sea

Jakarta

Bandung

Surakarta

Java

CHRISTMAS ISLAND (Austl.)

INDIAN OCEAN



Global Foreword

Ten years after the financial crisis, the long shadow it has cast has started to fade. With the exception of the final stages of Basel III, most post-crisis prudential policies have now been decided, and banks in particular are now much better capitalised and more liquid than before the crisis. Amid varied approaches and timetables to national implementation of agreed prudential reforms, attention is now more acutely focused on culture and governance, the challenges of new technology, and emerging economic, market and operational risks. Firms need to be prepared to respond to this shifting focus and the new demands that it will place on them.

Lifting of accommodative monetary policy

Globally, monetary easing and low interest rates are slowly giving way to interest rate “normalisation”, albeit at levels significantly below historical norms. The US has led the way with a series of rate rises and the Federal Reserve has begun to shrink its balance sheet. The BoE has tentatively begun to raise rates, and the ECB is bringing an end to the expansion of its own balance sheet. In China and Australia, interest rates remain on hold but are expected to begin rising. Japan is the major exception to this trend, with rates expected to remain low in the near term future. Globally, given the number of headwinds in the economy (e.g. high levels of debt, political uncertainty and trade protectionism), the pace of any interest rate rises is likely to be slow.

Higher interest rates may prove beneficial in net terms to certain firms: banks may enjoy higher net interest margins and insurers could benefit from rising asset yields. However, interest rate normalisation may also lead to falls in some asset values and rising credit defaults as well as revealing structural weaknesses in both the global economy and individual firms. It is unclear what the overall effect of these opposing factors will be, especially at the level of individual firms and sectors.

An uncertain economic environment

Meanwhile, the prior period of loose monetary policy contributed to a build-up of debt, with global debt levels now at \$247trn¹, significantly higher than their pre-crisis peak. In many commentators’ eyes this represents a key systemic vulnerability². Low rates also contributed to a sustained search for yield that may have led many lenders and investors to move down the credit quality curve. Further, comparatively higher capital requirements for banks have paved the way for a rise in non-bank lending, which means that exposure to credit markets now extends to a much wider variety of firms. Both the leveraged loan and real estate markets are likely to be vulnerable to higher interest rates, whilst consumer credit expansion and the resulting high levels of personal debt may have left many consumers vulnerable to interest rate rises, especially after such a prolonged period of low interest rates.

Looking at the wider global economic picture, we see a mixed outlook. Economic growth continues to be strongest in parts of Asia, although Chinese growth has slowed, while the outlook for emerging and developing economies is uneven. Recoveries in both the UK and US are now close to a decade long, while Eurozone expansion, although weaker, is also well embedded. Historically, downturns or recessions have occurred at least once each decade, suggesting that such an event may be overdue.

Some commentators consider that the global economy has reached its “late cycle” phase, most evident in asset valuations that appear stretched on historic bases. In the EU, close to €731bn³ of non-performing loans continue to act as a major risk to some banks’ resilience and profitability, while globally, increasing trade protectionism and political uncertainty also weigh heavy on the minds of many in the industry. Brexit continues to be a major geopolitical and regulatory uncertainty, whose risks and effects both regulators and politicians will attempt to mitigate throughout 2019. Nevertheless, if there is a disorderly Brexit, leading potentially to new political strategies and approaches, the implications for how a number of our regulatory predictions unfold in UK could be profound.

Against this background, we expect regulators across sectors to remain highly vigilant to the risks of economic downturn and market shocks. They will want to use stress testing extensively to assess firm vulnerability and resilience, recognising that during a period of unprecedentedly low interest rates some business models have grown up in relatively benign conditions and have yet to be tested in a sustained downturn.

A retreat from global co-ordination

The global regulatory approach is changing. The aftermath of the financial crisis saw a globally co-ordinated response to draw up a series of new regulations which would underpin a more robust and stable financial system. However, we are now starting to see a move away from global policy making and a reduced appetite for cross-border regulatory cooperation. As a result there are increasing signs of regulatory divergence, including geographical and activity-based ring-fencing, as different regions and countries look to tailor regulations to their own needs. Global firms are therefore having not only to comply with these divergent rules in the different jurisdictions in which they operate, but also to optimise their local governance structures, operating models, legal entity structure, and booking models.

A shift to supervision

We do not expect regulators to embark on a path to wholesale unravelling or reversing the post-crisis reforms implemented since 2008. But it is clear that, absent a significant unexpected event, there is little prospect of major new regulation, especially in relation to bank and insurance capital. Regulators’ key priority is to consolidate and safeguard and in some jurisdictions refine the reforms of the past decade. What we do expect is a sharp tilt away from a period of regulatory re-design and innovation, to one of operating and embedding the reformed supervisory system.

As a result, firms in many countries are seeing rising supervisory expectations, reflecting the growth of principles-based supervisory approaches that emphasise the importance of firms’ governance, culture and management approach and the outcomes, both prudential and conduct, these are delivering. Firms’ conduct and the treatment of their customers are also receiving increased focus in numerous countries, driven by political and regulatory concern over the perceived poor conduct of firms across all financial sectors.

We also see supervisors adopting more intrusive practices, including greater use of on-site supervisory visits. This reflects global leading practice and the increasing need for supervisors to engage directly with firms in order to understand their strategies and business models, risk profiles and appetites, risk management frameworks and approaches, and to hold boards and senior management accountable for the outcomes these deliver.

New technologies

Firms, regulators, and their customers are considering the opportunities and risks associated with new technologies. For example, due to the rapid development of AI, machine learning and FinTech solutions, we are now in a world where once “new” technologies quickly become mainstream. We should not underestimate the powerful impact these technologies will have, not only on consumers,

but also on regulation and supervision too. The pace of technological change therefore demands deep thinking about the appropriate regulation of processes, products, and institutions to avoid regulatory gaps and ensure financial stability and consumer protection.

These technology developments and disruption have triggered a debate around the perimeter of FS regulation. Many incumbent firms worry that new technology-driven entrants offer services that lie outside the boundaries of existing FS regulation and which incumbent firms find more costly to deliver because of a “compliance leakage” from the regulated activities that they are undertaking. We expect that these level playing field concerns, along with worries about the role of technology in society more generally, will drive increasing interest in how FinTech firms (and cryptoassets) are regulated - or rather, at present, how they are not. However, we do not expect regulators to “come to the rescue” of incumbents, who will have to look to their own resources to rise to the challenge of competition.

Acting in the face of uncertainty

While the 2019 regulatory environment appears more settled compared to the recent past, regulators across the world continue to set high expectations intended to maintain a strong, resilient financial sector through firms having robust financial and operational resilience, supported by strong risk management and compliance

capabilities. In our view, this may provide an opportunity for leading financial firms to pivot from having to build frameworks to reflect a barrage of new regulations to optimising through taking advantage of new technologies and operating models.

The world changes and regulation changes with it

The debates around the regulatory perimeter and potential fragmentation of the financial system mean that the system’s operational resilience, as well as its susceptibility to cyber and financial crime, are becoming much greater issues for firms and regulators alike. As part of this, we also expect a sharpening supervisory focus on how boards and senior management teams control the risks posed to them by their exposure to outsourced providers and other third parties.

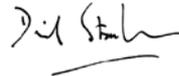
The past decade has seen profound and lasting changes in the structure of the economy, employment and society. The providers, consumers, and regulators of financial services are all changing. Ageing populations and new millennial consumers are demanding different types of financial services products distributed in different ways. This changing and challenging background makes it essential to consider the future of regulation holistically, rather than in a piecemeal manner. All sectors and stakeholders have an important role here, and we trust that this year’s outlook from our Regulatory Centres will both inform and stimulate this discussion.




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Asia-Pacific: A dynamic region

Asia-Pacific continues to be a dynamic growth region, marked by world-leading innovation in financial services, continued strong GDP growth, and rapidly increasing financial inclusion.

For 2019 we expect regulators in the region to continue their 2018 trajectory of embedding global post-crisis reforms, ensuring sound risk governance and culture, and adapting to innovative technology while managing emerging risks. Each of these areas brings its own set of policy objectives and challenges, and while in some cases the path is more certain, in other areas approaches and frameworks are still evolving.

The momentum has fallen away from global policy making for now, as evidenced by the prolonged debate concluding the revisions to Basel III. While base capital and liquidity reforms are being implemented to agreed minimums and agreed timetables, there is still a degree of uncertainty in Asia-Pacific as to how some components will be implemented, if at all. Several specific reforms with now familiar acronyms will bear close watching: Fundamental Review of the Trading book (FRTB), Interest Rate Risk in the banking book (IRBB), Recovery and Resolution Plans (RRP), Total loss-Absorbing Capacity (TLAC). All present their own set of challenges, particularly in a region such as Asia-Pacific with such a great diversity of financial markets and economies.

OTC derivatives post-crisis regulation has been led by the US and EU, and has created many implementation issues in recent years in Asia-Pacific regarding trading, reporting, and clearing. The issues surrounding interest rate benchmarks may be following a similar pattern. Benchmark replacements need to be found and the transition is a high-risk venture. We highlight this as one issue that both the industry and regulators need to keep focus on in Asia-Pacific, as decisions and trends elsewhere may drive outcomes that will impact both developed and emerging markets.

Managing risky behaviours remains high on regulators' agendas. Culture and Governance has long been a focus area in light of issues globally in recent years, but a spotlight is being shone in our region through the Australian Royal Commission and has drawn significant attention. The Australian situation will prompt other regulators to take a close look at sales practices, incentives, product design and risk management, and the roles of senior executives and Boards. Individual accountability is already a reality in some countries and is likely to figure prominently as a topic across the region in 2019. Financial crime and cyber risk are areas

where the need for a holistic approach to risk governance is being underscored. Learning the lessons of recent years has unsurprisingly brought into question the traditional three lines of defence model, and while the concept will likely remain, a greater emphasis on the first line and better integration and oversight will be a focus in the coming year. Another lesson from the crisis has been the limits of point-in-time or static regulation. Supervisors in our region are among the leading regulators in moving toward more dynamic supervision.

Emerging technology is disrupting what has been a relatively static business model. Innovation is not new to financial services. From ATMs, to online banking, to electronic exchanges financial services has seen its share of innovation, however that innovation has in general seen the same players offering the same services in a more efficient manner. Digitisation, artificial intelligence (AI), and distributed ledger technology are innovations that will fundamentally change the delivery of financial of financial services, and by

whom. Asia-Pacific is world leading in this regard, and regulators are moving to keep pace with the changes and even providing a robust environment for acceleration. As we increasingly live our lives online privacy is becoming a prominent issue. And while banks need to keep data secure we are also moving toward an open banking model. This is no small feat to manage both issues at the same time. And as we become more connected, with the industry becoming disaggregated and disrupted, cyber risk is possibly one of the biggest risks the industry and regulators are facing.

Asia-Pacific is indeed a dynamic and exciting region for financial services. With the publication of this Outlook we seek to provide our view of some of the biggest regulatory issues facing the industry in 2019. At the same time the world seeks to reform existing frameworks in the aftermath of the financial crisis, the landscape is evolving rapidly with no shortage of risks old and new to keep both regulators and industry busy.



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I. Implementing the post-crisis agenda

The financial crisis of 2008-2009 appropriately elicited a regulatory response unseen in the western world since the Great Depression of the 1930s. In Asian economies, perhaps as a result of the Asian financial crisis in the late 1990s, perhaps because of the regional economic backdrop, or perhaps it was the stance taken by industry and regulators, while the effects of the crisis while severe, they were however less dramatic. Hence, the initial round of Basel III had a much lesser effect in this region than in others. In fact, in relation to capital it was seen as a levelling of the playing field. However, as reforms in subsequent years progressed (and became more complex in their design) the appropriateness of a one-size-fits-all approach to global regulation came into question. The drawn-out process of finalising Basel III highlighted the fact that opinions were varying and consensus fraying on how deep, and how specific, was appropriate for a globally harmonised framework.

There are still undecided elements; a significant amount of local implementation work remains. While commitment to the principles of Basel and the objectives of Basel III remains, it would appear that the risk of regulatory fragmentation has increased, and that firms operating cross-border may have to increasingly choose within their own practices a highest common denominator or a fragmented approach.



1.1

Basel Implementation

In December 2017, the Basel Committee on Banking Supervision (BCBS) published the final revisions to the Basel III package of post-crisis reforms to global prudential bank standards. While this lengthy process, made more so by intense debate in the final stages, saw an end to substantive global policy making in this area, the story is still far from over. The focus now turns to national implementation of this agreed-upon package and, if the nature of the final global agreement gives any indication, we are likely to see increased risk of regulatory fragmentation.

Of course, there has never been, nor was it ever designed or desired by regulators, complete international harmonisation of Basel rules. The standards themselves are minima and regulators in Asia-Pacific and elsewhere have often implemented standards greater than those minima. Further, the Basel III package has 22 specific national discretions allowed for regulators. Therefore, as it stands, countries can already impose very different ratios on their banks and deviate from the agreed standard calculations in up to 22 ways while still be fully Basel compliant.

However, it is likely, that in 2019, as we step into national implementation of the final revisions to Basel III there is a risk of increased fragmentation particularly in Asia-Pacific.

Timing challenges

At issue will not just be the standards themselves, but the timing of their implementation, making the management of fragmentation more challenging. The revisions announced at the end of 2017 have an implementation deadline of January 2022. However, country by country, many “agreed” reforms have seen their implementation deadlines missed. To cite one example, called out by the BCBS in their recent Basel II monitoring report⁴, only 10 countries out of 27 BCBS members have Net Stable Funding Ratio (NSFR) regulations in force, despite the deadline having been January 2018. Similarly, individual countries have missed many other deadlines, with implementation

dates not only in 2018, but dating back to 2017 and 2016. This trend is expected to continue with the latest round of reforms.

Fundamental Review of the Trading Book

One specific area that will bear close monitoring in relation to implementation will be the revisions to the market risk framework, otherwise referred to as the Fundamental Review of the Trading Book (FRTB). Finalised in 2016, and originally due to be implemented by 1 January 2019, the impact of the proposed reform combined with the complexity of the framework and the system challenges in implementation had already seen significant ongoing debate and delays in finalisation at the national level. In the Asia-Pacific region Australia, Hong Kong, and Singapore⁵ announced delays in their consideration of implementing the framework during 2017, and many other countries in our region and around the world held similar concerns.

In recognition of these growing concerns, alongside the announcement of the finalisation of the Basel III package in December 2017, it was announced that the implementation deadline of the FRTB would be delayed until 1 January 2022 together with other major parts of the reform. The release noted this was to “allow banks additional time to develop the systems infrastructure needed to apply the framework and for the Committee to address certain specific issues related to the market risk framework.”⁶ Importantly, the BCBS is still addressing

issues regarding the complexity and implementation of the FRTB, and so this part of the Basel III package is far from final. The BCBS announced that they will release the revised final document for FRTB by the end of 2018. To underscore the issue the most recent monitoring report mentioned above notes that only two jurisdictions (and importantly none in Asia-Pacific) have issued draft guidelines for consultation.

With commentary from regulatory authorities in Asia-Pacific being either cautious or silent on local introduction of FRTB, the future is far from certain. The implication for banks is that outcomes are dependent on the shape of final FRTB reforms and therefore firstly continual engagement and monitoring at the Basel level is warranted, but secondly that there could be a distinct fragmentation across the region both in form and timing.

Voice of the Regulators

FRTB in Asia-Pacific

APRA, Sean Carmody Executive General Manager, Risk and Data Analytics: "As we outlined earlier in this year, we will defer our decision on the scope and timing of any domestic implementation of the Basel III market risk framework until it has been finalised at the Basel level...The framework has changed significantly since January 2016 and...this evolution would seem to vindicate our watch and wait approach. Of course, when we have a clear and final framework from the Basel Committee and we have worked through the implications for the Australian prudential framework, we will come back to industry with clear direction."⁷

MAS, Ong Cong Tee Deputy Managing Director, Monetary Authority of Singapore "Following the recent finalisation of Basel III, the next phase will be centred on a "full, timely and consistent" implementation globally. This is important to reduce risk of regulatory arbitrage. Every jurisdiction or region will of course be different in the degree of openness, internationalisation, and the maturity and sophistication of their banking systems. The Basel Committee has been mindful that its standards are calibrated as minimum requirements, and in limited situations, so some supervisory discretions have been provided including the use of Pillar 2."⁸

IRBB in Asia-Pacific

APRA, Sean Carmody Executive General Manager, Risk and Data Analytics: "APRA is updating our Pillar 1 Interest Rate Risk in the Banking Book (IRRBB) approach. IRRBB in Australia is an internal model approach that applies only to the larger banks. We have had an initial consultation and, consistent with the broader trend I have alluded to already, some of the proposed changes reflect a shift towards greater standardisation and increased restriction on the use of internal models. Larger banks should also expect to see updated reporting forms and Pillar 3 disclosures which broadly reflect the standardised shocks proposed by Basel in its April 2016 paper. We are currently working through the detail and intend to conduct a further consultation on revisions to IRRBB with an updated Prudential Standard in the first half of next year."

Hong Kong Monetary Authority (HKMA), August 2018 Circular "While we are currently still in the process of finalising the policy documents for the local implementation of the standards on interest rate risk in the banking book ... Feedback received from industry associations strongly suggested that the new local IRRBB framework may lead to disproportional costs for some Authorized Institutions [AIs] incorporated overseas, especially those with relatively simple and small-scale local operations in Hong Kong. Based on an analysis weighing costs and benefits of requiring all AIs incorporated overseas to implement the new IRRBB framework, we have decided to generally exempt AIs incorporated outside Hong Kong from the new local IRRBB framework in cases where the parent group of the AI is not additionally represented in Hong Kong through a locally incorporated AIs."

Internal Models in Asia-Pacific

Japanese Financial Services Agency(JFSA), Shunsuke Shirakawa "In terms of overall impact of the finalization of Basel III, capital requirement on Asian banks tend to be lessened because many of them use standardized approaches (or less advanced models) for risk weighted asset calculations and do not heavily rely on internal models, while actual impacts depend on how Basel III will be implemented in each jurisdiction...On the other hand, major Japanese banks will face large increases in their capital requirements. They, however, appreciate the final adjustment made by the Basel Committee concerning constraints on the IRB approaches to balance risk-sensitivity with comparability and simplicity."¹²

APRA, Sean Carmody APRA Executive General Manager, Risk and Data Analytics: "The general trend of these changes in prudential regulation has been towards greater risk sensitivity in standardised approaches, increased scepticism of internal models and greater complexity in implementation...With a July 2019 implementation date, we recognise that we are ahead of many other major jurisdictions on SA-CCR, but perhaps we are a little different in that we do not allow the Internal Model Method (IMM) in Australia."¹³

Interest Rate Risk in the Banking Book

Another area of specific interest in Asia-Pacific is the implementation of reforms to the capital treatment of Interest Rate Risk in the Banking Book (IRRBB). From the appropriate application of the standard, to the implementation challenges involved in modelling the interest rate shock scenarios given lack of suitable data and systems, there is again uncertainty as to the region-wide implementation. Referring again to the recent BCBS implementation report, for a reform due to be implemented in 2018, only 4 countries out of 27 have the new IRRBB framework in force (Indonesia and Japan in Asia-Pacific), while at the other end of the spectrum 6 of 27 countries have not even issued draft guidelines for consultation. Others are somewhere in the consultation process but it would appear in most cases not to be a high priority.

Internal Models and the Output Floor

The constraining of internal models was one of the most contentious issues in the Basel III finalisation process, and it is widely understood that final agreement of the so-called Output Floor was a key factor in the one-year delay on agreement.

According to the BCBS Monitoring Report released in October 2018, the impacts of Basel III finalization on the minimum required capital of Asia-Pacific (more exactly non-Europe and Americas banks) are relatively limited compared to those on the European banks. Given this, the Output Floor is one aspect of the Basel III package that is less likely to be prone to fragmentation across the Asia-Pacific region. The risk for banks in Asia-Pacific is more a question of maintaining a level playing field against global peers, as in other parts of the world it is more likely that implementation will be delayed or modified. Still, the jurisdictions in which

internal models are more prevalent (e.g. Japan and Australia), the approval process of the internal model by the local regulators in a limited timeline will be a challenge to timely implementation. Particularly with FRTB, the number of internal models are likely to be far larger than current regulations allow and said models are likely to be more complex.

Managing Finalisation and Fragmentation

Although the Basel standards are finalised, there is still much work ahead before the final form and timing is known at an individual country level. Aside from the issues identified above many specific aspects of the reforms will be subject to appropriateness considerations for individual financial systems, such as counterparty credit exposure, treatment of OTC margins, liquidity standards, and disclosure reporting. JFSA Vice Minister for International Affairs Ryozo Himino spoke to this issue in October of this year “Fragmentation can impair financial stability by reducing market liquidity and trapping scarce resources. It can drag efficiency and economic growth. Combatting market fragmentation should be our common goal” and called for “Smarter Globalization”.¹⁴

Continued engagement with local authorities will be important, and for firms operating cross-border consistent messaging, a compare and contrast response to consultations, and an urging for harmonisation where appropriate will be critical to reduce friction and segmentation in international operations. As reforms are finalised firms will need to consider closely the merits of adopting a highest common benchmark approach, which favours a common implementation across all group entities to simplify operations and capital management, or to follow regulators lead and adopt a more individual approach to implementation raising operational, reporting and group challenges especially for integrated cross-border business.

1.2

Interest Rate Benchmark – “Beyond IBORs”

Interbank Offered Rates (IBORs) represent a class of financial benchmarks that provide an underlying reference point for valuing millions of financial contracts including derivatives, corporate loans, deposits, and in some markets, mortgages. IBORs are derived from the term rates at which banks will lend to each other, inclusive of credit and tenor valuations.

LIBOR (London Interbank Offered Rate) is the most widely used IBOR, referenced in over USD \$300 trillion worth of contracts globally, and the key benchmark for the USD and GBP. Equivalent benchmarks exist for the EUR (EURIBOR), the AUD (Bank Bill Swap Rate - BBSW), the JPY (JPY-TIBOR), SGD (SIBOR), and HKD (HIBOR). Due to failures in the benchmark over the last decade, national regulators, multi-national authorities, and central banks have placed increasing focus on improving the quality and governance surrounding the calculation of interest rate benchmarks.

The change will directly impact both financial institutions themselves and their customers. Financial Institutions and related sectors are now required to start raising awareness and conducting impact analysis and to start drawing roadmaps for the implementation of IBORs transition. The project will be wide scale and need significant resources. There are also challenges in coping with different developments of transition in different regions.

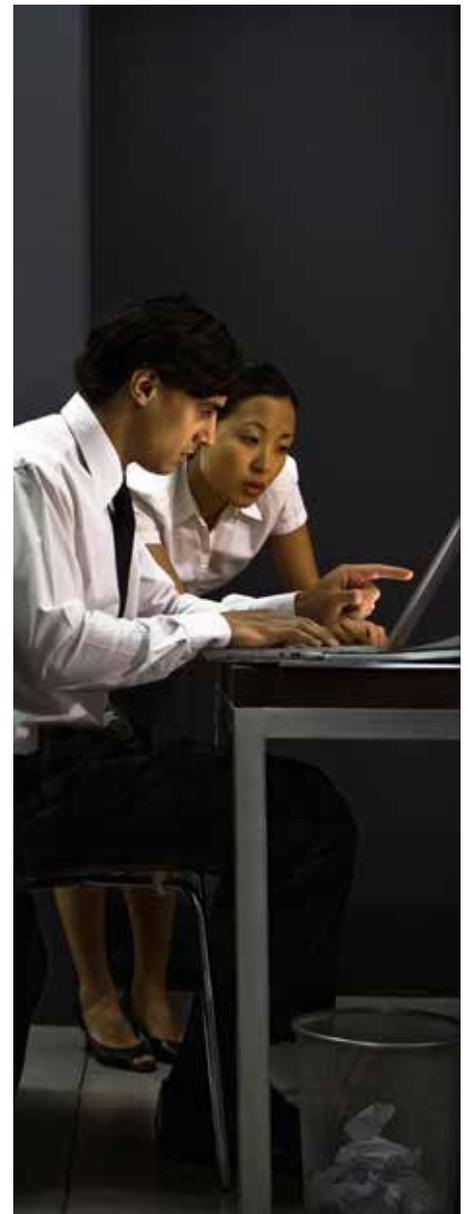
Why is it changing?

The IBOR scrutiny of the past years has seen a consistent decline in transaction volumes during observability windows requiring Panel Banks to rely increasingly on ‘expert judgement’ in their estimations, as opposed to referencing a flow of actual transactions in a sufficiently active market. In response to the LIBOR

issues and International Organization of Securities Commissions (IOSCO) principles, the Financial Stability Board (FSB) set out a reform plan on interest rate benchmarks in *Reforming Major Interest Rate Benchmarks*, in July 2014.¹⁵

The issue was brought to a head in July 2017, with the UK Financial Conduct Authority (FCA) bringing into question the future sustainability of LIBOR. Due to the magnitude of contracts referencing LIBOR, the FCA and Panel members agreed to sustain LIBOR through to the end of 2021, but not beyond. Consequently, there is a material risk that LIBOR will not be sustained beyond 2021, and other benchmarks will likely follow. The 2021 timeline is intended to provide market participants with sufficient time to transition to alternative approaches.¹⁶

To manage the systemic risk introduced by transitioning away from IBORs, financial institutions will need to make material changes to their ecosystem of operations through industry-wide coordination and adoption. While many short-term contracts will mature before 2021, a large number of longer-term transactions, typically up to ten years, will need to be assessed under the scenario that the underlying benchmark ceases to exist. For Asia-Pacific institutions, transactions undertaken in foreign currencies – USD, EUR, GBP, CHF - in addition to local market currency transactions will be affected.



How has the industry responded?

Several regulators and central banks have begun supporting risk-free rate (RFR) as a suitable alternative benchmark to IBORs (noting though that LIBOR is not risk-free):

- The Federal Reserve of New York has established the Secured Overnight Financing Rate (SOFR) as an alternative to USD LIBOR;
- The Bank of England (BoE) has supported the Sterling Overnight Index Average (SONIA);
- The Bank of Japan (BoJ) is supporting a study group focused on the Tokyo Overnight Average Rate (TONAR).

To ensure an orderly transition, regulators have been working with industry to establish a coordinated response. The two primary approaches have been to adopt alternative indices, or to strengthen existing ones.

In other markets, regulators have worked to improve existing benchmarks through enhancements to calculation methodologies:

- In **Japan**, the JPY-TIBOR will also remain the JPY benchmark. Japan advocates the JFSA's "multiple rate approach" where the RFR and IBOR are utilized when the situation merits;
- In **Singapore**, SIBOR will remain the SGD benchmark. A detailed consultation process has been undertaken across the industry to define enhancements to transaction gathering and calculation methodologies;
- In **Australia**, the BBSW has been strengthened by extending the set of actual transaction used in calculations and introducing a volume methodology of bank bill transactions;
- In **New Zealand**, the Bank Bill Benchmark Rate (BKBM) rates have always been based on actual transactions, consistent with IOSCO principles. However, a number of other improvements to the framework have been made in recent years, consistent with IOSCO and FSB principles;
- In **Hong Kong**, the HIBOR will remain the interest rate benchmark; however, reforms will be undertaken to underpin the HIBOR to transaction data to the greatest extent possible;
- In **India**, the Report of the Committee on Financial Benchmarks had recommended regulatory oversight of benchmark administrators. Accordingly, to improve the governance of the benchmark processes, it has proposed the introduction of a regulatory framework for financial benchmarks that shall apply, initially, to benchmarks issued by the Financial Benchmarks of India Ltd.;
- In **Indonesia**, JIBOR is intended to be one of the money market benchmark rates where it would be used by market players as a reference rate;
- In **Malaysia**, KLIBOR is the reference for products such as the floating leg of interest rate swaps, options, futures and structured products. The Central Bank has strengthened requirements for KLIBOR rate setting and introduced a Code of Conduct for the Malaysian Wholesale Financial Markets.

Ensuring a controlled transition

While many contracts will have fallback provisions should existing/original reference benchmarks cease to exist, they may not be sufficiently robust to cope with an industry-wide shift. The International Swaps and Derivatives Association (ISDA) is working on a consultation process for the fallback arrangements on swaps and derivatives products. The same arrangements also still need to be conducted for loans and bonds. Public-private sector consortiums such as the Alternative Reference Rates Committee (USD), the Working Group on Sterling Risk-Free Reference Rates (GBP), and the Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks (JPY) are now working on those comprehensive solutions.

A number of initiatives also need to be finalised at an industry level:

- Agree on a transition approach for contracts that reference LIBOR;
- Support the establishment of new risk-free benchmarks – SOFRA, SONIA, etc;
- Work towards a standardised approach for credit-based and/or tenor calculation methodologies

As many aspects of IBORs are hard-coded into the day-to-day management and operations of financial institutions, structured transformation programs will be necessary to ensure a controlled transition period. Key considerations of an institution's transformation program are:

- Organisation-wide **awareness** of IBOR benchmark reform from the top-down, ensuring senior management understand the time, costs and resources required to meet the new requirements;
- Stocktake and assessment of **impacted products**; Definition of **fallback approaches** in the event that historical transactions are not updated to reflect new benchmarks. Recent studies conducted by global regulators have listed concerns regarding lack of a defined fallback approach, especially for cash products. ISDA for its part has notified a fallback arrangement for derivatives contracts¹⁷. A common approach across the frameworks is incorporating a flexible contract language for cash products.

- Understanding of the **implications to**:
 - **Internal controls** – the transition will stress existing processes and introduce new features;
 - **Risk management** – the IBORs have been a central reference point for managing interest rate risk. These will need to be updated to reflect the new model, particularly if there are different measures for risk-free and credit valuations;
 - **Liquidity** - as funding available is likely to become more aligned to new tenor and credit benchmarks;
 - **Profit & loss (P&L)** - potential day one P&L on the transition to the new benchmark and the on-going valuation of transactions.
- Revised **Hedging** practices to align risk to the new benchmarks;
- Analysis of the impact to **IT systems** and **reporting**;
- Participation in **industry and regulatory forums** to shape the response to the change and represent the organisation's interests, including the approach to risk-free, credit spread and tenor methodologies
- Determine the **(re)documentation** requirements of individual transactions, counterparty agreements and internal agreements, such as transfer pricing.

Importantly, these changes will affect customers. It will be imperative that key stakeholders are educated through the transition, understand the impact to them and are able to participate in the transition where necessary.

The transition project by the industry and by each firm will be a significant size and require significant resources. This involves a number of sectors in the market, namely, banks, security brokers (sell-side), insurance firms, asset managements, (buy sides), and corporate firms. In each firms, the transition affects the areas such as the front office, Risk Management, Accounting and finance, IT, Sales and marketing, Payments, Legal. Each financial institution need to start assigning relevant people involved in the project and start drawing roadmaps to the implementation, starting with impact analysis.

There are still challenges to the project as there remains uncertainty as to the specific development of the industry-level roadmap. Term structure of the RFR, fall-back in loans and bonds, actual penetration of new trades in RFR based products, are examples. Market participants are required to address the IBOR transition heading for the “moving target” as the other market practice related reform goes.

II. Managing Risks and Behaviours

While there are still many technical aspects of pre-crisis reforms that will continue to be implemented in 2019, we expect that managing risks and behaviours will be a key area of regulatory focus for 2019. Regulators are moving past dealing with misconduct via after the fact punishment, and are instead interested in more proactive forms of managing behaviour. At the heart is a focus on consumer protection from product design, to sales, to customer maintenance, and data security. Firms will be asked to show the impact of tools meant to promote ethical conduct like accountability regimes or remuneration policies. Advances in technology have made financial crime more complex and regulators are putting significant resources into creating a regulatory environment that promotes technological advancement but still protects customers. They are also questioning traditional methods of risk management and regulators are starting to shift away from point in time supervision towards a dynamic model that allows them a more holistic picture of a firm's activities



2.1

Conduct and Governance

There have been numerous stock takes in 2018 that look back on the ten years since the financial crisis. Statements by regulators on conduct and culture have also felt appropriately reflective this year. In 2018 conduct, culture and governance are more than buzzwords – they have become embedded in the consciousness of the industry. It is imperative that firms fully grasp how hardened regulators have become against misconduct. We have seen regulators regularly speak out about the limits of a system of cyclical infraction and subsequent punishment. In response, authorities around the globe have set stringent expectations for professionalism and conduct; they expect the full and enthusiastic cooperation of financial institutions in what they have framed as a joint project to create a fair and secure global financial system.

One chapter draws to a close

This year has seen the fulfilment of many long-term research and regulatory projects, much of which stems from the 2015 FSB *Workplan on Measures to Reduce Misconduct Risk*.¹⁸ The plan included four main action areas:

- 1 Revising standards of codes and behaviours such as the FX Global Code and benchmarking;
- 2 Guidance on compensation practises to address conflicts of interest in remuneration approaches;
- 3 Measures related to wholesale market conduct, based on national approaches;
- 4 A toolkit for firms and supervisors to strengthen governance frameworks.

With the publication of Strengthening Governance Frameworks to *Mitigate Misconduct Risk: A Toolkit for Firms and Supervisors*¹⁹ in April 2018, the FSB has largely completed its 2015 workplan. This project has helped to answer the question of what drives good culture in financial firms.

Regulators are honing in on the concept of “what is expected” and have a clearer, better informed vision of what this looks like. In a neat summation of this approach the FCA in the UK acknowledged the need for the FCA to refrain from mandating a one size fits all approach while still setting “minimum standards of behaviour.”²⁰

Many regulators in Asia-Pacific have already implemented local versions of the above, and have expressed a determination to act to improve risk culture and governance. In a September 2018 speech, Wayne Byres, Chairman of APRA acknowledged an undertaking similar to the FSB’s: “the early goal in our risk culture work (in 2015)...was to raise awareness of the issue and make sure it was on everyone’s radar screen. On that score, we can largely say mission accomplished.”²¹ He further explained that successfully facing the challenge of conduct and culture “will require skills, expertise and insights that may not be in the domain of a traditional risk manager”, signalling the way for a change in the role of the risk management function.

Insights from these regulator driven programmes have informed the development of a set of expectations and tools to address skills and knowledge gaps in the industry. Said tools include individual accountability regimes, guidelines for remuneration, clearly articulated regulatory focus on conduct, or moves towards a dynamic supervision model

We expect over the course of 2019 regulators will further assess these interlocking initiatives, looking to see firms actively embrace governance models that encourage ethical behaviour. Firms must be prepared to speak not only to what culture and governance looks like in their organisations, and how it is promoted, but also to actively identify deficiencies and evidence that they are being addressed in a systematic manner.

Australian – Royal Commission into Misconduct in the Banking,

Superannuation and Financial Services Industry.

The Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry (the Royal Commission) is testament to the increased scrutiny of authorities and customers on governance and conduct failures in the financial services industry. The impact on the industry has been massive with billions of dollars wiped off market capitalisation, and significant restructuring and remediation programs in-flight across the industry. With the Royal Commission still ongoing and recommendations to be released in February 2019 with the Final Report, the biggest impacts may still be yet to come.

What is a Royal Commission?

A Royal Commission goes significantly beyond typical courtroom hearings and parliamentary committees. In Australia, the Government has the power to establish commissions of inquiry to deal with complex and controversial issues such as corruption or the abuse of minority groups. Royal Commissions maintain significant powers, including the ability to compel witnesses and demand documents, and is open to the discretion of the Commissioner to define the direction. Royal Commissions are provided with significant resources and run until the terms of reference have been met, which can take several years and examine hundreds of lines of investigation.

The Royal Commission in question has had two interesting characteristics: the terms of reference is intentionally broad, covering wherever financial services companies “have failed to meet community expectations”; and an uncommonly short timeline was defined to ensure immediate action, though there has been speculation of an extension.

Why was a Royal Commission needed?

The financial services sector and particularly the “big 4” local banks have endured multiple allegations and scandals of misconduct in recent years from charging fees for no service and unethical methods in avoiding insurance payouts, to breaches of Anti-Money Laundering (AML) regulations and rigging inter-bank interest rates. While many of these issues were already playing out with regulators and in court, there was a growing perception of systemic misconduct. The banks and incumbent government had initially challenged the need for a Royal Commission, but continual political uncertainty ultimately culminated in a letter from the banks to the federal government Finance Minister requesting the commission to recover confidence in the financial services system.

What has been the impact to date?

Hearings have been a combination of public questioning of financial industry executives in regards to the Royal Commission’s analysis of documentation, with public “case studies” which have brought those affected by misconduct to the limelight. During hearings we every day see new revelations and headlines, welcomed by consumers, regulators and government alike. Findings have included headline-grabbing issues such as bribery, lying to regulators, fees for no service and even charging fees to the deceased.

“In light of the latest wave of speculation about a parliamentary commission of inquiry into the banking and finance sector, we believe it is now imperative for the Australian Government to act decisively to deliver certainty to Australia's financial services sector, our customers and the community. However, it is now in the national interest for the political uncertainty to end. It is hurting confidence in our financial services system, including in offshore markets, and has diminished trust and respect for our sector and people. It also risks undermining the critical perception that our banks are unquestionably strong.”²²

**Letter to Treasurer Scott Morrison
30 November 2017**

Pre-empting the recommendations in the final report, many financial institutions have established large remediation programs designed to compensate customers and begun implementing structures to remove inherent conflicts of interest and prevent the reoccurrence of these issues. The impact to the financial services industry has been large, with key effects including:

- Significant structural changes within the institutions; including the sale of assets and business lines e.g. the sale of insurance and wealth arms by banks;
- Removal of C-Suite executives and Board Directors;
- Expected multi-hundred million dollar payments in remediation and settlements;
- Continued pressure for more radical change, and a continued downward pressure on sector share prices

Current state

The Royal Commission handed down its near 1,000 page interim report at the end of September highlighting the numerous examples of misconduct. The central message from the report was that - **“...the pursuit of short term profit at the expense of basic standard of honesty” and “when misconduct was revealed, it either went unpunished or the consequences did not meet the seriousness of what had been done.”**²³

The Chair of the Australian Bankers Association, Anna Bligh responded **[the Banks] “failed customers, failed to obey the law and failed to meet community standards”**²⁴

The interim report, surprising to some, does not call for sweeping changes to laws or regulations, but rather asks many questions of the industry, regulators and government. It acknowledges **“...the law already requires entities to do all the things necessary to ensure that the services they are licensed to provide are provided efficiently, honestly and fairly.”** Going further, suggesting that new laws would add complexity to an already complex regulatory regime, it asks **“should the law be simplified” to reflect the basic standards of fairness and honesty.**²⁵

A final round of hearings was held in November 2018 and the final report is due February 2019.

Conclusion and next steps

The Royal Commission has highlighted instances where banks have failed their customers, failed to obey the law and failed to meet community standards. The assessment has gone beyond prescriptive rules and regulations, but rather to outline how banks have failed to meet community expectations. It seeks a back-to-basics approach by reminding the sector they are required to provide services that are efficient, honest and fair.

Financial institutions will continue to react ahead of the final report with the continuation of transformation and remediation programs. The response of government and regulators will be particularly interesting. Will they react with new and enhanced rules, more aggressive enforcement processes or a simplified approach that is focused on meeting community expectations and the provision of efficient, honest and fair financial services? Further, how will supervision change to ensure that we do not have a repeat situation?

Ramping up the focus on conduct

We can already see many regulators in Asia-Pacific taking steps to put conduct and culture at the top of their agenda. Most have clearly articulated their focus on conduct in yearly plans, culture reviews, or as a regular refrain in speeches and announcements, with some going as far as to reorganise themselves to better handle conduct issues.

In the wake of several serious misconduct issues in **Japan**, the JFSA has made conduct a central part of their regulatory strategy, expressing the need for Japanese financial institutions to get their house in order.

In October 2018 they published a final paper²⁶ that explained their new dynamic approach to compliance risk management and how they will bring Japan's approach to risk-based approaches. This is the first time the JFSA used "compliance risk" (effectively the same notion as "conduct risk" by their definition) in its regulation and supervisory documents. While the paper is a non-binding discussion paper it will certainly form the basis of their supervisory approach in the future. Ryozo Himino, Vice Minister for International Affairs at the JFSA, acknowledged that the JFSA's old approach to supervision was insufficient in addressing misconduct and that future "emphasis will be on the overall effectiveness of firms' compliance system and governance" with focus on addressing "root causes, not just specific incidents."²⁷

South Korea, out of concern for bad lending practises and the accumulation of personal debt, re-organised to create the Financial Consumer Bureau in July 2018. The new department gathered together disparate responsibilities to better address customer protections.²⁸

In **China**, regulators are asking financial services firms to take a stake in supporting growth of the real economy by extending better support to small and micro-firms. While this is not a direct admonishment of misconduct in Chinese financial firms, re-organizing to facilitate this directive reorients their credit scoring system and demands robust internal controls. Chinese authorities are therefore placing greater societal expectations on banks in order to better support economic growth.

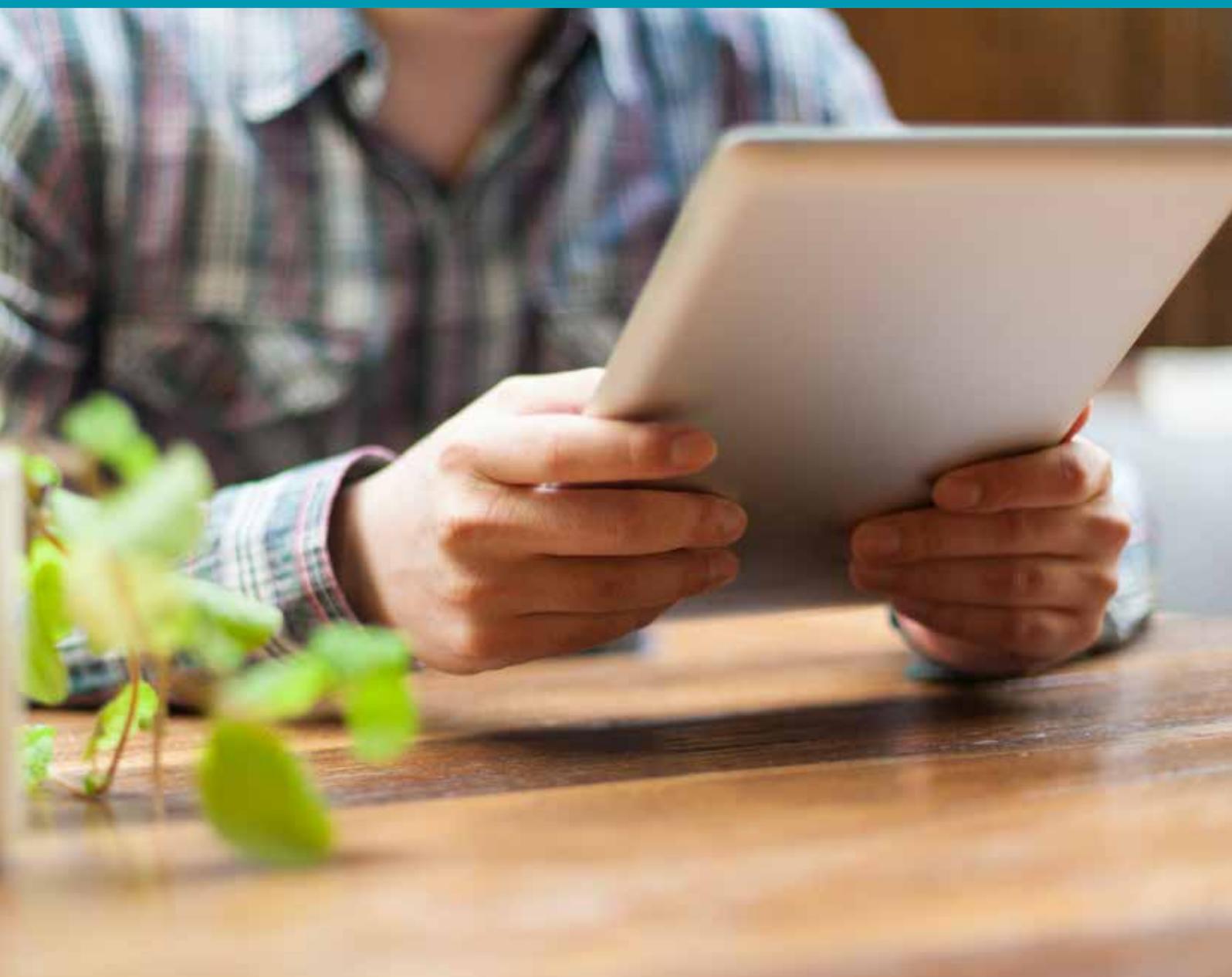
Both the HKMA and the Securities and Futures Commission (SFC) in **Hong Kong** are placing increasing attention on senior management being responsible for conduct failures. No longer just "tone from the top", regulators are placing importance on the "tone from the middle" to ensure consistent messages are driven from both senior and middle management. In addition, firms are expected to consider how conduct risk affects their business and identify steps to mitigate those risks. Regulators are keen to see how a firm's business strategy impacts the conduct risks it faces and how existing controls and monitoring process are being adjusted accordingly to address it.

New Zealand has been closely monitoring the ongoing the Australian Royal Commission into Financial Services, keen to quash any similar problems at home. In order to assess conduct and culture, the Financial Markets Authority (FMA) and the Reserve Bank of New Zealand (RNBZ) jointly initiated a Financial Services Conduct and Culture Review at New Zealand's 11 largest retail banks. While they state they have not found the same systemic issues uncovered in Australia that "a high bar will be set in meeting our expectations and demonstrating a sufficient level of assurance in regard to good conduct and culture."²⁹ As they have identified weaknesses in the governance and management of conduct risks they have made a number of recommendations to improve oversight, controls and processes. In order to see the progress made by each bank, the banks needed to develop a plan to address their individual feedback and report their progress to the FMA and RNBZ by the end of March 2019.



What is going to be assessed?

In 2019 we expect that regulators will want to see the impacts of the new tools they have begun to implement within the industry, and greater expectations will be placed on industry participants to demonstrate that governance and culture reforms are being made, embedded, and monitored.



Individual Accountability Regimes

Individual accountability regimes have been implemented in various forms over the past few years. Within the Asia-Pacific region, Australia and Hong Kong have already fully implemented programs through their Banking Executive Accountability Regime (BEAR) and Managers in Charge Regime respectively. Further, Malaysia maintains plans for their own “Responsibility Mapping” system and Singapore has voiced efforts to strengthen individual accountability for senior managers as “a key part of MAS’ broader efforts to foster a culture of ethical behaviour and responsible risk-taking in the financial industry.”³¹

Where implementation of these regimes is complete, regulators are looking towards assessing the effectiveness of these programs. Wayne Byres, Chairman of APRA, noted that while it was a success to have BEAR in place for the major banks by 1 July 2018, that the true test would be in how “accountable persons understand and oversee their areas of accountability in practice...having the paperwork in good shape is not enough.”³²

In this vein, firms need to ensure the efficacy of these programs by assessing the success of implementation and addressing any potential shortfalls that may have occurred. As well, firms need to be aware of the regulatory expectation of proof of action. Key questions to consider include:

- Have the right people been spoken to and brought on board the project?
- Is there actual pick-up among those at all levels who are key to its success?
- Can your organization show documentation that the regime is working?
- Can you measure improvements in the behaviour of staff and management?
- What incidents have been mitigated or even prevented altogether because of this regime?

Remuneration

Incentive structures have a strong link to behaviour, and therefore the messages that they send and the activity they encourage are now widely recognised as a potential driver of unethical conduct. As Ms. Merlyn Ee, Executive Director at MAS pointed out recently, “Remuneration policies must not just motivate high performance based on sales and profits. Financial Advisory firms should implement remuneration structures that align the interests of representatives with that of their customers. Poor remuneration practices create a breeding ground for aggressive sales and unethical conduct.”³³

Firms need to pay especially close attention in a regulatory environment that is concerning itself with personal accountability. This may be an opportunity to review compensation schemes to judge their fit for their operating jurisdictions. Firms can also leverage new technology to collect data to track impact of current schemes or any future changes. Finally, it is an opportune time to work collaboratively with regulators, other firms or industry organisations towards best practises for impact measurement and data governance.



New Technologies and Business Models

Embedding good governance and conduct outcomes must equally apply to legacy and innovative products, services and business models. This is particularly true as the current phase of technological change is rapidly and dramatically altering the ways in which businesses and customers interact, while new products and entrants fundamentally transform the marketplace.

Asia-Pacific is a region that is embracing technological change and regulators in the region are keen to create an environment that promotes economic development based on new technologies. There is significant incentive for firms to stay ahead of the competition and feel pressure to commit to still nascent and unproven technologies.

While regulators in Asia are indeed encouraging innovation they nonetheless expect that the same attention to conduct, governance, and prudential risk management will apply. Carmen Chu, Executive Director of Enforcement and AML at HKMA made clear that “in the case of virtual banks, we should recognise that a virtual bank is, first and foremost, just a bank. So requirements around capital adequacy and managing key risks including, of course, AML/CFT (Combating the Financing of Terrorism) controls, all apply just as they do for bricks-and-mortar banks.”³⁴

Privacy, cyber-security, and data governance are core aspects of ensuring the safety and proper use of customer data. New technologies also mean new AML and financial crime considerations. Arthur Yuen, Deputy Chief Executive at the HKMA, shared his excitement about the possibilities that technology opens up but cautioned that banks are still the “frontline” in ensuring that criminals do not take advantage of new technologies “let me be clear that this is not technology at any coast. We must fully understand the pros and cons of what these changes will mean to banks’ AML systems and controls.”

Given the recent regulatory developments and increasing importance of handling misconduct risks in the financial industry, firms will need to consider the following when addressing misconduct:

- Clearly articulate conduct risk in a Risk Appetite Framework;
- Enhance conduct risk management initiatives by the Board and Senior Management in relation to business strategy, governance, and risk culture;
- Review firms’ definition of risk culture, embed it into daily operations, and periodically assess the effectiveness of the diffusion of risk culture;
- Review and enhance remuneration frameworks to mitigate conduct risks and promote good conduct in a way that is aligned with the firm’s risk culture and appetite;
- Develop a database on misconduct cases from within and without the firm as well as regulatory developments to help track the future trajectory of the issue;
- Utilise RegTech where appropriate to analyse and monitor the front office/firm-wide behaviour as a way to assess the penetration of risk culture within an organisation.

In 2019 and onwards, firms must be ready to engage proactively and constructively with regulators in this project to create industry-wide high standards for behaviour. Financial institutions need to be certain that they have frameworks in place to meet the community and regulators’ expectations, the skills and knowledge to provide measurable impact of their efforts, and a forward-looking perspective that makes sure that when they embrace new technologies they are also bringing along their commitment to ensuring good conduct and protection of the end-customer.

2.2

Financial crime

Financial crime risk has evolved to encompass a broad spectrum of issues, from AML/CTF, Sanctions, and Anti-Bribery and Corruption (ABC) and beyond to cybercrime, privacy breaches, market misconduct, fraud, and tax evasion. As the realm and definition of financial crime has expanded, organisations are required to think more broadly, and consider how to break down the organisational siloes across the different financial crime disciplines.

Furthermore, as criminal enterprises increase in sophistication, a more dynamic approach to managing financial crime is becoming necessary to ensure the industry keeps pace and can meet increasingly demanding expectations and regulatory requirements. We have seen

this move towards proactive management manifest through greater public-private collaboration, changing operating models and greater use of technology. This last theme however, is a double-edged sword, enabling industry participants and threat actors alike.



"Just as individuals, all of us have a collective responsibility to contribute to nation building, it is the responsibility of each player in the financial system, law enforcement agencies, prosecution agencies and the judiciary to look out for potential abuses, stamp out financial crimes and not let the perpetrators get away."

Datuk Nor Shamsiah Mohd Yunus
Bank Negara Malaysia Governor

"The modern paradigm is that the AML/CFT regime must be more than trust – it must be a partnership, a unique alliance between government and industry"

Nicole Rose,
Australian Transaction Reports and Analysis Centre (AUSTRAC),

Regulatory trends across Asia-Pacific

In recent years, there has been a strong regulatory focus on financial crime, and that is only set to continue through 2019 and beyond. Communications from Asia-Pacific regulators have focused on three major forward-looking paradigms:

- **Greater collaboration** through public-private partnerships between regulators, the financial industry and law enforcement agencies, to enhance the quality, precision and timeliness of intelligence, and to leverage domestic and international networks;
- Renewed focus on taking a **risk-based approach in combating financial crime** by identifying the right areas to place focus and build best-practice and regulation;
- **The role of emerging technologies** (FinTech and RegTech) such as machine learning, Robotic Process Automation (RPA) and AI which is shaping enhancements to identification, mitigation and prevention processes, but also simultaneously giving enhanced capabilities to threat actors and possibly introducing new, financial crime risks into the environment.

Greater Collaboration

A number of Asia-Pacific regulators have expressed the importance of partnerships between regulators, industry, law enforcement and industry associations in combating financial crime. In a recent speech, MAS Assistant Managing Director Ho Hern Shin assessed the progress of the AML/CFT Industry Partnership (ACIP), which has been running for the past year. She praised the Best Practice papers on the abuse of legal person and trade-based money laundering released by the group and urged "all financial sector professionals, beyond those in the AML/

CFT compliance function, to take reference from it, learn from the typologies and tips shared in this rich resource"³⁶ as MAS looks to increase use of this collaborative platform in the coming year.

Bank Negara Malaysia Governor Datuk Nor Shamsiah Mohd Yunus echoed the above sentiment stating that "Just as individuals, all of us have a collective responsibility to contribute to nation building, it is the responsibility of each player in the financial system, law enforcement agencies, prosecution agencies and the judiciary to look out for potential abuses, stamp out financial crimes and not let the perpetrators get away."³⁷ She praised the early results of collaboration between the Royal Malaysian Police force, financial institutions, and money services business that have led to nine successful prosecutions of terrorism or terrorist financing. She reinforced the central bank's commitment to creating an intelligence sharing ecosystem where "various pieces of the jigsaw puzzle can be put together."³⁸

Australia's Nicole Rose, CEO of Australian Transaction Reports and Analysis Centre (AUSTRAC), has also spoken on the importance of this topic arguing that "the modern paradigm is that the AML/CTF regime must be more than trust – it must be a partnership, a unique alliance between government and industry."³⁹ Pointing out that in order to keep up with a rapidly changing financial crime landscape, industry and regulators would need to clear current hurdles to form a true partnership in prevention that harnessed the talents of the entire financial services industry to "become a coalition of more than 450,000 people all with a shared vision to protect our community."⁴⁰

Technology

In the eyes of the region's regulators, technology is both a boon and burden when it comes to preventing financial crime. Supervisors in Asia-Pacific emphasise that both the risks and rewards of any new technology must be assessed and properly understood when it is introduced.

The HKMA has highlighted the use of technology, citing its support of innovative means by which artificial intelligence can bring new capabilities to financial crime risk management. However, they have also stated the need to ensure that any new technology is appropriately risk assessed and tested so that risks are identified, managed, and mitigated.

⁴⁵

MAS has credited the role that technology and analytics have played in improving identification of suspicious activity and is in general very supportive of financial institutions adopting new technologies. To this end, MAS and the Suspicious Transaction Reporting Office implemented a new Suspicious Transaction Reporting form in August 2018 to improve the quality and quantity of said data. They have also praised the ACIP for its work to give guidance on best practise for "black-box" algorithms and have encouraged the use of their regulatory sandbox to "understand...and manage the associated risks" of new technologies.⁴⁶

The JFSA has taken a similar stance in the abovementioned "Guidelines on AML/CTF." Firms that implement new technologies like AI, blockchain, or RPA to improve AML/CFT controls are "expected to examine the benefits of new technologies and proactively explore the possibility for leveraging them for sophistication and streamlining of AML/CFT controls, taking into account the practices of other financial institutions and issues surrounding the introduction of new technologies."⁴⁷

Amongst emerging technologies, the role of cryptocurrencies in the financial system continues to be problematic for regulators, particularly due to its susceptibility to fraud and AML/CTF issues. Uniquely, crypto-assets are seen to be borderless and inherently lacking in accountability, calling into question the efficacy of jurisdictional regulation in ensuring consumer outcomes. Eyes are set on a prospective release by FATF intended to clarify the application of FATF AML/CTF standards to crypto-assets, announced at the G20 Finance Ministers and Central Bank Governors meeting in July 2018,⁴⁸ and set for release in October 2018.

"Banks and financial institutions are not law enforcement, but they are nevertheless playing a frontline role in anti-money laundering regime since their data, technology and know-how has the opportunity like never before to detect and disrupt criminal activity."⁴⁴

Craman Chu,
Excutive Director, Enforcement and AML, HKMA

What does that mean for firms?

Effective management of financial crime risks are increasingly demanding flexibility, responsiveness and agility, and in light of the extent of public-private collaboration, industry action should continue to develop synchronously to industry trends and

environmental changes. As such, an evolving financial crime function should ensure collaboration across internal and external stakeholders, identify, target and prioritise areas of risk, and leverage technology where possible.



An ecosystem view

- Assess possible efficiencies and synergies between your existing financial crime functions across people, processes and technology through functional integration or smaller-scale cross-functional threat mitigation teams. Increasingly, regulators are expecting a higher sophistication in how firms approach the development and use of intelligence across the organisation;
- Understand your key third-parties across the value chain and the relevant financial crime risks and associated compliance obligations that they present;
- Collaborate across the ecosystem, working with financial institution peers, regulators and authorities in order to take consolidated action against financial crime networks. Use real-life examples to energise and engage your teams.



Take a targeted approach

- Ensure robust processes to identify changes in regulatory and legal obligations;
- Assess and periodically refresh your vulnerability to financial crime risk across the enterprise and understand the linkages within the whole of your financial crime infrastructure, including policies, processes, controls and technology;
- Review your Target Operating Model, and your AML/CTF, ABC and other financial crime frameworks to ensure alignment not just to your internal risk appetite, but developments in the legal, regulatory, threat and competitive environment;
- Design and embed a robust assurance program across the three lines of defence and ensure the right metrics are captured to monitor the effectiveness of your financial crime compliance program.



Data as the fuel for technology

- Map existing internal datasets and identify external data which can be shared and correlated for use in identifying, predicting and preventing financial crime;
- Consider the use of emerging technologies such as RPA to enhance and bring consistency to manual processes, and AI and Machine Learning to enhance your capacity to identify financial crime typologies in your ecosystem, and support greater triage of your focus toward areas of high risk;
- Provide a more integrated approach to suspicious transactions and customer screening outcomes, to provide feedback and insight into Line 1, and develop a culture of prevention, not just detection.

As interconnectivity in the global economy continues to increase the landscape of financial crime has become consistently more complex. To meet these challenges, all responsible institutions both public and private must play their part in maintaining a transparent and coordinated response to financial crime. Bringing the fight against financial crime to the front line through flexible operating models and supporting technology is crucial to instilling a culture of prevention.

2.3

Dynamic Supervision

Traditionally, supervision has been enforced through a mix of offsite and onsite frameworks. Offsite, the supervisor prescribes a set of quantitative and qualitative reports which the members of the financial sector are expected to provide at pre-defined frequencies. The supervisors then analyse the data provided and respond as required.

Onsite inspections, which can be regularly scheduled, ad-hoc, or in some cases involve permanent on-site supervisory staff, provide for an in-person review of the financial stability, risk management, and governance/regulatory adherence processes of the organization. This work could include interviews with those responsible for risk management, compliance and internal audit functions and with external auditors, as well as other types of on- and off-site monitoring.

Need for Dynamic Supervision

The financial services industry is intensely competitive and firms are constantly identifying new markets, products, and ways to do business. Innovative products and technologies can quickly alter a bank's exposure to risk. Continuous innovation in the industry and increasingly rapid changes in risk profiles demand that supervision, too, keep up with the latest developments. Supervisors must work to anticipate

them to ensure that their regulatory framework remains relevant and timely.

Emerging events and developments in the financial services sector make a strong case for evolution of the supervision approach from a traditional model to a more proactive, dynamic and real-time manner. The safety and soundness of a bank cannot always be captured by a point-in-time assessment of its balance sheet alone any more than its innovations be properly understood and supervised without close contact between firm and regulator.

Dynamic supervision is not itself a new concept, but the regulatory shift towards it is part of the larger press for a more proactive approach to managing behaviour and risks. While a point-in-time assessment will unlikely ever be fully phased out, the new emphasis on the dynamic supervision model will require a more proactive approach to compliance for organisations.



A case for 'Early Supervisory Intervention'

The BCBS has recently published a paper on *Frameworks for early supervisory intervention*,⁴⁹ which has examined the need for a more dynamic, proactive and early intervention of regulators in their role as supervisors of the banking system to identify systemic and institutional risks at a preliminary stage and thus taking effective course correction actions.

A few of the approaches that are being implemented / discussed across the globe for early supervisory intervention include:



Early warning systems

Regulators across the globe now face a data overload and it needs a multidimensional approach to supervising the regulated entities to safeguard the financial system in an optimal way. A huge amount of financial and non-financial data is collected which needs to be analysed in a scientific manner to identify risks at an early stage;



Horizontal, thematic and targeted reviews

Supervisors across the globe have introduced practices where dedicated teams perform horizontal assessments such as peer benchmarking and thematic analysis and/or sectoral data analysis. Horizontal assessments provide supervisors with a supplementary angle on the financial situation of an individual bank and support an identification of potential outliers operating in similar business lines;



Governance and risk management

Typical assessments include the strength and independence of a bank's internal risk, compliance and internal audit functions, the quality of its information systems, and the interaction between different lines of defence;



Business model analysis

Business model assessment supports supervisory understanding of a bank's business model and can be an effective tool for early detection of risks and vulnerabilities, thus assisting supervisors in early and effective intervention;



Risk culture analysis

This includes assessing incentive structures, remuneration and misconduct risk. A supervisor's understanding of a bank's culture can be enhanced by comparing culture across banks. On-site visits and meetings with senior managers allow regulators to gain an understanding of how the tone from the top influences staff attitudes and management of risk.

Dynamic Supervision Approaches in Asia-Pacific

The JFSA in **Japan** has been advocating a risk-based supervisory approach, which they call “better regulation”. In September 2018, the JFSA released the *For providing better financial services in the era of transition*.⁵⁰ In this document, the JFSA declared their goal as to be the “Financial Nurturing Agency” (turnaround from “Financial Sanction Agency”, as cynically nicknamed in late 2000’s). In this paper, the JFSA also prompted Japanese banks to utilise a “Risk Appetite Framework”, in light of the financially difficult environment under a prolonged zero interest rate policy, uncertainty of global economic and political developments, and the drastic shift of financial service industry due to the rapid eminence of FinTech.

In **China**, the China Banking Regulatory Commission (CBRC) has in place the Risk Early Analysis Support System (REASS)⁵¹ to evaluate the probability of supervisory rating downgrades and for early detection of emerging vulnerabilities in the banking system. Based on the CBRC’s Off-site Surveillance System Database, the REASS generates a set of early warning indicators on a quarterly basis, including fragility indicators and leading indicators that reflect the short-term and medium-to-long term risks of banking institutions. The REASS feeds into the supervisory process in which the system sends their quantitative early risk warning information to the framework for supervisors to follow up with further in-depth analysis and assessment.

In **Hong Kong** the HKMA plans to automate its supervisory process by streamlining the banks’ data collection mechanism, analysis of supervisory information and the use of SupTech. This would boost the effectiveness and forward-looking

capability of its supervisory process. It will also be used to further automate the HKMA’s interactions with banks, including streamlining banks’ regulatory data collection mechanism, enhancing digitalisation and analytics of supervisory information and automation of supervisory processes. Arthur Yuen, Deputy Chief Executive, goes on to explain that RegTech and SupTech are “well positioned to further enhance the interface between banks and regulators.”⁵²

Singapore also looks to leverage technology to improve MAS supervision. In February 2017 MAS established a dedicated SupTech office to serve as a hub of expertise to make regulatory supervision more efficient and effective. The office is currently looking to incorporate AI and machine learning to support big data and network analytics used in supervision and enforcement. As well, the SupTech Office may also implement Data Application Programming Interface (API) to “streamline the submission of regulatory data, and ‘live dashboards’ for better visualisation of trends and analyses.”⁵³

APRA in **Australia** has laid out a thematic approach that Chairman Wayne Byres dubbed an “ecosystem” approach to supervision. “In our 20 years of existence, APRA’s regulation has been firmly founded on entities: ADIs, general insurers, life insurers, private health insurers and superannuation trustees. As the lines defining what is and is not a financial services company increasingly blur, supervisors may need to focus on functions, rather than companies.”⁵⁴ He too pointed to supervisory technology as a way to increase connection and collaboration between regulators and industry players.

The way forward

With the need for dynamic and early supervisory interventions being discussed and accepted as a need of the hour across the globe, it is imperative that the regulators across the emerging as well as developed markets take cognizance of the same and design frameworks to implement. It is important to understand that the success of any such framework will majorly depend on the following:

- Dynamic supervision can only be achieved as a result of collective

monitoring efforts of a number of different supervisory teams that are both on- and off-site;

- A plan for development of capabilities and skills at the supervisor's end is also critical to implement a dynamic supervisory framework;
- A risk based forward-looking supervisory framework is a critical prerequisite for implementing an early superior intervention mechanism;

- Communication with banks forms a large part of how supervisors intervene early, primarily as the first stage in an escalation process.

And finally, supervisory actions and intervention are supported in an environment where key stakeholders and the public understand that actions taken by the authority are to safeguard and promote the safety and soundness of the banking system and hence create a legal system to adequately support the same

"Once a year supervision visit to banks and entities with the time lag of nearly a year for the implementation of the finding of that supervisory process will be archaic, "

" You need prudential process and supervisory norms which are also digitally based and, therefore, far more regular and frequent than what we have so far."⁵⁵

**-Rajiv Kumar, Vice Chairman,
Niti Aayog, India**

"Rules and standards cannot replace judgement. Good supervisory instincts and technical competence are required to discover, scrutinize and evaluate key risks. This can only be done if banking supervisors do not see their role as a mere compliance function. An effective banking supervisor must be able to assess a bank's understanding of its risks, its business practices as well as judge its corporate governance and culture."⁵⁶

- Ong Chong Tee, Deputy Managing Director (Financial Supervision), Monetary Authority of Singapore

Current Approach

- The elaborate system of checklists help avoid overlooking minor flaws, but may deter us from focusing on priority issues.
- e.g. Rigorous loan by loan review should have contributed to resolving nonperforming loan problems, but might not be effective in preventing the next crisis.
- Compliance checks repeated year after year may have improved firms' internal control, but may have worked to stifle their initiative to innovate.

New Approach

- Dynamic supervision: Analyse if firms can sustain their safety and soundness and engage with them on forward-looking remedial measures, if needed.
- Enforcement: Profile firms through continuous monitoring and focus on priority issues of substance.

III. Harnessing and Managing Innovation

The impact of technology is a recurring theme in this Outlook and, as we have seen, continues to disrupt or augment what has been a relatively static business model in the financial services industry. Unsurprisingly, technological innovation has been top of mind for many Asia-Pacific regulators for some time; there are a number of ongoing cross-border cooperative agreements, working groups, regulatory sandboxes, events and summits, grant or investment programs, and projects to upgrade technology or skills.

While the promise of new technologies is exciting for both firms and regulators - managing and harnessing this innovation presents a significant challenge. The Asia-Pacific region is geographically huge and is home to a large, diverse population. Regulatory strategies or workplans related to technology are therefore unique to the needs and goals of each country. As such, it can be difficult for firms operating in multiple jurisdictions to have a clear view of trajectory of the entire region

3.1

Emerging technologies in 2019

In 2019, it will be important for firms to take a long-term, holistic view of how to harness emerging technologies. It is also imperative to have an in-depth understanding of the different investments, partnerships, and programs different countries are pursuing as well as their intended outcomes. In addition, firms need to operate with the understanding that it can be difficult for regulators and regulations to keep pace in a rapidly changing environment – simple compliance is often not enough.

However, though their approaches may differ, there are common threads in Asia-Pacific regulators' goals and ambitions for innovative technologies as well as their expectations for firms during its adoption:

- A theme found in most workplans released by Asia-Pacific regulators is their **goal** to create a regulatory environment that provides a level playing field for all participants and encourages technological innovation in financial services in pursuit of a global competitive edge;
- There is also the **ambition** to digitise financial services as a way to expand financial inclusion to those who have been traditionally under-served in the region;
- Finally, there is the **expectation** that risks related to new technologies will be managed – particularly as regards conduct – and that achieving good customer outcomes will be given primacy.

In this final section of our 2019 Outlook we take a deep dive into regulatory ambitions, expectations, and goals/actions, as regards emerging technologies. We also take a closer look at three key themes for 2019 – Privacy, Open Banking, and Cyber Risk – where tangible actions can and should be taken by firms in the year to come.

Ambition - Pursuing Financial Inclusion

There is a unique harmony between the demographics of Asia-Pacific and the value proposition of digitising financial services. Asia-Pacific is characterised by intense scale and a large rural population that has

traditionally been under-served in relation to financial services. FinTech and digitised finance are now providing a pathway to reach a whole new section of society.

“Technology presented an opportunity to inject new dynamism and new growth in financial services... [but] most of all, it was an opportunity to improve people’s lives: to bring financial services to the unbanked and uninsured in Asia; to help a growing middle class plan its finances more holistically and efficiently; to help enterprises raise money, make payments, and tap new markets.”⁵⁷

Ravi Menon,
Managing Director, MAS

Malaysian regulators like Bank Negara Malaysia Deputy Governor Puan Jessica Chew Cheng Lian see increased financial inclusion as a specific, desired outcome: “With a little ingenuity, digital finance can unlock new growth opportunities that were previously deemed to be not commercially viable...Through the vastly expanded network of access points at a fraction of the cost involved to set up a branch, over 30,000 individuals who did not have bank accounts before now have access to banking services through agent banks.”⁵⁸ This success story, she goes on to say, is but the tip of the iceberg.

In India, financial inclusion and financial services digitisation have been pushed by two key initiatives: 1) The Digital India campaign, and 2) The Demonetization Drive. The former was announced in 2015 to increase government service delivery via electronic means to “transform India into a digitally empowered society and knowledge economy” and the latter was announced in 2016 that made INR 500 and 1000 banknotes obsolete. This mandate of not transacting using INR 500 and 1000 currency notes triggered a surge in use of internet banking. To continue this trend and promote India’s Electronic System Design & Manufacturing (ESDM) sector, the government recently released a Draft National Policy on Electronics 2018 (NPE 2018) for public comments.

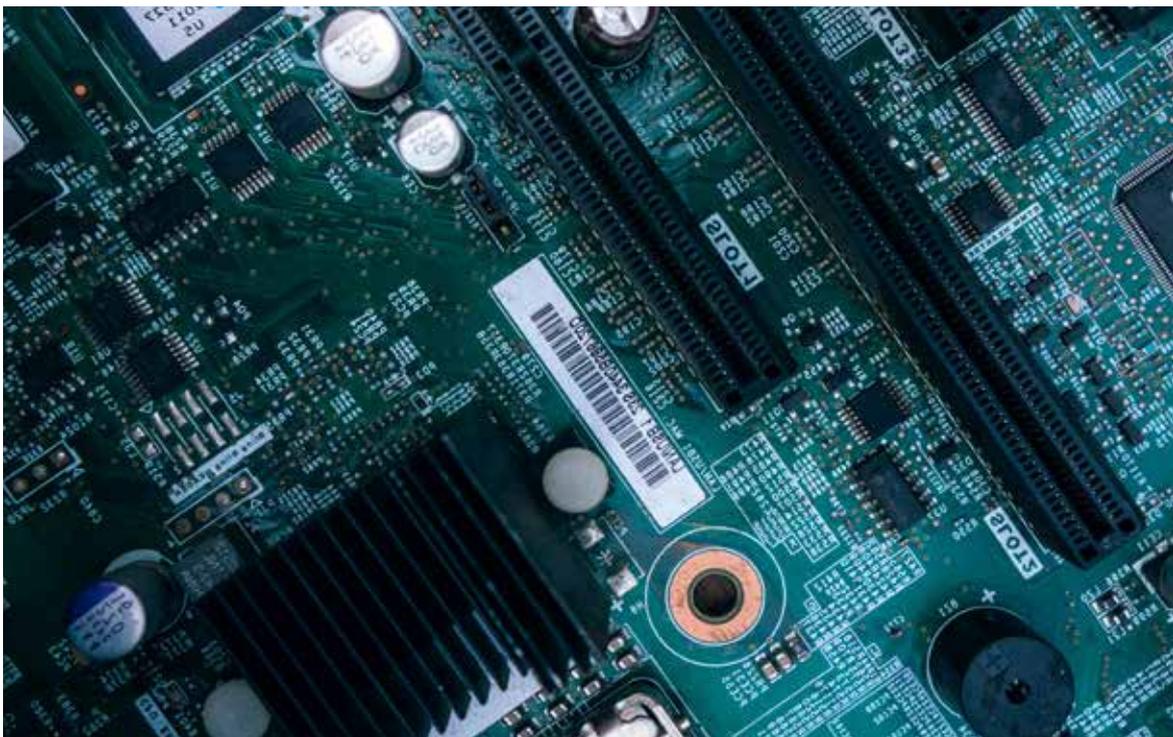
Financial inclusion is also on the minds of Australian regulators. The recently implemented Comprehensive Credit Reporting is aligned with the introduction of open banking in Australia, and requires banks to share positive credit data, in addition to negative data, for use in credit scoring. This may allow access to credit for some customers who were previously unable to borrow.

Expectations – Customers first

APRA’s Chairman, Wayne Byres, made the connection between technology, human conduct, and high expectation for both direct “The future may be on built on technology” he states, “but to get this all right, people are still paramount.”

MAS’s Managing Director Ravi Menon echoed this sentiment “[W]e all have deep-seated concerns about the privacy, confidentiality, security and ethical use of data. If we don’t address these concerns, we will not have the consensus that is necessary to achieve the many benefits of technology... Humans, not machines, are accountable for decisions driven by AI or data analytics. We must ensure that outcomes of data or AI driven processes are ethical, free of bias, and socially acceptable.”⁵⁹

Carmen Chu, Executive Director Enforcement and AML, at the HKMA expressed similar sentiments “Like other supervisors around the world, the HKMA adopts a technology neutral stance. In other words, whatever technology is used, we expect services are delivered safely and efficiently.”⁶⁰



Digital Disruption across Asia-Pacific

To better understand this rapidly changing landscape, we have collected some of the programmes being pursued by regulators across Asia-Pacific that will carry over into 2019. This sample of initiatives not only highlights the current state of regulatory activity in this area, but also demonstrates that this is a very high priority of regulators are giving to seeing these initiatives to their conclusions.

Singapore

MAS was a very early adopter of a digital transformation strategy the 2017 release of its *Financial Services Industry Transformation Map*⁶¹, a roadmap to make Singapore a leading global financial centre in Asia over the course of five years. MAS received the "Global Impact" award at the Central Banking FinTech RegTech awards in September 2018 for its forward-looking adoption of a digital transformation strategy

Partnerships in innovation – MAS and payments

For MAS, Cross-border linkages of payment systems was a top priority in 2018 and will remain in focus for 2019. Affordable, secure, and instant cross border payments will also play a significant role in driving e-commerce trade flows within Asia-Pacific. With this

as background, The Banking Associations of Singapore and Thailand are exploring the possible linkage of their payments systems - PayNow and PromptPay respectively, to facilitate low cost of transfer of payments by tourists, migrants, and professionals.⁶²

MAS, the BoE, and the Bank of Canada (BoC) are collaborating on a project to explore how wholesale Central Bank Digital Currency can address inefficiencies in cross border payments, trade finance, foreign exchange etc. Once scenarios are decided, a technical proof of concept will be developed that can build on the success of Jasper and Ubin-DLT platforms from the BoC and MAS respectively

MAS approach to emerging technologies⁶³

Block chain and DLT

- Contemplate the adoption of technology
- No rush to regulate or front-run innovation

Cloud Computing/ Artificial Intelligence

- Special guidelines/regulation to account for latest technologies and new risks
- Created a 10 member Fairness, Ethics, Accountability and Transparency (FEAT) Committee to set out key principals and best practices to help financial institutions

e-Payment

- Payment Security Bill -Draft released in Aug, 2018
- The activities to be regulated are:
 - Account issuance services;
 - Domestic money transfer services;
 - Cross border money transfer services;
 - Merchant acquisition services;
 - Electronic money ("e-money") issuance;
 - Virtual currency services;
 - Money-changing services

Regulatory Sandbox

- Live experimentation of innovative financial services and business models
- Early feedback on the technologies as per the regulatory mandate
- Few applicants approved by MAS are:
 - Kristal Advisors- Machine Learning experiments to recommend investment portfolios to customers
 - Lumen Lab- Experimenting with Distributed Ledger Technology



Australia

Making payments a priority

Like MAS, the RBA took a significant step towards digitizing the country's payments systems. Launched in Feb 2018, the New Payments Platform (NPP)⁶⁴ is a real time fast payment system that allows customers to make real time payments both during and after normal business hours. The RBA had been involved in the project since its inception and played a significant role in drafting policies on the NPP, the delivery of settlement arrangements, and as a banking service provider. The RBA also plans to introduce new technologies like cloud computing,

artificial intelligence, and cryptography to shape its retail payments structure in coming years.

Tony Richards, Head of Payments Policy Department, stated that the RBA had been considering the concept of a "Central Bank Digital Currency" on a blockchain.⁶⁵ However, currently they do not have any strong case to either accept or reject the usage of cryptocurrencies. The RBA has an open mind on this subject, and it would continue to monitor the advancements in technology that can provide major benefits to the banking sector in Australia.



Malaysia

Technology is a key focus for the BNM, and is included as a key growth area in its Business Plan for 2018-20 titled *Framing the Future with Talent and Technology*⁶⁶ released in March 2018. The BNM has also adopted a 'co-opetition' strategy, which has made banks and non-banking financial institutions compete at service levels while sharing the underlying infrastructure.

Regional collaboration on payments

Muhammed Bin Ibrahim, Governor of the BNM, in his speech emphasized the role of payments infrastructure in the changing digital environment. The Real time Retail Payments Platform (RPP) is one such emerging "game changer"⁶⁷ in the Malaysian

economy. PayNet; jointly owned by BNM and 11 other Malaysian banks, has laid out a roadmap for the RPP. The platform will go live in 2019 with E2E functionalities, which also allows cross border payments.

PayNet and other payment system operators in Indonesia, Thailand, Singapore, and Vietnam have entered into a Memorandum of Understanding (MoU) to link their respective real-time payment systems. The platform would allow people to transact easily using their identification card (IC), mobile and business registration numbers or by scanning a QR code. The BNM also introduced Interoperable Credit Transfer Framework (ICTF) this year, the initiative will connect banks and non-banks on a single payment network.



South Korea

A roadmap for innovation

In January 2018, the Financial Services Commission (FSC) laid out its Financial Policy Roadmap to promote innovation in the financial sector in South Korea via⁷²:

- Easing the regulatory approval process to allow diverse and specialized tech players to enter into financial services;
- A 'FinTech Policy Roadmap' to facilitate mobile payment services;

- A 'Regulatory Sandbox' to test the financial innovations within the range of existing regulations;
- A 'Special act to foster Financial Innovation' that will allow regulatory relief for the launch of innovative services in Finance sector.

Furthermore, in July 2018 the FSC announced a reshuffle in its Organisation Structure and inclusion of the new Financial Innovation Bureau to focus on policy initiatives for financial innovation e.g. FinTech, Big data and crypto currencies.



Japan

The JFSA works in close coordination with the Ministry of Finance to ensure that JFSA strategy is aligned with a broader innovation based growth oriented perspective. Hideki Murai, Parliamentary Vice President for Financial Services, spoke eloquently to this point "... Japan is seeking to realize 'Society 5.0,' where social challenges are solved by applying emerging innovations of the fourth industrial revolution into all industries and social life. These innovations include IoT, Big data, AI and the sharing economy. "FinTech'... is positioned as one of the strategic areas to realize Society 5.0." ⁶⁸

Digitising financial services in Japan – breaking down barriers

Mr. Murai stressed in the same address that as the JFSA moved to embrace digitisation it would also need to transform the current sector-based regulatory framework with one that is sectoral. In the September 2018 document *For providing better financial services in the era of transition*⁶⁹, the JFSA provided the rationale for this change. Currently, the same services under different sectors are governed through differing rules and regulations and, because bundling and unbundling of services is driven by advanced technologies, it will become critical to introduce a function-based, cross-sectoral framework where functions with the same risks share the same rules.

The JFSA Finance Digitisation Strategy⁷⁰

- 01** | **Accumulation and application of data**
Sophisticated financial payments and Open API,- Function /Cross-sectoral based regulations,- Strategic IT utilization and IT governance
- 02** | **Customer protection in terms of privacy and anonymity, credibility of customer data , against new technologies like block chain**
- 03** | **Information/financial literacy to make use of digitization**
- 04** | **Digitalizing financial infrastructure that enables transformation/non financial information**
Sophisticated corporate finance and payment process, utilize blockchain technologies in securities
- 05** | **Digitalization of financial administrative services**
Establishment of Reg tech eco system
- 06** | **Promotion of various innovative challenges via sandbox platform**
Establishment of FinTech Innovation Hub, Encourage companies to use sandbox tools such as FinTech PoC Hub, FinTech Support Desk
- 07** | **Promotion of innovation via open architecture**
- 08** | **Global Authority Network**
Framework on cooperation with foreign authorities on FinTech, FinTech summits , Multi lateral response in area of crypto assets
- 09** | **Promotion of block chain, AI, big data technologies that serve as infrastructure for digitalization**
Multinational joint reserach projects, "FinTech Innovation Hub"
- 10** | **Response to issues concerning cyber security, financial system, and other financial system issues**
International cooperation to ensure cyber security
- 11** | **Function based, cross- sectoral financial regulations to attain the aforementioned issues/ challenges**



China

Investing in innovative technologies

China is in the top three in the world for venture capital investment in key types of digital technology including virtual reality, autonomous vehicles, 3-D printing, robotics, drones, and AI.

Taking AI as an example, the State Council released A Next Generation Artificial Intelligence Development Plan (Plan) in 2017, which sets the goal of China becoming the world leader in AI by 2030. The Plan aims to bring China's AI up to global standards by 2020, with important achievements in AI applications and theory. By 2025, it aims to begin the establishment of AI laws and regulations, as well as a core AI industry of at least 400 billion RMB, and finally, by 2030, China aims to become the world's leading AI developer. In addition, the government is attempting to reconcile the difference between citizens' privacy awareness with flexible policy frameworks that allow AI to flourish. Access to data is a critical resource for developing AI and therefore must be governed carefully.

Examples of China's regulatory responses within the year to digital disruption and innovation include:

2018	
● January	Regulations on peer-to-peer (P2P) lending and over-the-counter markets imposed;
● February	Access to websites on foreign cryptocurrency trading and initial coin offering (ICOs) including foreign platforms are blocked in China. Authorities will continue to monitor and shut down domestic websites related to cryptocurrency trades and ICOs, and ban the acceptance of cryptocurrencies including bitcoin;
● May	The China Center for Information Industry Development (CCID) Research Institute of the Ministry of Information and Technology announced a committee to establish a national standard for blockchain covering smart contracts, privacy and deposits with an expected completion date at the end of 2019;
● May	The Data Governance Guideline was finalised in May 2018. It aims to guide banks to strengthen data governance, improve data quality, realize full value of data, and improve the level of operation and management, from high-speed growth to high-quality development.

Hong Kong

Like MAS, the HKMA laid out a detailed roadmap for pursuing the adoption of innovative technologies in its 2017 Seven Smart Banking Initiatives. At the 2018 HKIB Annual Banking Conference, Arthur Yuen, Deputy Chief Executive at the Hong Kong Banking Authority, highlighted the recent progress ⁷¹:

01. There were more than 70 major digital banking and FinTech initiatives from various banks, more than 20 projects related to mobile payments, 12 biometric authentication initiatives, 7 software security tokens, and 30 others including chat bots and enhanced financial services leveraging Distributed Ledger Technologies;
02. Tech firms accessed Supervisory Sandbox' Chatroom in more than 110 cases to seek HKMA early regulatory feedback on their products and ideas;

03. HKMA, earlier this year, released guidelines on the establishment of Virtual Banks. As of August 31, 2018, the Central Bank had already received applications from 30 banks, which have passed the initial checks. Going by the progress, Hong Kong can see the launch of virtual banks in early 2019.

Major HKMA initiatives

HKMA upgraded its FinTech Supervisory Sandbox (FSS) to discuss their RegTech projects or ideas by different tech firms in its Chatroom.

In 2019, it plans to launch a series of RegTech specific projects through its Banking Made Easy Initiative focusing on four areas:

- AML/CFT: In its FSS Chatroom, banks, stored value facility (SVF) operators, technology specialists, and the regulators to come together to address AML pain points. There is also a plan to kick off a study on the timely retrieval and transmission of AML/CFT data from banks and SVF operators digitally and efficiently.
- Regtech for prudential risk management and compliance: The Central Bank intends to work with the banking industry and FinTech community to identify areas of collaboration in designing new regulatory guidelines and compliance framework.
- Study on machine-readable regulations: HKMA plans to conduct a deep dive study on the application of machine-readable regulations to enhance the already existing regulations. This would help in analysing the feasibility of machine-readable regulations in Hong Kong and the use of technology in improving the regulatory process.
- Exploration of Suptech: HKMA plans to automate its supervisory process by streamlining the banks' data collection mechanism, analysis of supervisory information and the use of SupTech. This would boost the effectiveness and forward-looking capability of its supervisory process.



India's FinTech sector is young and growing rapidly due to its large market coupled by friendly government policies and regulations. The Reserve Bank of India (RBI) had set up an inter-regulatory working group (WG) in 2016 to stay abreast of these developments.⁷³ The WG consists of representatives from RBI, Securities and Exchange Board of India (SEBI), Insurance Regulatory and Development Authority (IRDA), Pension Fund Regulatory and Development Authority (PFRDA), CRISIL (an S&P company) and FinTech consultants/companies to report on the granular aspects of FinTech, digital innovations and its broader implications on financial Sector.

The WG released its report on FinTech and Digital Innovation in February 2018 and laid out the following recommendations to the Regulators:

- The regulatory actions should vary from "Disclosure" to "Light-touch Regulation and Supervision" to a "Tight Regulation and Full-Fledged Supervision";
- Innovation labs to be established to stimulate technological innovations;
- An appropriate framework for "Regulatory Sandbox/innovation hub" to provide required regulatory support;
- RBI and Institute for Development and Research in Banking Technology (IDRBT) can maintain regulatory sandbox to help innovators to experiment their payment solutions.

One of the biggest advancements took place in retail payments with the launch of an enhanced version of the Unified Payments Interface (UPI) in August 2018. This opened new areas like hosting Initial Public Offerings through UPI. More security, simplicity, and seamlessness in UPI 2.0 takes innovation in payments to a higher level and serves as a benchmark for other products in the eco-system. It should also be noted that in April 2018 the RBI mandated via the data localisation directive that all payments data was to be stored in India, which will also affect this space.

Working Group

- 1 Gain understanding of major FinTech innovations
- 2 Assess opportunities and risks arising from digitisation and financial technology
- 3 Identify implications and challenges for the various financial sector functions
- 4 Examine cross country practices across the globe
- 5 Chalk out regulatory response to any digital or FinTech innovation in Financial Services

3.2

Privacy

With the continued digitisation of the financial services industry, and proliferation in the collection, creation, storage and transmission of personal data, privacy remains a central concern for business and consumers across the globe and Asia-Pacific. Despite continued interconnectivity between economies in the Asia-Pacific region, opinions and approaches to Privacy from organisations, consumers and regulators remain fragmented. However, the shift from a compliance-centric approach towards one that builds trust with regulators and individuals is building momentum, and those firms that can get privacy right may gain a competitive edge in the culturally diverse Asia-Pacific market.

Privacy movers and shakers

In recognition of the rapid rise in personal data collection and processing, and increasing community awareness of privacy risks and rights, key global and Asia-Pacific economies are strengthening their privacy regulations or signalling forthcoming changes. Countries that have long established and comprehensive privacy laws are looking to strengthen existing legislation, while countries that have had little in the way of law to govern privacy are now placing privacy on the agenda.

The passage into law of the European Union's General Data Protection Regulation (GDPR) in 2016 and its subsequent enforcement in 2018 is rightly seen as epitomic of this global trend. However, we have also seen new legislation in large, emerging economies such as Brazil with its recently sanctioned General Data Privacy Law⁷⁴ Within the Asia-Pacific region, Thailand and India have tabled their first notable privacy legislation.⁷⁵





Privacy in Asia-Pacific

The preceding two years in Asia-Pacific has seen significant legislative activity around privacy. While in most of the below cases, laws were finalised in 2018, some jurisdictions still maintain draft legislation. Regardless, industry participants still have much work ahead in implementation. Further refinements and additions to legislation are almost certain.

In **India**, draft legislation (The Personal Data Protection Bill) currently being considered by the national parliament requires a copy of all personal data transferred out of the country to be maintained in the territory of India and recommends processing of 'critical' personal data only within India. The offences under the draft Bill have been categorized as cognizable and non-bailable as a deterrent to ensure effective enforcement of the provisions.

The **Australian** Privacy Act was recently amended to include mandatory data breach notification provisions that requires certain entities to notify individuals and the regulator of 'eligible' breaches, i.e. those that pose a serious harm to an individual or individuals.⁷⁶

The Personal Information Protection Commission was set up in 2016 under the **Japanese** Privacy law whose primary duty is to protect the rights and interests of the individual. A subsequent amendment of the law in 2017 introduced the definition of "Special care required personal information"⁷⁷ such as an individual's race, social status and medical history. Organizations are required to obtain express consent from the individual while collecting personal data elements that fall into this category.

In **Malaysia**, certain classes of data users are required to register as data users under the Malaysian Act and the certificate of registration must be renewed periodically.

New Zealand introduced a bill to amend its privacy legislation in March 2018 and is currently being considered by Parliament.⁷⁸ The Privacy Bill repeals and replaces the 25-year-old Privacy Act of 1993. Key changes proposed by the bill are the introduction of a mandatory data breach notification scheme, increased powers for the privacy commissioner, and increased fines.

In April 2017, **South Korea's** National Assembly passed an amendment to the Personal Information Protection Act (PIPA)⁷⁹ that requires data handlers to clearly indicate important information in a legally prescribed manner that is easily noticeable by data subjects when obtaining consent for the collection, use and provision of personal information. Certain proposed amendments seek to introduce the de-identification methods set forth in the Guidelines for the PIPA and the Network Act, respectively, to expand the types of personal information that can be used by data handlers and online service providers.

The Government of **Indonesia** has issued a new draft of the personal data protection law. The draft law deals with personal data categorization, differentiation between the concepts of data controller and data processor (absent to date), processing personal data, and the forming of a dedicated dispute settlement commission. The content of the updated draft law is virtually unchanged from the initial draft and continues to draw on concepts from European Union law.

The Personal Data Protection Act⁸⁰ of **Singapore** provides for a Do Not Call Registry wherein consumers can apply to the Commission in the manner prescribed to opt out of receiving marketing material over the phone from organizations. The government also announced the Data Protection Trustmark Scheme (DPTM) in July 2018 following the theft of the personal data of 1.5 million SingHealth patients. The DPTM allows for official certification of a company's data protection methods and is unique in the Asia-Pacific region.⁸¹

The Information Technology – Personal Information Security Specification⁸² was effective in **China** in May 2018. It provides a set of data protection rules for companies that obtain and use personal information. The specification also expands the definition of personal information to include a person's online activities.

In May 2018, **Thailand** released the first draft of the Personal Data Protection Act. Thai regulators are aware of the growing importance of stringent data protection requirements within the country. Veerathai Santiprabhob, Governor of the Bank of Thailand, in his speech at SEACEN-BIS (Bank of International Settlements) High-Level Seminar emphasized the growing usage of big data at the Central Bank however made it very clear that "necessary steps are taken to validate the integrity and quality of data used as well as to safeguard data privacy."⁸³

Tackling privacy head-on

The effects of the new privacy landscape is ubiquitous across organisations, with those firms maintaining operations across multiple Asia-Pacific jurisdictions being especially hard-hit due to the complexities of juggling multiple diverse regulatory requirements.

A new wave of innovations are increasing the digital footprint of individuals. This data, if not handled appropriately can be a liability rather than an asset – a situation further aggravated by

growing pressure from consumers and regulators to demonstrate privacy. Whether the data processed by an organisation relates to employees, contractors, customers, business contacts, or even the general public, personal data are required by nearly every organisational department and touches almost every IT system. As is the case, addressing privacy concerns necessitates a coordinated response across various functional units within the organisation including Executive Leadership, HR, Operations, and Technology.

Despite a complex internal and external environment in managing privacy risk, organisations are becoming increasingly proactive in addressing these issues. Two key factors driving this trend are the rapid, though inevitably long, march toward strengthened privacy laws and ever increasing expectations from customers and clients.

To meet these challenges, a robust privacy and data protection framework built on leading privacy principles such as those developed by the Organisation for Economic Corporation and Development (OECD) or found in the GDPR should be front of mind for institutions operating within Asia-Pacific. Key considerations include:



Groundwork - Defining personal and sensitive, inventorising this across the organisation and mapping data flows from collection and ingress, through storage and processing, to transmission and egress;



Culture - Developing a priv conscious culture and education program within the organisation;



Governance - Developing an effective privacy operating model with clearly defined roles and responsibilities across functional units and layers of management;



Compliance - Having a clear picture on personal data collection, processing activities, transmission, location and retention requirements within and across operating jurisdictions;



Privacy by Design – Building privacy and ethical data use governance into project management processes;



Communications - Ensuring visibility, consistency and currency of privacy notices and consent that has been given and received;



Technology - Choosing the appropriate automated tools and workflow management solutions to handle emergency, high-volume or other labour intensive privacy requirements such as data breach notification, data subject rights requests and data protection impact assessments;



Security – Ensuring measures are in place to safeguard the personal data elements from increasing risk of misuse and unauthorized access; and



Supply Chain - Having an effective third-party privacy risk assessment process and robust and up to date contracts to support privacy obligations passed to third parties.

It is clear that that the issue of privacy can no longer be ignored, but rather should be embraced as one of the essential elements to gain and maintain trust from customers and stakeholders across the operating environment. It should not be treated as a check-box compliance activity, but seen as a strategy for business growth.

3.3

Open Banking

Traditionally, financial service firms have operated in a closed customer data system where customer data was collected, retained, and protected by the financial institution. While possession of data (and the consequent customer relationship) by the financial institution protects the customer, it also acts as a competitive constraint as customers cannot easily switch providers. This constraint grows as a financial institution collects more data. The rise of new technology and new entrants into financial services has provided a catalyst for a different, more open system - open banking.

In an open banking model, control of a customer's data is handed back to the customer who can then direct a financial institution to share this data with them or with a third party.

Open banking could radically alter competition in financial services and give rise to new offerings by both new entrants and incumbents alike. Regulators often see open banking as a chance to enhance customer portability, increase product choice, drive innovation, and lower consumer prices. For institutions, open banking offers an opportunity for market share growth through innovative and competitive offerings but also raises questions about effective safeguards, licensing and IT infrastructure, as well as operational risk.

Ensuring privacy and managing conduct are critical to the successful implementation of open banking. Banks can only share data that customers have consented to sharing, and only with third parties that the customer has authorised the data to be shared with. Similarly, fairness, transparency, and treatment of vulnerable customer groups need to be central to any open banking strategy. As open banking is implemented, regulators will be paying close attention to firms' management of both privacy and firm conduct.⁸⁴

An evolving landscape

The regulatory response to open banking to date across Asia-Pacific has been neither consistent nor harmonised.

Some countries, focused on an individual's right to their own data, are mandating an open banking model. Other countries with less strongly developed views on the subject, or that do not believe that a mandatory framework is optimal, are acting as a coordinator within

the market to facilitate a standardised approach to data sharing.

Mandating Open Banking

The approach adopted by Australia (the first country in Asia-Pacific to legislate open banking) strongly echoes the sentiments of an individual's right to control their data and data portability found in the UK's Open Banking Standard as well as the EU's revised Payment Service Directive and the GDPR. In the report of the Review into Open Banking (the Farrell Report)⁸⁵ released in February 2018, open banking is described as the first step of a broader Consumer Data Right legislative program that will "give customers greater control over their data." All banks will be required to implement open banking standards for all the products laid out in the Farrell Report by 1 July 2021.

New Zealand is taking a more cautious approach - trials of common API standards are currently being coordinated by Payments NZ with industry players to allow third parties to make retail payments on behalf of customers. This, the RBNZ notes, "will help...to establish common standards that banks and providers can use to share customer data."⁸⁶ So far Open Banking in New Zealand has had more of a focus on Payments than on access to Customer Data, however it should be noted that the Privacy Commissioner's submission on the Privacy Bill currently before the New Zealand Parliament specifically mentioned the GDPR. It recommended that "New Zealand's privacy law ought to include a right to personal information portability to strengthen individuals' control over their personal information in the digital economy."⁸⁷ It is therefore not inconceivable that New Zealand may follow Australia towards mandating the adoption open banking and its focus on access to customer data.

Regulator as Coordinator

Other jurisdictions in Asia-Pacific prefer a non-legislative approach to open banking. Here regulators emphasise the benefits of open banking – consumer choice, innovation etc., rather than an individual's right to control their own data. These jurisdictions have chosen to encourage and help coordinate the adoption of open APIs without going so far as to mandate it.

In **Singapore**, the MAS believes that banks opening up consumer data is a “larger good” that has potential to benefit customers. But ultimately something that should be “a ground-up process led by the banks themselves.”⁸⁸ MAS had an early start in the region – in 2016 it issued the *Finance-as-a-Service: API Playbook*⁸⁹ with the Association of Banks of Singapore to facilitate widespread adoption. This has resulted in a mature Open API and data infrastructure.

Hong Kong took a similarly organic approach in July of 2018 with the launch of their Open API Framework as a part of their “New Era of Smart Banking,” which prescribed risk-based principles, a four phase implementation strategy, and encouraged prevailing international technical standards to ensure fast adoption and security. The goals of the program were to ensure competitiveness and drive innovation, as well as keep up with international developments. The final framework was published in July 2018 and is binding for the region's largest retail banks.⁹⁰

The digital payment ecosystem in **China** has been developing rapidly based on its data-sharing capability. In an effort to enhance the oversight, the government has created a centralised online clearing platform and reached an agreement with 45 non-bank financial firms (including Alibaba and Tencent) to connect and route transactions through the new platform. Recent regulatory updates mandate that private digital payment institutions should deposit prepaid funds received from users with the central bank by 2019.

Japan amended its Banking Act in 2017 to “facilitate open innovation between financial institutions and FinTech firms by utilizing open API architecture.” While there is no formally mandated open API structure, the Japan Financial Services Agency is strongly encouraging API adoption and expects most banks to have Open APIs by 2020.⁹¹

In September 2018 BNM in **Malaysia** published a paper for public comment on the adoption of standardised open APIs.⁹² The focus of Malaysia's Open API implementation is to increase access to financing for small-to-medium enterprises, improve customer choice as well as leverage technology for innovation in financial services.

Challenges and Opportunities

While open banking in Asia-Pacific is still early in its implementation, we expect continued regulator support for the model in 2019 – both as a part of the larger trend to embrace technological change to spur economic development but also as a way to improve customer outcomes. While Australia is the only Asia-Pacific jurisdiction to mandate the implementation of open banking, most regulators in the region view an open banking model in a positive light and will continue to coordinate a standardised approach to encourage adoption of data sharing.

For institutions, open banking offers a number of opportunities and challenges in the near to long term. Access to more data could allow for more accurate risk scoring and better differentiation based upon that risk. Open banking also presents a wide array of opportunities for the use of advanced analytics as financial institutions will be better positioned to develop insight driven products.

Irrespective of how open banking is implemented in each jurisdiction, data governance and cyber security will be critical areas of focus for both banks and regulators in 2019. Sharing only the data that is meant to be shared with the correct third party will be a central challenge. In addition, as regulators continue to focus on reducing misconduct in financial services we can also expect that they will be particularly concerned to ensure that customers are treated fairly and that price differentiation made possible by open banking does not slide into price discrimination.

Some of the factors that organisations will need to successfully navigate as they move towards open banking include:



Strategy: Opening up customer transaction data is likely to lead to increased competition in retail banking and facilitate new customer propositions. Do firms know what will drive customer to switch their banking relationship? Do they know what their customers' unmet needs and dreams are? What capabilities do firms already have and what capabilities will they need to build to differentiate themselves from traditional and new competitors?



Data Completeness: Are firms confident that their customer data is complete? How will they ensure that future changes to products, processes and systems do not result in inadvertent omission of customer, product, and/or transaction data from data required to be shared?



Knowing and managing risks: Open banking sits at the centre of a confluence of different areas of expertise. Are the privacy, conduct and cyber security risks clearly understood by all stakeholders and articulated as part of a risk appetite framework?



Ensuring Privacy-by-design: Are both legal privacy requirements and customer expectations being considered and incorporated in the product design phase?



Consent-forward and purpose based: Are firms capable of recording customer consent to data sharing? Is the timeframe and purpose for data sharing clear to both the customer and the firm?



Transparency: Where strategic pricing is adopted as a response to open banking, are firms confident that they have the right data and analytic capability to implement it? Have risk assessment models and pricing algorithms been robustly developed and tested?



Impact Assessments: Are pricing decisions consistent with a firm's conduct obligations on fairness and transparency, particularly for vulnerable customers?

Financial institutions need to keep these challenges at the forefront as they embrace technological change in 2019.

3.4

Managing Cyber Risk

In the year following Deloitte's report, *Cyber Regulation in Asia-Pacific: How financial institutions can craft a clear strategy in a diverse region*⁹³, the cyber landscape has continued to be front-of-mind for the private and public sector alike. As the number of fronts in defending against cyber-crime increases, and the sophistication of threat actors improves, the cost to the economy increases, with estimates now reaching USD \$600 billion, with approximately USD \$160 billion coming from the Asia-Pacific region alone.⁹⁴

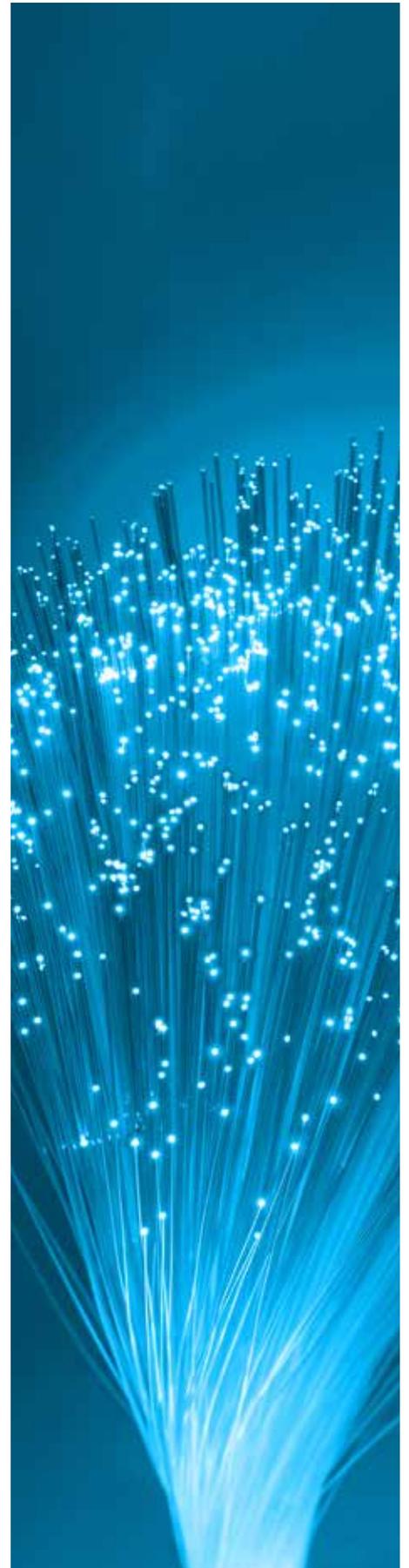
Heng Swee Keat, Minister for Finance and MAS Board Member, brings home this point "Asia appears to be the world's most targeted area for cyberattacks. Hackers are 80% more likely to target organisations in Asia, yet Asian organisations take 1.7 times longer than the global average to discover cyber breaches. More than 60% of Asian companies do not have proper cyber threat monitoring systems. Clearly, more needs to be done to strengthen Asia's and the Association of Southeast Asian Nations' (ASEAN) cyber threat resilience."⁹⁵

Despite this, the cyber regulatory landscape remains fragmented across international jurisdictions, with disparate country, industry, and product based initiatives clouding the true breadth and depth of regulation, and importantly, of regulatory concern. Maintaining a holistic understanding of your obligations towards cyber risk management and regulation remains vital.

Cyber Risk and Regulation Across Asia-Pacific

In an increasingly turbulent environment, regulators are placing additional scrutiny on the effectiveness of organisations to manage cyber risk. In the banking sector in particular, cyber-crime is a common theme at the highest levels of management, from inclusion in enterprise risks, the now expected Chief Information Security Officer, and as a common topic of discussion in board meetings.

A report by the BIS in August 2017⁹⁶ noted that only four global jurisdictions had specific supervisory or regulatory initiatives in this regard -the US, the UK, Hong Kong SAR and Singapore. Clearly in a more connected and digitised world significantly more work more was required.



Since 2017 regulatory activity has increased noticeably, and a significant pipeline now exists for both policy and programme implementation. Developments specific to the Asia-Pacific region include:

- ASEAN held its third Ministerial Conference on Cybersecurity (AMCC) in September 2018, agreeing that “there is a need for a formal ASEAN cybersecurity mechanism to consider and to decide on inter-related cyber diplomacy, policy and operational issues”.⁹⁷ Whilst the mechanism is being drafted, the AMCC will remain the interim platform for cybersecurity throughout ASEAN to discuss a coordinated response to managing cybersecurity across the region;
- Australia’s prudential regulator released the final version of its prudential standard focused on managing information security (APRA CPS234),⁹⁸ the next step into bringing direct regulation of cyber risk management in the Australian Banking industry. APRA expects all regulated entities to meet its requirements by 1 July 2019;
- The MAS has released a baseline set of six cyber security controls, and the Parliament of Singapore passed the Cybersecurity Act 2018⁹⁹, bringing into law a framework for the prevention and management of cyber incidents¹⁰⁰;
- In India, with increased focus towards digitisation a strong need was felt to improve the level of cyber security awareness and build a larger pool of cyber security experts in the workforce. To address this, the Microsoft & Data Security Council of India in association with ISEA of Ministry of Electronics & IT, Government of India launched a unique initiative titled as “Cyber Shikshaa”¹⁰¹ for skilling female engineering graduates in the niche field of Cyber Security. Another program launched by Government of India is “Cyber Surakshit Bharat”¹⁰² (Cyber Secured India) and aims to create a Cyber Resilient IT setup, build cyber security awareness, and build technical capacity;
- The China Cyber Security Law published in July 2017 is an important legislative milestone. It requires that organisations will have to continue to ensure that internal cyber security systems are robust and constantly improved and may mean that technology will need to be sourced from local Chinese vendors to reduce reliance on foreign technology. The emergence of new technologies such as internet finance, big data, blockchain, mobile applications, the ‘Internet of Things’, cyber security management will become even more important in the future;
- The HKMA launched the “Cybersecurity Fortification Initiative”¹⁰³ - described as a “one-stop shop for threat intelligence, alerts and solutions” for industry, regulators and any other participants. To help increase the resilience of local banks to cyber attacks via a three-pronged approach: the Cyber Resilience Assessment Framework¹⁰⁴, which seeks to establish a common risk-based framework for banks to assess their own risk profiles and determine the level of defence and resilience required; a Professional Development Programme, a training and certification programme in Hong Kong which aims to increase the supply of qualified professionals in cybersecurity; and the Cyber Intelligence Sharing Platform developed to allow sharing of cyber threat intelligence among banks in order to enhance collaboration and uplift cyber resilience. The HKMA released a circular in June 2018 highlighting a rollout plan from June 2018 to 2020;
- The JFSA released the initial document of Policy Approaches to *Strengthen Cyber Security in the Financial Sector*¹⁰⁵ in 2015, and updated version in Oct 2018. JFSA announced Five Policies in addressing cyber security. The policies includes “constructive dialogue”, “information sharing”, “industry-wide exercise”, human resources”, and “JFSA initiative”;
- The Republic of the Philippines unveiled its National Cybersecurity Plan 2022¹⁰⁶, a government initiative to establish and deploy a National Cybersecurity Strategy Framework in order to protect the nation’s critical infrastructure across the public and private sectors;
- Thailand has opened a cyber-security centre to train personnel from across ASEAN in helping combat cyber threats;
- Indonesia has launched a National Cyber and Encryption Agency¹⁰⁸ reporting directly to the President, to track and identify perpetrators of cyber crimes.

What steps can your organisation take now to develop and strengthen your cyber program?

Managing cyber risk is a dynamic process. Though we are seeing regulators focus increasingly on cybersecurity as a key risk for the Asia-Pacific region, compliance to regulation can only do so much in a field where prescriptive regulation is liable to be outpaced by the rate of evolution. It is incumbent upon organisations to stay at the forefront of these changes and maintain a proactive stance to managing cyber risk. Important aspects to consider include:



- **Get buy-in** – Ensure the board and executive management are actively involved in both strategic and operational aspects of cyber risk. This tone-at-the-top must then flow down to building a culture of cyber awareness across the organisation;



- **Set your direction** – Incorporate cyber as a key enterprise risk by understanding your exposure, setting your appetite and defining the desired approach to bridging the gap. This then feeds into a formal strategy and a roadmap to close the gap;



- **Secure your organisation** – Implement the internal controls and processes to minimise vulnerabilities and threat exposure. Preventative controls across the system architecture and basic security hygiene significantly decreases the likelihood of a security breach;



- **Intelligence is crucial** – Gather and share intelligence through public-private forums and leverage your data through monitoring tools to detect suspicious activity. A robust monitoring capability can minimise the impact of attacks, and identify potential threats before they arise;



- **Plan for contingency** – Develop an incident response plan, test it, revise it and review it. No organisation is immune to a successful cyber-attack, and the ability to minimise disruption and losses is crucial;



- **Think future forward** – Stay informed of security developments and standards of best practice, and consider leveraging innovative and emerging solutions where they can be most effective. Cybersecurity is continuously changing, and staying at the forefront of technology can help give you an edge over potential threat actors

Meeting the challenge of cybersecurity in an evolving digital environment and ongoing regulatory development requires organisations to be proactive in their response to changes in the threat landscape. Maintaining a dynamic cyber program that considers security, vigilance, and resilience and underpinned by a clear strategy and robust governance framework is imperative.

Glossary

ABC	Anti-Bribery and Corruption	ICO	Initial Coin Offering
ACIP	AML/CFT Industry Partnership	IOSCO	International Organisation of Securities Commission
AI	Artificial Intelligence	IRRBB	Interest Rate Risk in the banking book
Als	Authorized Institutions	IRRBB	Interest Rate Risk in the Banking Book
AMCC	ASEAN Ministerial Conference on Cybersecurity	ISDA	International Swaps and Derivatives Association
AML	Anti-Money Laundering	JFSA	Japan Financial Services Agency
API	Application Programming Interface	JIBOR	Jakarta Interbank Offered Rate
APRA	Australian Prudential Regulation Authority	KLIBOR	Kuala Lumpur Interbank Offered Rate
ASEAN	Association of Southeast Asian Nations	KYC	Know Your Customer
AUSTRAC	Australian Transaction Reports and Analysis Centre	LIBOR	London Interbank Offered Rate
BBW	Bank Bill Swap Rate	MAS	Monetary Authority of Singapore
BCBS	Basel Committee on Banking Supervision	NPP	New Payments Platform
BEAR	Banking Executive Accountability Regime	NSFR	Net Stable Funding Ratio
BIS	Bank of International Settlements	OECD	Organisation for Economic Corporation and Development
BKBM	Bank Bill Benchmark Rate	P&L	Profit & Loss
BNM	Bank Negara Malaysia	PEPs	Politically Exposed Persons
BoC	Bank of Canada	PIPA	Personal Information Protection Act
BoE	Bank of England	RBA	Reserve Bank of Australia
BoJ	Bank of Japan	RBI	Reserve Bank of India
CBRC	China Banking Regulatory Commission	RBNZ	Reserve Bank of New Zealand
CFT	Countering Financing of Terrorism	REASS	Risk Early Analysis Support System
DPTM	Data Protection Trustmark Scheme	RFR	Risk-free Rate
EURIBOR	European Interbank Offered Rate	RPA	Robotic Process Automation
FATF	Financial Action Task Force	RPP	Retail Payments Platform
FCA	Financial Conduct Authority	RRP	Recovery and Resolution Plans
FMA	Financial Markets Authority	SFC	Securities and Futures Commission
FRTB	Fundamental Review of the Trading Book	SIBOR	Singapore Interbank Offered Rate
FSB	Financial Stability Board	SOFRA	Secured Overnight Financing Rate
FSC	Financial Services Commission	SONIA	Sterling Overnight Index Average
FSS	FinTech Supervisory Sandbox	TIBOR	Tokyo Interbank Offered Rate
GDPR	General Data Protection Regulation	TLAC	Total Loss-Absorbing Capacity
HIBOR	Hong Kong Interbank Offered Rate	TONAR	Tokyo Overnight Average Rate
HKMA	Hong Kong Monetary Authority	UPI	Unified Payments Interface
IBOR	Interbank Offered Rate		

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