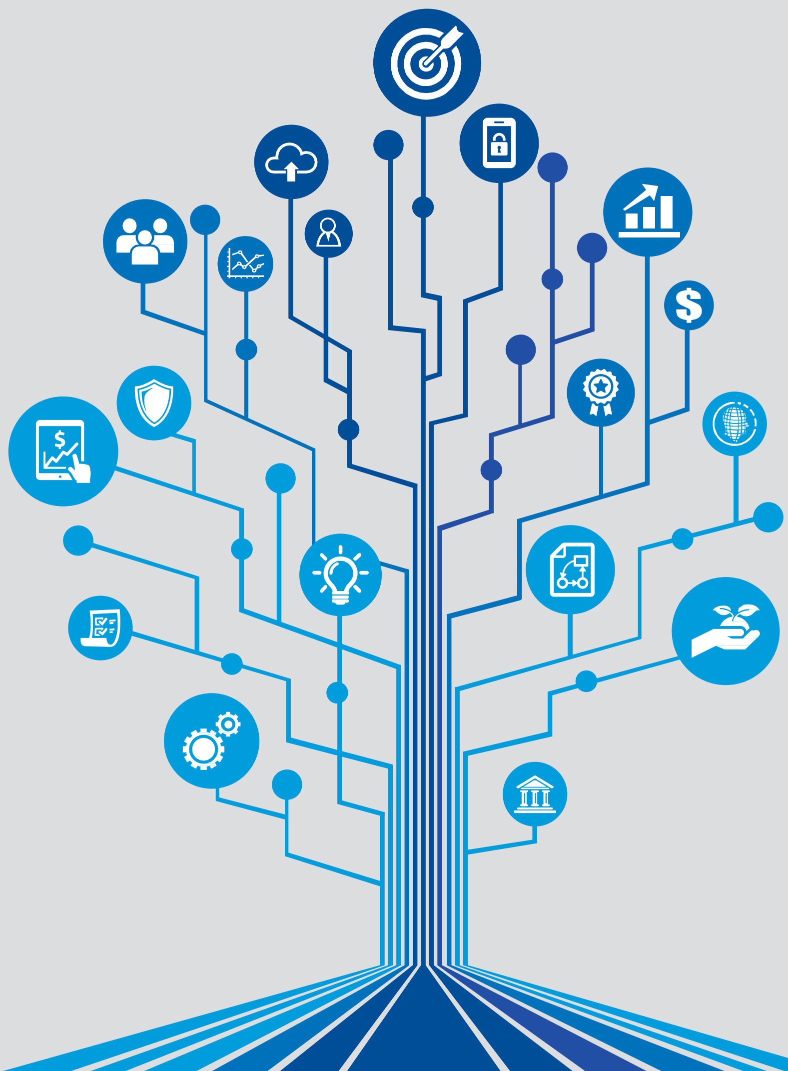
KPMG

Adapting to a New Reality

Hong Kong Banking Report 2020



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Introduction

Paul McSheaffrey
Partner, Head of Banking & Capital Markets,
Hong Kong
KPMG China

In this year's annual Banking Report, we review the financial results of banks in Hong Kong in 2019, and also offer our views and predictions on the future of the industry, especially in light of the onset of COVID-19.

In terms of the performance of banks in Hong Kong in 2019, there were some difficult times operationally, but banks generally fared well and profitability was up. Margins held up, costs were flat overall and in line with income increases, credit costs remained low, and the cost-to-income ratio remained fairly stable despite the social unrest in the city in the latter half of 2019.

However, the reality of the situation is that the largely positive results in 2019 are likely to be forgotten as the outbreak of COVID-19 has caused significant disruption and challenges to economies, businesses, communities and people worldwide. The effects of COVID-19 are expected to have a significant impact on the results of banks in Hong Kong in 2020 – and likely beyond – and will change the banking landscape permanently.

Indeed, the pandemic has been a catalyst for change in the banking sector, with the industry having to respond, recover and adapt to a New Reality. In our view, as banks respond to the effects of COVID-19, they will go through four phases: **Reaction** – responding to immediate challenges; **Resilience** – managing through uncertainty; **Recovery** – resetting and identifying opportunities; and the **New Reality** – adapting to a new world.

Navigating through these phases and **adapting to the New Reality** will be key for banks in order to continue to grow and succeed, especially with profitability expected to be significantly impacted in 2020.

This is a result of banks facing squeezing margins from a combination of downward pressure on net interest income and an expected increase in credit costs and loan impairment charges. To maintain profitability, many banks will need to place an increased focus on costs as the primary lever. This renewed focus on costs will require banks to restructure and rethink how they are organised, which may take longer to be reflected in their financial results.

In this report, we share our views on how we see banks in Hong Kong recovering from the disruption and challenges caused by COVID-19, as well as areas we think banks should focus on in the next 12 to 18 months, such as managing costs, dealing with bad debt, ensuring operational resilience, strengthening third party risk management and shaping the workforce. We also focus on the key topic of regulatory-driven transformation and how we think banks can use technology, automation and other tools and approaches to help significantly improve the quality of regulatory compliance at a lower cost.

While this report examines the impact of COVID-19 and what this means for banks as they start to adapt to the New Reality, we also discuss what the banking landscape in Hong Kong might look like in 2030. This long-term perspective builds on our view on what the New Reality might look like in terms of the future of retail banking, customer behaviour and expectations, risk and regulation, the workforce, sustainable finance and Hong Kong's role as an international financial centre.

I hope you enjoy our perspective on the sector in 2020, and would welcome the opportunity to discuss the banking results and the current industry landscape.

Overview

Paul McSheaffrey
Partner, Head of Banking & Capital Markets, Hong Kong
KPMG China

Terence Fong
Partner, Head of Chinese Banks, Hong Kong
KPMG China

Hong Kong's banking sector showed its resilience in 2019 despite a challenging year for the overall economy. The Hong Kong economy contracted by 1.2 percent[1] in 2019 (compared to 2.8 percent growth in 2018), the first annual decline since 2009. The global economic slowdown, elevated US-China tensions and the impact of local social unrest contributed to this weakening of the local economy, particularly on international trade and investment.

Despite this, Hong Kong's banking sector grew in 2019. The total assets of all licensed banks expanded by 4.8 percent with growth of 6.4 percent in loans and advances. The operating profit before impairment charges for all licensed banks increased by 4 percent from HK$276 billion in 2018 to HK$287 billion in 2019. While there is limited data at present, it is a reasonable prediction that the impact of COVID-19, ongoing US-China tensions and the resulting economic uncertainty will result in a fall in profitability for banks in 2020.

After four consecutive years of increases, the US Federal Reserve (the Fed) cut interest rates by 75 basis points in 2019, from 2.5 percent (effective from 19 December 2018) to 1.75 percent, reversing nearly all of 2018's rate increases. The full impact of these cuts was not felt in 2019, and the net interest margin (NIM) for all licensed banks increased by 13 basis points. However, the Fed cut rates to 0.25 percent on 15 March 2020, which will have a negative impact on NIM in 2020.

Stepping into the era of Smart Banking, eight institutions were granted virtual bank licenses in Hong Kong in 2019. One of the virtual banks officially launched its services in March 2020[2], and we expect this could redefine banking services by providing a more sophisticated and personalised experience to customers. Traditional banks will have to respond and increase their competitiveness.

In this report, we present an analysis[3] of some key metrics for the top 10 locally incorporated licensed banks[4] in Hong Kong. While some banks have a dual entity structure in Hong Kong (e.g. a branch and an incorporated authorised institution), we have not combined their results. The analysis is performed on a reporting entity basis.

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[1] Percentage change of GDP from Census and Statistics Department, https://www.censtatd.gov.hk/hkstat/sub/sp250.jsp?tableID=211&ID=0&productType=8

[2] HKMA Annual Report, p.4, https://www.hkma.gov.hk/media/eng/publication-and-research/annual-report/2019/AR2019_E.pdf

[3] The analysis is based on financial institutions registered with the Hong Kong Monetary Authority.

[4] The top 10 locally incorporated licensed banks mentioned in this article are the 10 banks with highest total assets among all locally incorporated licensed banks as at 31 December 2019.

Net interest margin

With three interest rate cuts by the Fed in July, September and October 2019, the Fed rate was lowered by 75 basis points. The HKMA Base Rate was reduced by 25 basis points from 2.75 percent to 2.5 percent as a response. These cuts will take some time to be fully reflected in the NIM[5] of banks, and therefore despite the cuts, the NIM performance was stable in 2019 compared to 2018.

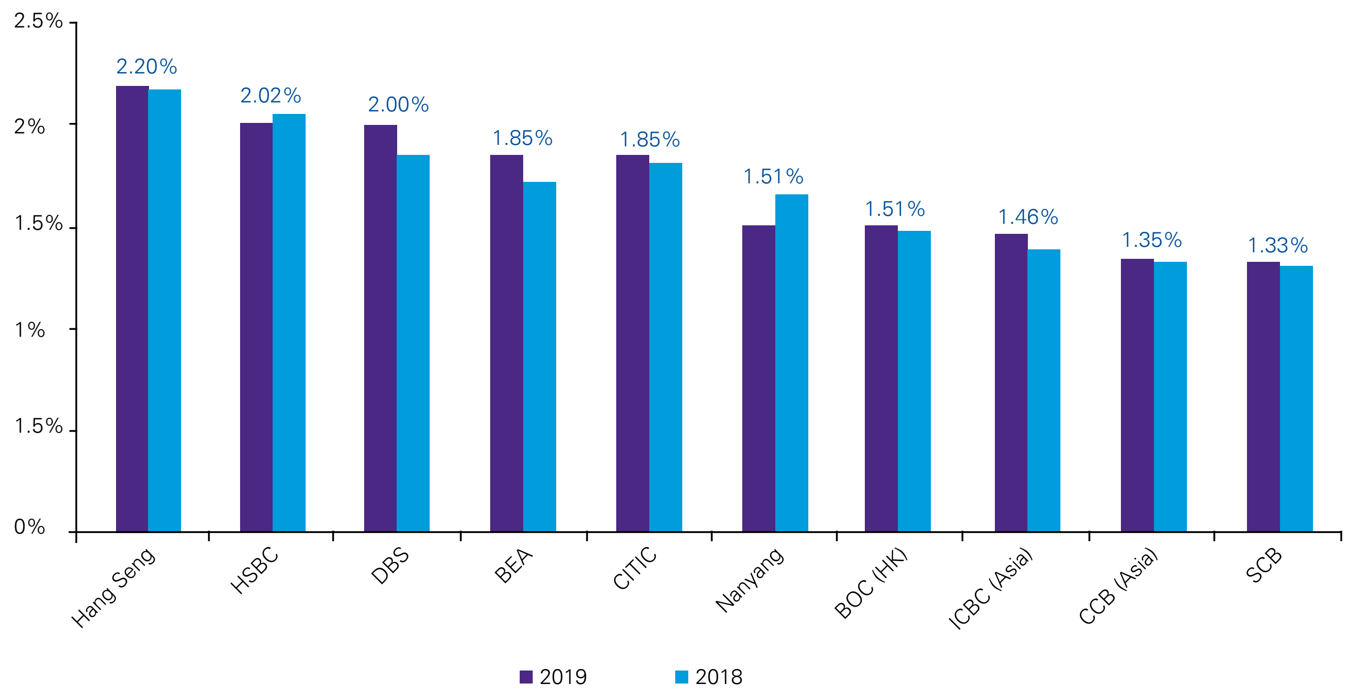
The average NIM across all surveyed licensed banks increased by 13 basis points compared to 2018. The average NIM for the top 10 licensed banks for 2019 increased to 1.71 percent compared to 1.69 percent in 2018. Eight out of the top 10 banks posted an increase in NIM. Hang Seng Bank Limited (Hang Seng) and The Hongkong and Shanghai Banking Corporation Limited (HSBC)[6] continued to post the highest NIM among the top 10 in 2019.

Hang Seng's NIM improved to 2.2 percent (increase of 2 basis points compared with 2018), which was mainly due to improved deposit spreads and increased contribution from net-free funds.[7] HSBC's overall NIM decreased by 4 basis points (from 2.06 percent for 2018 to 2.02 percent for 2019). However, NIM for HSBC's Hong Kong operations increased by 1 basis point from improved customer deposit spreads and higher reinvestment yields. However, the improvement was offset by mainland China, Australia and Taiwan's operations, mainly due to the higher cost of funds.[8]

Among the top 10 licensed banks, DBS Bank (Hong Kong) Limited (DBS) recorded the largest increase in NIM from 2018 (13 basis points) due to improved deposit spreads. On the opposite side, Nanyang Commercial Bank Limited (Nanyang)'s NIM deteriorated by 15 basis points due to higher cost of funds after the issuance of US$700 million subordinated notes at 3.8 percent per annum.

[5] NIM is either quoted from public announcements of financial statements, or calculated based on annualised net interest income and interest-bearing assets or total assets, depending on the availability of information.
[6] HSBC consolidated results include Hang Seng and its other Asia operations.
[7] Hang Seng Annual Report 2019, p.10 https://vpr.hkma.gov.hk/statics/assets/doc/100057/ar_19/ar_19_eng.pdf
[8] HSBC Annual Report and Accounts 2019, p.10 https://vpr.hkma.gov.hk/statics/assets/doc/100002/ar_19/ar_19_eng.pdf

Net interest margin



Source: Extracted from individual banks' financial and public statements

In our view, 2020 could be a tough year for Hong Kong banks' NIM. The Fed has lowered the US Interest Rate to a record-low of 0.25 percent. The HKMA has followed and lowered the Base Rate to 1.65 percent since March 2020, with consequent falls in HIBOR. We expect that banks will face difficulties in maintaining the same level of NIM in 2020, and the full launch of all the virtual banks could cause price competition for term deposits which will lead to overall margin compression. This is good news for consumers in a low-yield environment, but less positive for the banks.

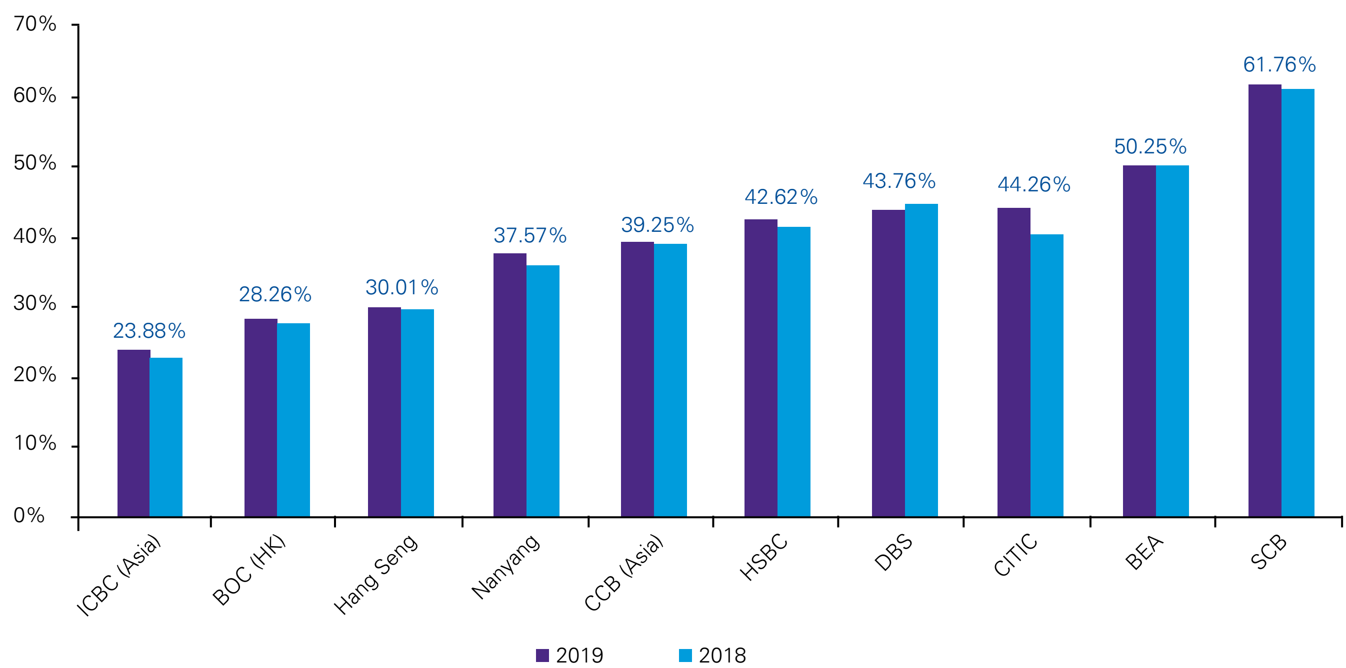
Costs

Cost management continued to be an essential focus for banks in Hong Kong to monitor and improve profitability in 2019. After the increase in the average cost-to-income ratio for all Hong Kong licensed banks in 2018, the ratio for the surveyed banks reduced slightly by 69 basis points for the year ended 2019, from 45.44 percent to 44.75 percent. Total operating costs increased by 6.7 percent, from HK$191 billion in 2018 to HK$204 billion in 2019. For 2020, we can expect a significant focus on reducing the absolute level of costs to manage profitability in a low interest rate environment. This will be a tricky balance for banks, which are also be expected to support the overall economy, including potentially maintaining employment.

The top 10 surveyed banks showed a 4.7 percent increase in total operating income, offset by a 6.8 percent increase in total operating expenses. The weighted-average cost-to-income ratio of the top 10 banks slightly deteriorated from 40.4 percent in 2018 to 41.2 percent in 2019.

Industrial and Commercial Bank of China (Asia) Limited (ICBC (Asia)) and Standard Chartered Bank (Hong Kong) Limited (SCB) had the lowest and highest cost-to-income ratios, respectively. DBS was the only bank out of the top 10 surveyed banks to record a decrease in its cost-to-income ratio. Despite the challenging environment, DBS managed to reduce its cost-to-income ratio by 81 basis points, contributed by the improved NIM and higher net fee income.

Cost-to-income ratios



Source: Extracted from individual banks' financial and public statements

China CITIC Bank International Limited (CITIC) recorded the largest increase in cost-to-income ratio among the top 10 banks – from 40.25 percent in 2018 to 44.26 percent in 2019. The increase was a combination of lower total operating income and higher total operating costs. Total operating costs were up by 9.2 percent compared to 2018 as the bank continued to increase its investment in technology and people.[9]

SCB remains the only bank with a cost-to-income ratio exceeding 60 percent. While most of the operating expenses were invested in Retail Banking, Private Banking is the client segment with the highest cost-to-income ratio, at 79 percent. Corporate & Institutional Banking performed the best in this area with the ratio at only 50.63 percent.[10]

COVID-19 and its resulting impact on remote working and the adoption of digital channels by customers is going to be a catalyst for some significant changes. We would foresee more transactions being conducted through digital channels, and banks increasingly seeking to automate processes to ensure resilience. While some are predicting a revolution in working patterns, we think the change is likely to be less extreme. The levels of working from home seen during COVID-19 are probably not sustainable in Hong Kong in the long term. However, there will surely be more flexibility for employees with a consequent impact on real estate costs at least.

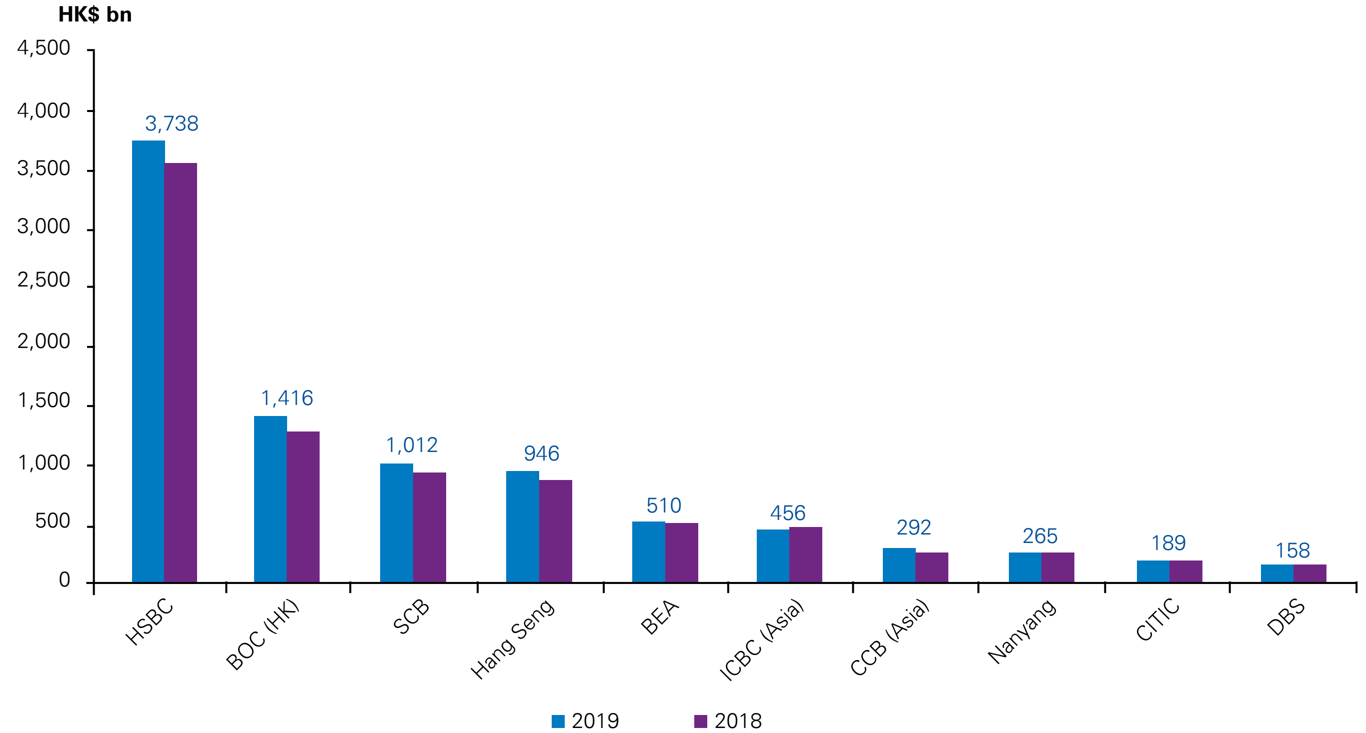
Loans and advances

Continuing the growth of previous years, total loans and advances of the surveyed banks increased by 6.4 percent, a significantly higher growth rate compared to 3.5 percent in 2018.

Total loans and advances for the surveyed banks hit HK$10 trillion for the first time in 2019, reaching HK$10,076 billion at 31 December 2019. This is an increase from last year's total of HK$9,468 billion. Commercial loans, mortgage lending and loans for use outside Hong Kong continue to make up most of the loans portfolio, representing 88 percent of total loans, consistent with 2018.

[9] CITIC Annual Report 2019, p.11 https://vpr.hkma.gov.hk/statics/assets/doc/100040/ar_19/ar_19.pdf
[10] SCB Directors' Report and Consolidated Financial Statements, p.52 https://vpr.hkma.gov.hk/statics/assets/doc/100269/fd_fin/fd_fin_1219_pt01_eng.pdf

Loans



Source: Extracted from individual banks' financial and public statements

Loans for use outside Hong Kong and commercial loans continue to be the two largest type of loans, representing 38.3 percent and 32.2 percent of total loans, respectively. While both have expanded in terms of balances, the percentage to total loans decreased slightly by 51 and 58 basis points, respectively. This is because the growth from mortgage loans was greater in particular in the first half of 2019. Mortgage loan balances increased from HK$1,615 billion in 2018 to HK$1,783 billion in 2019, leading to its proportion of total loans increasing by 64 basis points to 17.7 percent as at 31 December 2019.

HSBC and Bank of China (Hong Kong) Limited (BOC (HK)) continue to lead the lending market, constituting 51 percent of total loans of all surveyed banks as at 31 December 2019. SCB's reported balance sheet figures increased significantly as it now includes the operations in mainland China, Taiwan and Korea following a corporate restructure.[11] Its market share increased from 5.62 percent[12] in 2018 to 10 percent in 2019.

Among the top 10 surveyed banks, gross loans and advances increased from HK$8,496 billion to HK$8,982 billion, a growth of 5.7 percent compared to 2018. Seven out of 10 recorded an expansion in their loan portfolio.

After being the only bank among the top 10 to experience a drop in gross loans balance in 2018, China Construction Bank (Asia) Corporation Limited (CCB (Asia)) responded strongly by having the largest percentage growth in 2019. The gross loans of CCB (Asia) increased by 13.9 percent, from HK$257 billion to HK$292 billion. The growth was mainly driven by the increase in bilateral loans and syndicated loans, which offset the contraction of loans guaranteed by mainland China branches.[13]

HSBC's gross loans and advances increased by 5.4 percent to HK$3,738 billion, driven by an increase in residential mortgages as well as an increase in other personal lending.[14] BOC (HK)'s gross loans and advance increased by 10.3 percent to HK$1,416 billion as the bank focuses on developing its local and cross-border business.[15]

ICBC (Asia), CITIC and DBS are the three banks that experienced a contraction in their loan balances in 2019. For ICBC (Asia) and DBS, the decrease was largely driven by the contraction of commercial loans and trade finance.[16 17] For CITIC, the bank took a more prudent approach in granting new loans in the face of market uncertainties and rising corporate credit risk, leading to a drop in gross loans by 6.2 percent in 2019.[18]

COVID-19 has affected underlying economic activity, so we therefore expect loan growth to be lower or even negative in 2020. However, this depends on the speed and strength of the recovery in the second half of 2020.

Credit quality

Despite global economic and political uncertainty, credit quality remained strong in 2019 among the surveyed licensed banks. The impaired loan ratio[19] for Hong Kong's banks marginally improved by 1 basis point from 0.51 percent to 0.50 percent.

For the top 10 surveyed banks, the average impaired loan ratio stood at 0.51 percent, consistent with 2018. However, within that there were three banks that had a significant increase in their NPL ratio, partly offset by an improvement in the ratio of HSBC, which as the largest bank, offset these increases on a sector basis.

HSBC's impaired loan ratio improved by 9 basis points in 2019. The bank recorded an improvement in all types of non-personal loans and advances[20], demonstrating effective credit quality monitoring by actively assessing the impact of economic developments in key markets on specific customers, customer segments or portfolios.[21]

[11] SCB Directors' Report and Consolidated Financial Statements, p.19
[12] Derived from 2018 balances before the acquisition.
[13] CCB (Asia) 2019 Annual Financial Results press release, p.2 https://www.asia.ccb.com/hongkong/doc/about_us/newsroom/20200429-financial-results.pdf
[14] HSBC Annual Report and Accounts 2019, p.11
[15] BOC Hong Kong (Holdings) Limited Annual Report 2019, p.26 https://www.bochk.com/dam/bochk/desktop/top/aboutus/ir/docs/finreport/bochkholdings/2019ar/e101_Fullset.pdf
[16] ICBC (Asia) Annual Report 2019, p.292 https://vpr.hkma.gov.hk/statics/assets/doc/100077/ar_19/ar_19.pdf
[17] DBS Financial Disclosure Statements 2019, p.54 https://vpr.hkma.gov.hk/statics/assets/doc/100034/fd_int/fd_int_1219_eng.pdf
[18] CITIC Annual Report 2019, p.11
[19] Impaired loan ratio is calculated as impaired loans and advances divided by gross loans and advances to customers.
[20] HSBC Annual Report and Accounts 2019, p.33
[21] HSBC Annual Report and Accounts 2019, p.22

Hang Seng had the lowest impaired loan ratio in 2019, replacing BOC (HK), as there was no downgrading of large Commercial Banking customers in 2019, unlike in 2018.[22] On the contrary, BOC (HK) downgraded certain corporate advances in 2019[23], resulting in the ratio slightly increasing by 4 basis points.

SCB has shown the greatest improvement among the top 10, with its impaired loan ratio reducing by 12 basis points. The reduction is due to repayments, write-offs and upgrades to stage 2 of certain loans under Corporate & Institutional Banking.[24]

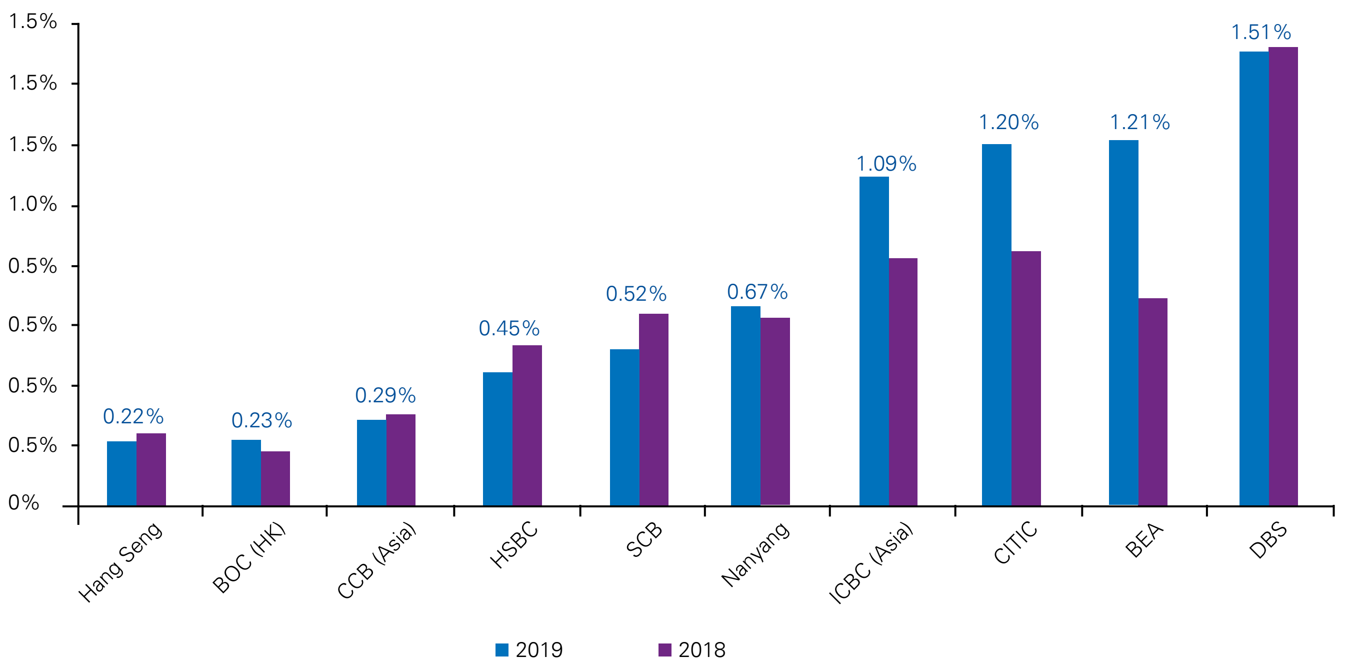
ICBC (Asia), CITIC and The Bank of East Asia Limited (BEA) all recorded an increase in their impaired loan ratio of more than 25 basis points. The increase for ICBC (Asia) was a result of reduced loan balances coupled with further downgrade of loans. For CITIC, the impaired loan balances increased due to the downgrade of specific loans in 2019[25] and write-offs in 2018. For BEA, the deterioration in credit quality was mainly due to its mainland China operations - the impaired loan ratio for Hong Kong operations improved from 0.29 percent to 0.25 percent, while that for mainland China operations deteriorated from 1.73 percent to 3.8 percent.[26]

Looking at 2020, we remain cautious on the credit quality of Hong Kong banks' loan portfolio. The spread of COVID-19 has become one of the biggest concerns for the global economy. Together with the uncertainties around ongoing US-China trade tensions, the HKMA has forecast the Hong Kong economy to grow by -1.5 percent to 0.5 percent in 2020, and the Composite Price Index to increase by 2.5 percent for 2020.[27] We expect that banks will monitor their loans' credit quality more closely than before to avoid any impact from the macro-economic changes.

In our view, the outlook for 2020 is uncertain. Notwithstanding loan moratoriums and other government support schemes, the reduction in activity as a result of COVID-19 will hit many businesses with a consequent impact on the number of NPLs. The Q1 result for US banks showed a significant increase in impairment provisions and we can expect a similar direction for Hong Kong banks in 2020.

[22] Hang Seng Annual Report 2019, p.32
[23] BOC Hong Kong (Holdings) Limited Annual Report, p.24
[24] Standard Chartered PLC Annual Report, p.39 https://av.sc.com/corp-en/content/docs/standard-chartered-plc-full-year-2019-report.pdf
[25] CITIC Annual Report 2019, p.11
[26] BEA Annual Report 2019, p.12 https://vpr.hkma.gov.hk/statics/assets/doc/100013/ar_19/ar_19.pdf
[27] 2019 Economic Background and 2020 Prospects, p.22 https://www.hkeconomy.gov.hk/en/pdf/er_19q4.pdf

Impaired loan ratio



Source: Extracted from individual banks' financial and public statements

The impact of COVID-19 on Hong Kong's banking sector

The onset of COVID-19 has caused significant disruption and challenges to the banking sector in Hong Kong, and is expected to have a major impact on banks' financial results and business and operating models in 2020 and beyond.

Predicting financial results in these unprecedented times is not easy, but a big part of revenue for banks in Hong Kong comes from net interest income, and we expect banks to face a number of challenges that will impact their NIM. For example, interest rates are low in the US, which in turn will impact rates in Hong Kong and the ability of banks in Hong Kong to sustain the levels of income generated from asset yields and deposit spreads. Coupled with that, in 2020 we will see the eight new virtual banks launch in Hong Kong, which are expected to compete with traditional banks on price to attract customers and deposits and therefore push up the cost of funding. However, we expect deposits at virtual banks as a percent of total balances to be relatively minor, at around 2 to 3 percent of the total, at least in the short term, which will mitigate this particular pressure.

It is also important to remember that banks reflect underlying economic activity, and in an environment where the economy is forecasted to contract – and where the chance of businesses closing is real – there is likely to be less demand for loan financing from corporates in Hong Kong to expand and grow their businesses, which will have an impact on income.

The other aspect of revenue is non-interest income. This is where we believe the story might be slightly more optimistic. Anecdotally, we have seen that financial markets businesses – whether for equity or fixed income products – have actually been quite strong in the first half of 2020, although we do not necessarily expect this to continue throughout the second half of the year. We have seen the stock market rally and a lot of the losses that were felt in March have been reversed. This volatility can help both investment management businesses and wealth managers. In our view, monetary policy measures implemented by central banks – such as increases in quantitative easing – and low interest rates on corporate bonds means that people are more likely to invest in the stock market in their search for better yield. This will likely continue for a while, but the big question is whether the recovery in the stock market is sustainable and underpinned by fundamentals.

In addition, we expect credit costs and loan impairment charges to increase, which will also have a significant impact on Hong Kong banks' performance in 2020. Hong Kong has, over the past 15 years or so, had quite low impairment ratios. More NPLs or impaired loans in the future will increase the impairment ratios and consequently drive higher loan impairment charges as loans move from provisions based on 12 months of expected credit losses to provisions based on lifetime expected credit losses. Furthermore, the underlying parameters for the calculations of expected credit losses, such as the probability of default and the loss given default, are expected to increase because of poorer performance, which would in turn drive higher impairment costs.

Overall, there is likely to be a significant impact on profitability in 2020 as banks grapple with challenges in generating revenue, as well as rising credit impairment costs that cannot be avoided. To maintain profitability, many banks will need to place an increased focus on costs as the primary lever. While there might be some small cost reductions that banks can make this year – for example, by utilising the Hong Kong government's employee support scheme – it is unlikely that their drive to manage costs will be reflected in the 2020 financial results. This renewed focus on costs will require banks to restructure and rethink how they are organised, which will take longer to be reflected in the financial results.

COVID-19 is causing many banks to pause and think about their future operating models and cost base going forward, and what lessons can be learned to make them more resilient to shocks, but also more flexible. We expect to see two broad trends emerge. The first is a much greater acceptance of flexible working. Employees have shown senior and middle management that they are able to work from home or with split teams and still be productive, without necessarily needing to be in the traditional office environment. Second, with more flexibility in terms of where employees work, there will also be more discussion around how they manage and arrange their workweek in a way that suits them best. These trends mean that some banks may start to consider their office real estate footprint.

We also expect banks to think beyond their corporate real estate footprint and consider their overall location strategy, which might include the reshoring and nearshoring of roles and functions, or further diversification of their shared service centre locations. Hong Kong's infrastructure and ability to get back up and running quickly in light of COVID-19 may cause some international banks to consider building up capacity in the city for their global operations to strengthen their resilience. Having smaller centres in Hong Kong could therefore be an attractive proposition for some banks – the value gained from operational resilience is arguably more important than costs.

We expect banks to also increase their focus on automation from a cost and resilience perspective. Ensuring that banks can continue to operate and offer their core services is key, and customers are also increasingly demanding more digital solutions for their banking needs, especially as COVID-19 has led many to adapt to digital channels. To support this, banks are realising that more of their transaction processing will need to be automated.

The banking landscape continues to rapidly evolve, and banks no longer do everything by themselves – there is more reliance on third parties as part of the overall ecosystem to provide not just banking services, but broader lifestyle services to customers. However, COVID-19 has shown that this increasing reliance on third parties can present significant challenges for banks. Going forward, banks cannot afford to look at just their own resilience and business continuity plans – they also have to test and review the resilience of their key third parties. Managing third party risk will therefore become increasingly important in ensuring that banks can continue to offer a seamless service to their clients, and can preserve the trust that customers in Hong Kong continue to place in them.

Banking in 2030

From left to right: ***Pat Woo***, *Head of Sustainable Finance, Hong Kong, KPMG China;* ***Isabel Zisselsberger***, *Head of Customer and Operations, Hong Kong, KPMG China;* ***Peter Outridge***; *Head of People & Change Advisory, Hong Kong, KPMG China*

The banking landscape in Hong Kong is rapidly transforming, with a number of market disruptors driving new ways of working, operating models and customer behaviour. The amount of change the banking sector will see in the next 10 years will be significantly greater than in the previous decade. KPMG China's experts in Hong Kong sat down to discuss what the banking industry in Hong Kong could look like in 2030, and the key drivers behind this vision.

What will Hong Kong's banking sector look like in 2030, and what are the key drivers?

McSheaffrey: If you look at the banking landscape in Hong Kong, you can't ignore what has happened in the last 12 months. We have seen social unrest which disrupted business activity, as well as the outbreak of COVID-19 in 2020. These events are driving significant changes in Hong Kong's economy – this is important as the banking sector reflects what is happening in the underlying economy. In my view, there are a couple of major macro trends that are going to shape Hong Kong's banking sector for the years to come.

From a trade and globalisation perspective, China and the US are expected to remain the largest economies in the world, and therefore the China-US bilateral relationship will still be the biggest. I expect that they will realise that they need each other and will come to an agreement, albeit possibly an uneasy one, leading to a more balanced and stable relationship between them, which is important. In terms of what this means for Hong Kong's banking sector, I believe that Hong Kong's role as an international financial centre and the gateway for international banks and capital to invest into mainland China and for mainland Chinese capital and businesses to invest abroad, will remain through to 2030.

A financial hub is always needed to clear transactions, so if Hong Kong can get its blockchain platform and technology right, it could attract organisations from around the region to conduct trade finance transactions on a distributed ledger basis.

Fong: With mainland China continuing to open up its financial services sector and removing restrictions on foreign ownership, we expect to see more international financial institutions seek to enter the market or expand their presence onshore. We are already seeing US and other international banks seeking to invest in and obtain licences to operate in mainland China. On the flipside, we are also seeing more mainland Chinese banks looking to set up operations in Hong Kong as a stepping stone to the rest of the world. By 2030, we may also see some mainland Chinese banks become major regional banks for Asia and headquartered in Hong Kong, competing with other international players in the region.

McSheaffrey: The other major macro trend is around shifting supply chains, which will have an impact on Hong Kong. The world has experienced many years of globalisation, but supply chains for a number of sectors are going to look quite different because governments and corporates will start looking at more domestic or nearshore suppliers for the critical goods that they need. Supply chains will become less global, and therefore trade finance may also become less global, and more regional and domestic.

Zisselsberger: Or they will become more fluid. Organisations may start looking to have more dynamic supply chains to be more domestically focused, but also to be set up in a way that they can quickly move. If banks can perform the supporting role in helping organisations with supply chain agility, then that could be a good differentiator for bank value propositions.

McSheaffrey: That will need agile systems and technology for banks to be able to support supply chains. We have seen blockchain in trade finance used in Hong Kong following the launch of eTradeConnect by the Hong Kong Monetary Authority (HKMA), which should help supply chains to become more flexible. A financial hub is always needed to clear transactions, so if Hong Kong can get its blockchain platform and technology right, it could attract organisations from around the region to conduct trade finance transactions on a distributed ledger basis.

***Paul McSheaffrey**, Head of Banking & Capital Markets, Hong Kong, KPMG China*

What is the future of Hong Kong's role in the development of the Greater Bay Area and as an international financial centre?

Fong: Hong Kong has a key role to play in the development of the Greater Bay Area (GBA) as an international financial centre, as well as a hub for asset management, risk management and global offshore RMB business. Hong Kong's contribution to the development of the GBA will be key to the region's mutually beneficial growth. However, whether Hong Kong's strength as an international financial centre will be secure in 2030 will also depend on how the city can maintain its unique position under the principle of 'one country, two systems' and its robust legal and regulatory systems to differentiate itself from other cities in the region.

Zisselsberger: Another key area that will determine Hong Kong's competitiveness as an international financial centre in 10 years' time is where banking talent is developed, nurtured and based. Hong Kong has long been known for its deep financial talent pool with international and longstanding experience. This talent pool will be hard to develop and nurture overnight in other emerging cities.

McSheaffrey: People also care deeply about the liveability of the city where they want to work. Hong Kong has long been viewed as a very liveable city, and continues to attract both international and domestic talent.

As an international financial centre, Hong Kong also has a key role to play in the development of green and sustainable finance. What will the landscape for sustainable finance look like in 2030?

Woo: The hope is that in 10 years' time, 'green and sustainable banking' may be an obsolete term in the sense that sustainability is so deeply embedded into the psyche of organisations and investors. Just how KYC and AML have become a norm that has been widely accepted by clients, sustainable finance is also moving in that direction. In addition, the HKMA and SFC's announcement in May on the establishment of the Green and Sustainable Finance Cross-Agency Steering Group is a positive step and a clear statement of intent to make Hong Kong a green finance hub.

***Terence Fong**, Head of Chinese Banks, Hong Kong, KPMG China*

> *"There is a lot of demand for financing to build or transform infrastructure and transition to a lower carbon economy. Hong Kong will be seen as an attractive hub for green finance in the region due to its favourable regulatory framework, and the trust and transparency it brings to sustainable investing."*

What is going to be needed to establish Hong Kong as a green finance hub?

Woo: The inclusion of the Environment Bureau, the Financial Services and the Treasury Bureau, Hong Kong Exchanges and Clearing, the Insurance Authority and the Mandatory Provident Fund Schemes Authority in the Steering Group is a massive step in the right direction, and shows a coordinated, cross-sectoral approach to the development of green and sustainable finance in Hong Kong. However, in order to fully establish itself as a green finance hub, Hong Kong needs to develop a deep talent pool with relevant expertise, which is currently lacking. The development of professionals that have both finance and sustainability expertise will be critical. At the same time, organisations and investors alike need more clarity around the standards and the taxonomy to help determine which projects and activities are qualified as green or sustainable.

Where is the demand and supply for green finance capital coming from?

Woo: It all started with major asset owners, pension funds and sovereign wealth funds pushing for sustainable investing. This trend is not necessarily just in the west. The HKMA's Exchange fund has also announced its intention to integrate ESG and green finance principles into its investment process, and I expect that mainland China will also start to shift the market, with some of that coming to Hong Kong in terms of pension fund and sovereign wealth fund flows.

There are definitely significant opportunities and projects in Asia that people are looking to finance. There is a lot of demand for financing to build or transform infrastructure and transition to a lower carbon economy. Hong Kong will be seen as an attractive hub for green finance in the region due to its favourable regulatory framework, and the trust and transparency it brings to sustainable investing. With investors increasingly concerned about greenwashing, trust and transparency is key.

We have looked at the more macro and international factors that will impact Hong Kong's banking sector. Shifting our focus to the domestic market, what will the retail bank of the future look like?

Zisselsberger: What we have seen from a number of industry reports and market surveys, including KPMG's latest Customer Experience Excellence report, is that consumers in Hong Kong place a lot more trust in their banks compared to consumers in the rest of the world. Banks therefore need to think about how they can leverage this to expand their role as a provider of services related to trust.

> *Banks might instead embrace the concept of pop-ups and be available to people when and where they need them. The retail bank branch of the future should provide convenience to the customer but still provide that personal service.*

Will there be branches in 2030?

Zisselsberger: Yes, because even though we will have a digital society, when it comes to significant transactions and life-changing events, the branch still has a role to play. In my view, banks will get rid of anything that is transactional in nature at their branches – nobody should ever need to go into a branch for that – and continue to provide in-person services as a trusted advisor to customers when they make larger financial transactions that are important to them. In addition, the branch might not be in a static location in a building. Banks might instead embrace the concept of pop-ups and be available to people when and where they need them. The retail bank branch of the future should provide convenience to the customer but still provide that personal service.

Fong: Also, the launch of virtual banks, increasing competition from technology companies and developments like 5G will really accelerate the digitalisation of banking, especially with the younger generation more willing to conduct banking digitally rather than in person, at least for smaller and more simple transactions.

Zisselsberger: Hong Kong has a difficult balance to strike. The city's ageing population will represent an even bigger segment by 2030. Banks will need to strike a balance between this older generation that expects somewhat more human interaction and physical touchpoints, and the younger generation that expects a much more enhanced digital experience.

This is also linked to the impact of COVID-19 which will completely change ways of working, as organisations seek to minimise their office real estate and encourage more agile and remote ways of working. I think that as a result of COVID-19, people will prioritise family, healthcare and social responsibility. Customers will therefore want their bank to provide advice about their spending and saving to help achieve not just their financial goals, but also their lifestyle and broader community goals. This is probably where banks are weak at the moment, and this is where the big shift is needed over the next few years if banks want to be seen as part of the community in Hong Kong.

> *With consumers in Hong Kong generally trusting their banks, what are the trust-related services that can be offered? One example is that by 2030, banks might be viewed by customers as their trusted personal data bank, and manage their customers' data like they do with their financial assets.*

With ways of working and behaviours likely to change as a result of COVID-19, what else will customers want from their bank?

Zisselsberger: Banks could offer more flexible and bespoke products for savings and mortgage loans, for example, and will also need to be more nimble and personalised. Banks could also think about how to use their loyalty schemes and credit cards to their advantage to create that better level of personal connection with their clients. For example, banks can consider how they package their standard product offerings – when offering a mortgage loan, banks could couple that with something that benefits their customers and their family, and provide the support needed for customers going through significant events or changes in their lives.

It really comes down to thinking about the ecosystem more, what the value proposition is and how they can bundle products accordingly. Banks will be forced to do this to some extent by what is happening in the industry and how consumer behaviours and expectations are already changing. This all ties into the fundamental aspect of trust. With consumers in Hong Kong generally trusting their banks, what are the trust-related services that can be offered? One example is that by 2030, banks might be viewed by customers as their trusted personal data bank, and manage their customers' data like they do with their financial assets – essentially providing security not just for their money, but also their data.

How might the banking workforce change in the next 10 years?

Outridge: There will be a significant shift and increase in the importance of data, analytics and the roles related to data, such as data scientists. Some industry reports have predicted that data scientists will be the most highly paid role at banks in 10 years' time. This is a result of an expected shift in terms of capabilities within banks and the insights that can be generated, and how those insights are effectively applied to customers and products. We also expect to see the greater use of automation by banks. The question banks are asking themselves now is what tasks and roles do they want to automate, and what does that do to the remaining workforce in the organisation in terms of shape and capability?

Song: At the end of the day, banks are looking to boost profitability and return to stakeholders. Banks were the early proponents of labour arbitrage, and the natural evolution of that is digital labour and the automation of non-core services. In my opinion, 10 years ago banks might have thought that 80 to 90% of their activities would classify as core services. But with massive industry disruption, the proliferation of fintech players and more asymmetric competition, banks need to have a hard think about what core services they want to retain and what they want to farm out over time. A lot of what is deemed to be non-core services could possibly include some middle office and risk functions. I would expect to see a lot more of the classic back and middle office being revisited and spun out to digital labour, which I would define as some level of automation, either complete or partial with some humans in the process. In my view, this model will become the new normal.

Outridge: As banks look to future-proof themselves through automation and the increasing use of data to provide insights and customise products and offerings for customers, this means that banks probably need to have another layer of decision-making and analysis from a regulatory point of view which needs to be performed by humans. While machines can automate a lot of the rule-based processing, there are a lot of deeply analytical tasks that they can't do – such as thinking about new solutions, new products and answers to new problems – which still require human input.

> *Based on the prediction of significant automation in banking in the future, deep data skills are going to be essential to banks, but these skills might not be ones that banks retain in-house. Maybe they are skills brought in through collaboration and partnerships with technology companies.*

Song: In this new normal, there will likely be a technology-driven analysis that will provide recommendations to frontline staff. I see a barbell outcome with a variety of options within the spectrum. The first is where copious amounts of data and analysis are provided by artificial intelligence (AI) to a human employee, who then tailors this for their human end client. The human touch, understanding and nuances will be key here, but the end decision is still made by the human, be it advisor or end client.

On the other end is the more AI mandate model where banks' AI make decisions on behalf of their clients. In this case, if the banks are relying on AI or an algorithm to make the decisions, this can become really tricky if things go wrong, as the regulators will not go after the AI or algorithm, they will go after the bank and most likely the individuals who lead that business or who signed off implicitly or explicitly on that AI/algorithm deployment.

It is therefore critical for banks to align their traditional model risk framework to include AI and machine learning models that impact clients and markets. This is commonly referred to as the 'explainability' barrier – reverse the thought process and regulators will not accept the veil of ignorance argument as a defence. The proliferation of AI in banking will inevitably cause this key risk to be tackled head on by banks and business leaders who sign off on the AI and algorithms.

McSheaffrey: As we move to a more technology, automation and model-driven way of business, banks are still going to be on the hook from a risk perspective. The big challenge for banks is then how do they get the right people with suitable technology skills to monitor these things?

Outridge: Based on the prediction of significant automation in banking in the future, deep data skills are going to be essential to banks, but these skills might not be ones that banks retain in-house. Maybe they are skills brought in through collaboration and partnerships with technology companies. We are already seeing top performers preferring to work at technology companies rather than in the financial services industry. Banks will have to offer attractive incentives to attract top tech talent. This is also why data scientists are expected to be the most highly paid role in the organisation. However, just how sustainable that is for banks remains to be seen.

Song: Ultimately, this comes back to the discussion around core versus non-core services. The future of banking could be the integration with some mega-cap technology companies. It would seem like the future non-core services of the bank would be the actual core services of these technology companies. If you look at the future of competition in the banking sector, banks will be competing against technology companies that are continuing to disintermediate banking services piece by piece. There might eventually be an inflection point where banks say that they cannot do it themselves, and may need to partner with technology companies to succeed.

McSheaffrey: I agree that in the next 10 years, the discussion and focus will be on what the core services of banks are. I would see that this includes maturity transformation – taking short-term deposits and lending them long-term – and risk management, in particular, credit and market risk management. Banks will take on that maturity transformation, credit risk and market risk that other organisations like technology companies don't want. Bringing this back to the workforce, a key success factor for banks will focus on how well they are able to staff the core of what they do, and then, and then how effectively they staff their non-core services.

Outridge: A key success factor will also centre around how banks can respond quickly to changing scenarios and augment or adapt roles and skills as needed. Traditional Workforce Planning is being replaced by Workforce Shaping, a capability which allows banks to model future business scenarios, and the available technology to determine the skills and capabilities required per scenario.

> *The future of regulation will be digital, and will we see the greater use of technology to help manage regulatory risk. This trend has already started and the onset of COVID-19 will only accelerate what is already in progress.*

This enables a more fungible allocation of resources where employees' skills are matched to certain tasks or work rather than to traditional defined and rigid roles. This will help banks answer questions around which capabilities to build, buy, borrow or bot (automate), and also where to locate these resources. I think in 10 years' time, the traditional shape of banks as we know it today will be vastly different. Automation will drive a whole new set of skills and will change the shape of the organisation, as well as traditional banking and workforce models, which also then requires new and different leadership skills and styles.

What will the future of regulation look like?

Song: The future of regulation will be digital, and will we see the greater use of technology to help manage regulatory risk. This trend has already started and the onset of COVID-19 will only accelerate what is already in progress. In particular, we see a lot of regulatory fragmentation in the region since Asia is not one single mature, homogenous market.

Over time, I think we will start to see more convergence in digital regulation. One example could be some level of regulatory harmonisation in Asia in the longer term to maintain the region's attractiveness and competitiveness, and some form of data standardisation or common principles may be a likely outcome. That being said, it is likely that jurisdictions in Asia with larger domestic markets and which are home to large technology companies – such as China – will have greater influence in setting a data standard. This could lead to an interesting dual world standard between Asia (potentially led by China) and the US in technology, including data. Local jurisdictions in Asia could still each enforce their own data standard or unique regulations. However, they will need to find a balance between attracting or maintaining foreign investment versus the risk of losing to more favourable markets in Asia that adopt a uniform standard.

I think there will have to be some collaboration and positive movement in this space because the region will need to come together in the post-COVID-19 New Reality. If you look at the potential fallout of COVID-19, it could be Asia's loss as a whole if organisations decide to reshore back in their home markets and shift their supply chains. In my view, when faced with supply chains reshuffling and more onshoring, Asia will need to come together as a bloc to think about how to take away the barriers to entry, how to make business easier and to convince organisations and people to stay in the region. Greater regulatory harmonisation in Asia will be key to encouraging businesses to stay onshore and invest in the region.

***Paul McSheaffrey**, KPMG China; **Jianing Song**, Partner, Risk Consulting, KPMG China*

Regulatory-driven transformation

Overview

James O'Callaghan
Partner, Head of Technology Consulting, Hong Kong
KPMG China

Jianing Song
Partner, Risk Consulting
KPMG China

COVID-19 is the catalyst that will fast-track regtech development in Hong Kong

In the past year, the importance and effectiveness of regtech in banking has been brought to the fore in Hong Kong, evidenced by the city's fast-growing fintech community and increasing regulatory guidance and support. We believe that the onset of COVID-19 is a catalyst that will accelerate the adoption of regtech by banks in Hong Kong. Banks are starting to realise that these technologies are the way of the future for cost-effective regulatory compliance, operating models and to maintaining a strategic advantage in the long run.

Drivers of change

As Hong Kong's regulators demand more transparency, accountability and granular information from banks, they continue to push for greater regtech and fintech adoption in financial services. These efforts have come in the form of new guidance around data, emerging technologies and artificial intelligence, as well as through initiatives such as the launch of fintech and regulatory sandboxes and accelerator programmes.

While these developments have helped the market move in the right direction, we believe that the new reality brought about by COVID-19 marks a watershed moment that will fast-track regtech development and adoption in Hong Kong. The pandemic has caused significant disruption to traditional operating models, ways of working and consumer behaviour and expectations. These shifts mean that organisations that have been successful in the past may now face significant challenges if their business models no longer remain relevant in today's new environment. The same disruption that has shaken up other sectors is also already taking place in the banking industry, including in the space of compliance, regulation and supervision.

The traditional model of how banks and regulators view compliance is changing, and there is a real need for banks to capitalise on the significant benefits that regtech can bring. For example, with banks having invested in beefing up their compliance and risk teams after the global financial crisis, the current economic climate will cause some concern around whether these existing levels of infrastructure costs can be sustained. Investing in digital solutions like regtech will help to manage costs in this challenging environment, while also helping to defend the business from the disruption that is already taking place in the banking sector. Furthermore, regtech can bring benefits beyond just cost-effectiveness, such as increased speed and operational efficiency, and greater coverage of compliance. Regtech can also reduce costly recurring regulatory and risk overhang, and can act as a workforce enabler to upskill and free up talent in the organisation away from manual processing and spending time on clearing false positives, and towards a greater focus on the higher-value issues and tasks.

The global spread of COVID-19 has also challenged financial institutions' reliance on Centres of Excellence and regional shared service centres. Indeed, one

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consequence of COVID-19 could be the scaling back of globalisation, which will undoubtedly have an impact on existing operating models and organisational structures.

The approach of relying on single large service centres to capitalise on labour arbitrage may not be optimal in the post-COVID-19 market environment; regtech is part of the solution to reducing the reliance on these centres and making it easier to manage regulatory compliance onshore.

Now is the time for action

We believe that COVID-19 has firmly placed regtech front and centre for banks, and will break through barriers to its adoption such as resistance to change and the fear of the 'unknown'. Banks in Hong Kong now need to start actively thinking about the business challenges that can be solved with regtech, take advantage of the fintech and regulatory sandboxes and trial some new technologies and proofs of concept. Banks should also view regtech not just through an innovation lens, but instead as a key component of their overall business strategy, with key decision-makers driving the conversation.

Importantly, banks need to have the right data strategy and digital infrastructure in order to truly reap the benefits that regtech can bring. Regtech can then in turn help to accelerate banks' digital and data strategy. Regtech is essentially two sides of the same coin. The same data and platforms which power regtech solutions can also be leveraged to boost business intelligence for banks around their products, services, cross-selling opportunities, customer behaviour and workforce – for example, identifying the attributes of their best performing RMs. In addition, if implemented holistically and effectively, with the right data structure in place, regtech will become an invaluable part of the business as it will allow banks to predict emerging risks with greater speed and accuracy. This is a really powerful benefit for banks, and it will only get more rewarding over time as more data is collected and analysed.

> *"Leading banks may also seek to partner with advisors who can offer a combination of technology expertise and deep risk and regulatory experience in the market to adopt a new technology enabled strategy to meet current and future regulatory challenges."*

The adoption of regtech in the region is also particularly important for international banks operating in or seeking to set up a presence in mainland China. The legal and regulatory landscape in mainland China often requires global banks to develop unique digital infrastructure and data management strategies for that market. While the traditional approach for international banks has been to roll out regtech solutions from the head office, we believe that this is one area where banks in Hong Kong can exercise more autonomy over the systems they choose and the infrastructure they build, therefore providing them with more opportunities to trial regtech solutions for the region.

Leading banks may also seek to partner with advisors who can offer a combination of technology expertise and deep risk and regulatory experience in the market to adopt a new technology enabled strategy to meet current and future regulatory challenges.

It is clear that COVID-19 is a wake-up call for banks in Hong Kong to move with the times. Just as other sectors such as consumer and retail have experienced a significant shake-up due to increased digitalisation and disruption, the financial services industry is next. We are already starting to see pockets of mass disruption in the sector, with technology players carving out components of banking such as payments, online investing and robo-advisory. In our view, the regtech, fintech and broader digital transformation conversation should no longer be just about how to do things cheaper, faster, more accurately and with less risk. It should be about how to gain a strategic advantage and remain relevant in the new normal post-COVID-19 environment, and how to future-proof the organisation so that it is prepared for new market dynamics, regulatory expectations and client demands. We believe that the banks that have the audacity to take swift action and truly embrace regtech are the ones that will maintain a competitive edge and see long-term growth and success.

In this section, we outline three key areas where banks can achieve quick wins and realise tangible benefits through the adoption of regtech: governance, risk and compliance; financial crime compliance and natural language processing.

Governance, risk and compliance

Jeffrey Hau
Partner, Risk Consulting
KPMG China

Technology-enabled GRC solutions is the direction of travel for banks in Hong Kong

What do marketing and risk and compliance budgets have in common? John Wanamaker famously said: "Half the money I spend on advertising is wasted. The trouble is, I do not know which half." Risk and compliance professionals have it marginally better than Mr Wanamaker: We know that time and resources are wasted on teams trying to identify, gather and aggregate risk information across the organisation in such a way that management attention and remediation efforts are targeted effectively and in a timely manner. Enter Governance, Risk and Compliance (GRC) technology.

Today's tools promise much, but do they deliver?

A challenging environment of shrinking margins and ever-increasing regulatory focus is driving banks to leverage regtech as a means of balancing regulatory expectation with the cost of compliance. Regulators' investment in technology for supervisory purposes and increasing requirements for more granular and online prudential reporting act as a powerful inducement for banks to follow suit.

In the area of risk and compliance, the premise of a single tool that will host all risk information, help standardise and streamline thresholds for findings and escalations, help consistently rate issues across business lines, drive workflow and allow for tailored user configurable reporting sounds like a winning proposition. Indeed, the ability of management to have a single source of truth to better understand the current state of their control environment and compliance with regulatory obligations would be a significant benefit for banks, especially in light of increasing regulatory expectations.

There is no doubt that when used well, GRC technology offers an effective solution to enhancing compliance across all three lines of defence while simultaneously reducing inefficiency. In fact, we believe that GRC technology is no longer a 'nice-to-have' for banks – it is a necessity.

> *"Without proper analysis and planning, and especially a full understanding of their current framework, banks that rush into implementation may find that their business processes are not ready for automation. At best, this can lead to expanding timelines and costs. At worst, the technology fails to live up to expectations."*

However, organisations that are considering a GRC implementation should think through all of the components and key activities necessary to ensure a successful implementation. Without proper analysis and planning, and especially a full understanding of their current framework, banks that rush into implementation may find that their business processes are not ready for automation. At best, this can lead to expanding timelines and costs. At worst, the technology fails to live up to expectations.

What should holistic GRC technology solutions look like?

We believe that GRC technology solutions should provide an integrated and organisation-wide technology platform that captures holistic views on risk, compliance, events and controls that can help banks to form a single source of truth. Such a platform should encompass a repository with workflow management of pre-configured process flows, checklists and role descriptions. It should also include a library of Key Risk Indicators, risk registers, taxonomy and process flows, compliance risk assessments and integration with testing, policy management and audit programmes.

> *"We expect that leading banks will engage with advisory partners to help them across the full spectrum of their GRC technology implementation. This should include the maturity of frameworks, people and culture, as well as scanning and screening the regtech landscape for effective collaborators with compatible solutions."*

Effective solutions also include an inventory of regulatory obligations, allowing banks to continuously scan the regulatory environment for relevant requirements, extract and map obligations to policies and key controls, and perform gap analyses on policies and procedures.

KPMG's solutions such as SOFY GRC, Powered Risk and Risk Hub also offer dynamic technology-enabled approaches to risk management, and enable banks to harness powerful analytics and real-time management information, including risk dashboards with predictive analytics, scenario and thematic analysis, and compliance and incident management.

Ensuring a successful GRC technology implementation

The successful GRC technology implementations we see in the market are generally the result of rigorous discipline around organisational readiness and adherence to scope. The pliability of new technology can create the temptation to create correspondingly refined and complex risk frameworks – just because the technology can take you there does not mean that your people and processes can necessarily follow suit. The organisations that are clear as to where they stand in terms of maturity and check their aspirations against what is feasible, will get the best return on investment.

Whether at the beginning of GRC technology implementation, or looking to revisit and refresh existing solutions, the starting point is a maturity assessment that covers frameworks, people and culture. We expect that leading banks will engage with advisory partners to help them across the full spectrum of their GRC technology implementation, as well as to help them scan and screen the regtech landscape for effective collaborators with successful solutions.

It is important for banks to note that GRC technology implementation does not have to be expensive or complicated. New entrants to the market are providing solutions that can be deployed in a modular fashion, allowing for phased implementations. "GRC as a service" is also emerging as an option for those who are less concerned about customisation but need an effective result at speed, and without the overhead of investing in and maintaining technology in-house.

Banks therefore need to be strategic about how they deploy GRC solutions that are fit-for-purpose. This is especially relevant for the international banks in Hong Kong that are often mandated to use solutions that have been implemented from the head office, and therefore might not fully cater to the regulatory requirements in Hong Kong.

Banks could also seek to invest in point solutions in the short-term that are cheap and easy to implement, without having to navigate the complexities of head office mandates.

Looking ahead, Hong Kong regulators will continue to raise the bar for compliance. COVID-19 has brought unprecedented focus on preservation of effectiveness of key processes in a crisis. We believe that our integrated technology-enabled GRC solutions – such as KPMG Risk Hub, SOFY GRC, Powered Risk and Hong Kong Regulatory Requirements Register – are a key part of the answer.

Financial crime compliance

Rani Kamaruddin
Partner, Head of AML & Sanctions, Hong Kong
KPMG China

Raising the bar for financial crime compliance through digitalisation and automation

With Hong Kong's regulators placing digitisation and technological innovation at the forefront of their agenda, banks should seek to move the needle on improving their financial crime compliance capabilities through the use of digital solutions and automation.

In 2019, the HKMA announced its intent for increased dialogue and collaboration between the banking industry and technology companies to address opportunities that regtech can bring to anti-money laundering and the counter-financing of terrorism. The heightened awareness around operational resilience and business continuity as a result of COVID-19 has further highlighted the need for banks to focus on protecting their critical services from disruption, which includes the management of financial crime risks. Now more than ever, banks need to raise the bar and start to invest in and implement technology-enabled solutions to improve how they monitor and combat financial crime.

In addition to focusing on eKYC to facilitate seamless remote onboarding, we believe that banks should consider how best to leverage digital solutions and automation in other areas of financial crime risk management, such as the monitoring of suspicious activity and sanctions compliance to improve the effectiveness and sustainability of controls processes, allocation of resources, system effectiveness and overall approach to managing financial crime risk.

Sanctions screening and transaction monitoring investigations

The review of sanctions alerts remains a complicated and laborious process for many banks in Hong Kong, and the volume of transactions and related sanctions alerts is expected to increase further. To put the size and scale of sanctions alert reviews into perspective, a large bank might generate a daily volume of 1.5 million payment messages, with 100,000 messages raising approximately 150,000 to 200,000 alerts. Typically, 95 percent of these alerts are deemed to be false positives, often generated due to poor system testing and tuning. Inaccurate and poor quality data could also result in alerts not being generated when they should, which should be a major cause for concern.

In another process, the ongoing monitoring of customer transactions, transactions that are identified as potentially suspicious need to then be reviewed thoroughly to understand the customer's past transactions in relation to their nature of business, purpose of the transaction and other counterparties involved. This process of information gathering is critical to determining if the alerted transaction might require the reporting of suspicious activity to the Joint Financial Intelligence Unit. However, gathering this information from various source systems within the bank is also time consuming and labour-intensive – and this is all before an investigation even takes place.

> *"The heightened awareness around operational resilience and business continuity as a result of COVID-19 has further highlighted the need for banks to focus on protecting their critical services from disruption, which includes the management of financial crime risks."*

Sanctions alerts classification and pre-investigation profiling are therefore key areas that we believe can be made significantly more efficient through the use of digital solutions such as the KPMG Sanctions Alert Classifier that is based on machine learning and robotic process automation solutions. These technologies can help to ensure that the sanctions alerts process and pre-investigation work are automated, drastically reducing manual labour and processing times, ensuring greater accuracy and reducing the need for human effort throughout the entire process. Furthermore, with banks' IT departments often tied up with multiple projects, we have seen an increasing number of banks opting to invest in external solutions to do the job faster and more effectively.

In addition to leveraging technology to better manage the outputs from their sanctions screening and transaction monitoring systems, banks should also focus on the overall effectiveness of their systems. Indeed, ongoing monitoring, tuning and testing should be conducted on all aspects of a bank's transaction monitoring system to ensure that it is effective and efficient in detecting potentially suspicious activity. Typically, the manual tuning and testing of transaction monitoring system settings can take banks a minimum of 16 weeks to complete. Through the effective use of automation, this becomes a straightforward process that can be completed in a week. Automating this process will be crucial in helping banks with their financial crime risk management, especially with the HKMA expected to conduct thematic reviews on transaction monitoring system effectiveness going forward.

A holistic view of customer activity

Another challenge banks face around remaining up-to-date on the understanding of customer activity is that this is often fragmented, with client information not being properly logged, and regulatory compliance monitoring being performed in silos which undermines banks' ability to form a complete picture of a customer's activity with an institution across accounts and business divisions. For frontline staff and RMs, this means they rarely have a holistic view of their customers and their activities.

The use of innovative customer activity dashboards offers a solution for banks in this regard. These dashboards would help to provide RMs with a visualisation of the historical activity across all of a customer's accounts, while also helping to identify revenue generating opportunities with the customer. There is also potential for this solution to help the bank beyond pure financial crime compliance to include regulatory compliance – for example, financial market regulation.

The growing threat of financial crime as a result of the proliferation of technology means that banks need to act fast to adopt innovative cost-effective ways to combat financial crime. Coupled with new business models, ways of working and customer interaction caused by COVID-19, the need for digitalisation to reduce costs and improve financial crime risk management is now greater than ever.

> *Typically, the manual tuning and testing of a transaction monitoring system can take banks at a minimum 16 weeks to complete. Through the effective use of automation, this becomes a straightforward process that can be completed in a week.*

Natural language processing

Jianing Song
Partner, Risk Consulting
KPMG China

Bradley Scheepers
Associate Director, Data & Analytics (Technology Advisory)
KPMG China

Shifting the focus of NLP from a costs-based discussion to an insights-led conversation

The banking industry in Hong Kong continues to face increasing pressure to improve operational efficiency and enhance client centricity, while having to comply with increasingly complex regulations. One way for banks to achieve this is by leveraging AI-powered speech-to-text and natural language processing (NLP) technology to improve regulatory compliance in areas such as sales conduct, sales suitability, market surveillance, order taking, pricing and disclosure.

Banks generate a significant amount of data from calls and conversations between frontline staff and their clients, which are then recorded and tested for risk and compliance purposes. The sheer volume of these recordings makes the manual inspection of these records laborious, inefficient and time consuming for banks, and with the end result still only achieving minimal coverage.

This is where a combination of AI-powered speech-to-text and NLP solutions can greatly enhance the process. Speech-to-text facilitates the digitisation of voice recordings into text form, while NLP technology helps to interpret the written text and the sentiment of the conversation. The technology also helps banks to cover close to the entirety of all the call recordings and pick out with a high degree of accuracy the regulatory areas that they need to verify and check. Ultimately, this gives banks an enormous amount of coverage that they never had before. Banks can also enjoy levels of operational efficiency and speed that they never had before, while freeing up valuable time for their traders and front office staff to focus more on serving their customers.

With client call recordings efficiently transcribed to text and analysed by NLP solutions, banks are able to gain a set of searchable criteria to help them identify specific attributes for analysis – for example, those in payments or order taking conversations. Banks can also then more easily identify interesting aspects of a phone call, giving them enhanced insight into the traders and front office staff that are more successful and the reasons why, as well as what can be improved to make their staff more effective.

In our view, the implementation of NLP models – combined with speech-to-text – is a quick win for banks in terms of enhancing efficiency and generating valuable insights. However, we have observed that the level of uptake and maturity among Hong Kong banks remains relatively low. While we have seen proofs of concept being developed by some banks – albeit often with smaller impact and lower risk implications, such as targeted marketing – it is still nowhere near the scale of production implementation as in other sectors such as consumer and retail.

> *“The sheer volume of call recordings between frontline staff and their clients makes the manual inspection of these records laborious, inefficient and time consuming for banks, and with the end result still only achieving minimal coverage. This is where a combination of AI-powered speech-to-text and NLP solutions can greatly enhance the process.”*

One key challenge to the more widespread adoption of NLP technology is the continued fragmented and inconsistent adoption across organisations, teams and regions, as well as organisational reluctance to invest in these technologies. However, with the continued digitalisation of the banking industry, key decision-makers at banks need to understand that an upfront investment in these technologies will go a long way in reducing risk, increasing efficiency and saving costs in the long run. In fact, the focus is not just on cost-cutting. The implementation of NLP technology can provide downstream benefits for growth through the vast amount of insights that can be generated to help frontline staff serve their clients and enhance customer experience. We therefore believe that leading banks in Hong Kong will shift their focus on speech-to-text, NLP and other related regtech solutions from a costs-based discussion to more of an insights-led conversation.

The use of mixed languages and different accents in a diverse market like Asia is also a key consideration and potential hurdle for banks in Hong Kong and the region. In Hong Kong, mixed language conversations between clients and frontline staff are a common occurrence, and the use of financial and banking jargon presents another challenge for speech-to-text and NLP technology. However, we believe that NLP models will continue to improve to better deal with this challenge; as more data is fed into these AI-powered solutions and models are refined, the learning curve increases exponentially. Banks that invest in building the right architecture and underlying infrastructure will find it a lot easier to scale these out to different parts of the business, across regions and languages.

Instead of trying to develop solutions in-house, leading banks may also seek to partner with advisors that have longstanding experience in providing speech-to-text and NLP technology to effectively address the aforementioned challenges. KPMG's NLP solution successfully tackles these pain points and has broad coverage of many of the widely-spoken languages in the region, including an in-house Mandarin NLP model. Working with global solution providers enables banks to build a fit-for-purpose platform for their organisation based on geography, business mandates or products and workforce demographics. Banks should seek to partner with providers that are able to offer an additional layer of banking and capital market expertise to fast-track and augment the precision and accuracy of traditional speech-to-text and NLP models to include financial jargon and 'trader talk'.

Overall, it is clear that speech-to-text and NLP technology works, and leading banks are already applying these solutions and integrating them with their internal systems. Banks in Hong Kong need to continue to explore use cases, and seek to make investments in technology to solve their problems. The banks that do this well will gain a competitive edge in an increasingly competitive market, while the ones that don't risk being left behind.

"The implementation of NLP technology can provide downstream benefits through the vast amount of insights that can be generated to help frontline staff serve their clients and enhance customer experience. We therefore believe that leading banks in Hong Kong will shift their focus on speech-to-text, NLP and other related regtech solutions from a costs-based discussion to more of an insights-led conversation."

Operational resilience

Isabel Zisselsberger
Partner, Head of Customer and Operations, Hong Kong
KPMG China

Adopting a broader, longer-term view of operational resilience will give banks a competitive edge

The past twelve months have witnessed a series of disruptive events worldwide and in Hong Kong, with the COVID-19 pandemic, China-US trade uncertainty and social unrest having a significant impact on the "business-as-usual" operations of organisations in Hong Kong, including banks.

The magnitude and the ripple effect of these disruptions are leading to significant – and permanent – changes in consumer behaviour and daily habits, and banks also need to adapt their ways of working to ensure that they are able to operate effectively in this 'new reality'.

Operational resilience has always been an important area of focus for both banks and regulators in Hong Kong. However, this has traditionally been viewed through a risk and compliance lens. Given the scale of disruption to the economy, the industry, consumers and employees, we believe that banks should increasingly take a broader view of operational resilience. In this sense, resilience becomes an enterprise-wide and strategic discipline on how the organisation continually adapts to the changing environment and manages the risks associated with the changes.

From what we have seen, banks have done reasonably well to respond quickly to day-to-day resilience challenges. In Hong Kong, the focus has been largely on crisis management and 'keeping things going' as much as possible in light of prolonged disruption to physical branch operations or changes to social distancing measures. However, we believe that the focus needs to shift from a short-term perspective to a more medium and longer-term view to truly embed resiliency across the board.

> *"Banks in Hong Kong have done reasonably well to respond quickly to day-to-day resilience challenges. However, we believe that the focus needs to shift from a short-term perspective to a more medium and longer-term view to truly embed resiliency across the board."*

Implementing a comprehensive operational resilience framework

To achieve this longer-term view of operational resilience, banks should seek to create a holistic framework covering critical functions and disciplines across the front, middle and back office. From a front office perspective, banks should consider how they can bring resiliency to their customer servicing. This includes how well a bank's analytics capabilities can capture drivers behind changes in consumer behaviour, especially as COVID-19 is expected to alter some behavioural patterns forever. This may also have implications on the number and location of physical branches in the future as banks seek to ramp up their digital capabilities, products and services to meet evolving client expectations and preferences and raise the bar for customer experience.

From a middle and back office perspective, banks should evaluate how they can ensure service stability during challenging times. For example, banks could look at the thresholds that they monitor, as well as the risks and controls and how these will be affected if staff are working remotely.

Location strategy and the use of shared service centres are also key considerations for the middle and back office. The lockdowns imposed in certain service centre jurisdictions as a result of COVID-19 led to a significant drop in service capacity, creating a major challenge for banks to maintain the amount of support required. In the medium to long term, many banks are likely to therefore revisit their shared service strategy, enhance service centre resilience and potentially consider a multi-location arrangement to reduce their reliance on single centres.

A robust operational resilience framework should also encompass third party risk management and operate across all lines of defence. As a result of the COVID-19 pandemic, we have observed that some banks have stopped conducting both internal and third party audits. The need to place an increased focus on third party audits is even greater as the fintech firms and other service providers that banks are increasingly working with may be impacted by the current economic situation. This could have longer-term implications for banks if some of the partners they work with are not successful.

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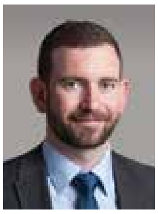
A focus on operational resilience pays off

As banks start to adapt to the ‘new reality’, the need for organisational agility is here to stay. It is clear that a holistic approach to operational resilience will pay off, and getting this right will separate the leaders from the laggards. The benefits are clear. A more coordinated approach coupled with business or service simplification can generate efficiency and cost savings, while a strategic and analytics-driven process allows for better customer, supplier and employee experience, as well as more real-time risk management. Having the right digital and analytics tools that support the bank in tying the front, middle and back offices together will also enable banks to become more flexible and quicker to respond to sudden and unexpected events.

Lastly, banks should not only think about resilience in terms of keeping the lights on, but also, perhaps most importantly, how they interact with both their clients and employees during times of crisis. Those banks that show more empathy and find ways to make processes easier and communication clear and transparent will be remembered for life by customers and employees alike.

Source: KPMG

Pricing



David Lonergan
Director, Risk Consulting
KPMG China

Increasing regulatory enforcement actions around pricing should be a wake-up call for all banks

Pricing continues to be a growing area of focus both in Hong Kong and regionally, with recent enforcement actions targeting breaches resulting from a lack of transparency to clients, operational process breakdowns, and broader conduct and governance issues. These enforcement actions indicate that banks still occasionally fall short in adhering to the fundamental principle of acting in the best interests of their clients. While the focus to date has been on private banks, the lessons are equally applicable to retail banks.

In our view, the focus on pricing in Hong Kong continues to be in three areas. The first is compliance with disclosed pricing schedules, i.e. the maximum fees disclosed to clients per product and trade type. The need to comply with the pricing schedule is well-known in the industry, but often banks haven't tested their system and reporting controls, which can lead to unknown exceptions and overcharges.

The second area of focus is around price improvement. Recent regulatory enforcement actions have highlighted the importance of this topic, with banks taking the benefits of price improvement from their trades without adequately disclosing their arrangements to the clients. Banks should therefore seek to fully understand their trade flows, and understand how their frontline staff identify, deal with and disclose price improvement.

The third area is the emerging topic of bilateral pricing agreements, where banks will negotiate with their clients and agree on a discounted price that is different from the standard pricing schedule. There is an increasing expectation that there are governance and controls in place around these bilateral pricing agreements, so that the bank is operating in a controlled and transparent manner.

> *Both private and retail banks in Hong Kong should use this opportunity to review their practices, and if they have not already done so, kick-start a project to create a holistic pricing framework that not only adds value to the business, but is fair and transparent to the client and well controlled.*

Creating a robust pricing framework

While pricing remains a key issue in the private banking space, it is equally important for retail banks in Hong Kong – many of which conduct investment trades for their clients – to take note of the regulatory expectations and recent enforcement actions against private banks around pricing. Both private and retail banks in Hong Kong should use this opportunity to review their practices, and if they have not already done so, kick-start a project to create a holistic pricing framework that not only adds value to the business, but is fair and transparent to the client and well controlled.

As part of this project, banks should conduct a gap assessment against the enforcement areas, but they should also look at the three areas of compliance with price schedule, price improvements and bilateral pricing agreements in particular as a priority. Part of this involves ensuring that there is timely and transparent communication on fees, charges and any other quantifiable benefits. A holistic framework should also feature preventative measures such as pre-trade controls, as well as post-trade checks and ongoing monitoring to detect unauthorised deviations.

For banks to get this right, it is imperative that they link their framework to the overall organisation's governance, risk culture and conduct agenda. Clients and regulators alike expect pricing to be consistent, fair and transparent. To act in a fair and transparent manner, and to preserve the trust of their clients, banks need to find the right balance between focusing too much on the legality and technicalities of contracts, and ensuring that they adhere to the code of conduct, manage conflicts of interest and continue to act in the best interest of their clients.

We believe that pricing will continue to be an increasing area of focus in Hong Kong. The banks that delay in driving a pricing framework through their organisation risk facing greater regulatory scrutiny, being at the receiving end of significant financial penalties, and ultimately losing their competitive edge. Banks that get this right will be better able to safeguard the trust of their customers – especially during this challenging time – and ensure long-term success.

> *For banks to get their framework right, it is imperative that they link their framework to the overall organisation's governance, risk culture and conduct agenda. Clients and regulators alike expect pricing to be consistent, fair and transparent.*

AML

Kyran McCarthy
Partner, Asia-Pacific
Head of AML &
Sanctions Services
KPMG China

Rani Kamaruddin
Partner, Head of AML &
Sanctions, Hong Kong
KPMG China

Mary Wong
Partner, AML &
Sanctions Services,
Hong Kong
KPMG China

Embracing new approaches to combat financial crime in the new normal

COVID-19 has brought a considerable amount of economic activity to a temporary and unprecedented halt. In grappling with the sudden change, it has become imminently clear that institutions across sectors need to alter the way they are operating. Those already possessing digital channels are proving to be more resilient under the circumstances. The same is true in the financial services sector: many have adopted new ways of working – some of which are likely to be permanent to some extent – and are providing remote onboarding services to customers, while also managing risks and ensuring compliance. In the new normal, banks have realised that innovation is no longer an option, but a necessity.

Criminals have not sat still and are trying innovative ways to profit from the pandemic. Fraud schemes and cybercrimes have spiked as criminals try to exploit COVID-19 to make money.

As financial institutions rethink their innovation agenda, it is imperative that financial crime risks be considered in conjunction with business initiatives such as the launch or development of digital channels. In addition, it is equally important to rethink how management of financial crime risks can be operationalised using a more effective and integrated approach.

Regulators recognise the importance of such an approach now. The Hong Kong Monetary Authority (HKMA) acknowledges that COVID-19 poses unprecedented challenges and has urged authorised institutions to remain vigilant to emerging money laundering and terrorist financing risks.[28] The HKMA has also published key observations and good practices in AML/CFT control measures for remote customer onboarding initiatives.[29]

The Financial Action Task Force says effective policy responses could include domestic coordination to assess the impact of COVID-19 on AML/CFT risks and systems; strengthened communication with the private sector; encouraging the full use of a risk-based approach to customer due diligence; and supporting electronic and digital payment options.[30] Hybrid measures that make remote onboarding applicable to corporate entities and not just individuals are gaining traction.

[28] Hong Kong Monetary Authority, April 2020, https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2020/20200407e1.pdf
[29] Hong Kong Monetary Authority, June 2020, https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2020/20200603e1a1.pdf
[30] Financial Action Task Force, May 2020, https://www.fatf-gafi.org/media/fatf/documents/COVID-19-AML-CFT.pdf

> *In the short to medium term, banks will be closely re-evaluating their target operating model, applying lessons learned, identifying opportunities on digitalisation and innovation, and minimising costs.*

Embedding operational resilience across the organisation

During times of crisis, it is vital to embed resilience across all parts of the organisation and 'keep the lights on' even in the context of fighting financial crime. In the short to medium term, banks will be closely re-evaluating their target operating model, applying lessons learned, identifying opportunities on digitalisation and innovation, and minimising costs. This goes to the deployment of resources and more holistic use of intelligence to address key financial crime risk areas that may have emerged or changed as a result of COVID-19.

Banks will increasingly look to leverage technology and managed services, from onboarding to finding sustainable solutions throughout their business. The critical role that managed services can play will be even more apparent as banks clear significant volumes of backlogs on periodic reviews, as well as alerts on money laundering, fraud and financial crime investigations.

The pandemic has made businesses realise that their previous operating models were less than optimal. As a result, we expect banks to formulate viable strategies while ensuring that compliance risks are minimised. Resilient operating models that incorporate regtech solutions and managed services will prove effective. Banks will also embrace automated systems like RPA for routine tasks and freeing up people for more value-added activities and duties requiring sound judgment. We expect businesses to look at taking away manual labour and physical processing from their current workload.

Implementing innovative solutions

Looking ahead, innovation will be key, whether banks are generally reviewing their operating models or specifically focused on managing financial crime risk encompassing money laundering, fraud and cybercrime. This includes a more technology-driven, intelligence-led approach relating to financial crime controls. The pandemic has pushed banks to a broader adoption of both technology and regtech.

Banks whose innovations are cost-effective will lead the industry in enhancing their financial crime compliance in 2020. These will include the integration of financial crime risk into compliance functions, leveraging technology and data analytics solutions, and greater industry-wide information and intelligence sharing.[31]

Banks in Hong Kong are enhancing their digital offerings and platforms. For example, as discussions accelerate around the world on how to respond to COVID-19, regulators in Hong Kong are pushing for a revision of AMLO to accommodate remote onboarding. All this is underscored by the HKMA's increasing focus on and continued support of the use of technology by banks. This extends to supervisory technology – or 'suptech' – to facilitate the regulators' own supervision through a more data-driven predictive model.

> *Innovation will be key, whether banks are generally reviewing their operating models or specifically focused on managing financial crime risk encompassing money laundering, fraud and cybercrime.*

Combating cybercrime

Finally, no matter the technology solution, cybersecurity must remain top of mind, with a robust and comprehensive strategy firmly in place. Cybersecurity is essential when it comes to digital adoption. In digital onboarding, banks will be best prepared when they conduct a thorough evaluation of their solution, assessing the reliability of its developer as well as the IT control environment of the technology service provider if outsourcing is involved.[32]

With regard to risk assessment, banks will be more effective when it is holistic rather than adhering to a checklist model. Compounding this challenge is the pervasiveness of dated IT systems in which information is siloed and information cannot be interfaced across different lines of business. More agile operational approaches will be needed to meet current demands, and we expect a stronger interest in leveraging outsourcing.

Traditional approaches of assigning many people to a problem will not be as sustainable as managed services, which is based on new technology solutions that are clean from end to end and offer little-to-no legacy issues. As more banks in Hong Kong consider managed services to reduce costs and streamline their operations, we expect the efficiency of financial crime compliance programmes to improve significantly.

[31] Hong Kong Banking Outlook 2020, December 2019, https://assets.kpmg/content/dam/kpmg/cn/pdf/en/2019/12/hong-kong-banking-outlook-2020.pdf

[32] Digital onboarding in the era of smart banking, April 2019, https://assets.kpmg/content/dam/kpmg/cn/pdf/en/2019/04/digital-onboardingin-smart-banking.pdf

Third Party Risk Management

Isabel Zisselsberger
Partner, Head of Customer and Operations, Hong Kong
KPMG China

A more networked and digitised banking ecosystem requires a revitalised and comprehensive third party risk management framework

Hong Kong's increasingly interconnected banking ecosystem, coupled with a greater focus on operational resilience, is bringing third party risk management (TPRM) to the fore as banks aim to ensure an enhanced and seamless delivery of services to clients.

This rapidly expanding network of banks, fintech firms, technology and data providers, and other vendors, along with the advent of virtual banks and an Open API Framework in Hong Kong, has increased the complexity of the banking value chain and increased risks. Banks will increasingly operate in an ecosystem with third parties and suppliers providing part of the services to their end customers. While this network of organisations provides an enhanced experience to banking customers in terms of speed, quality and pricing, it elevates the risks for banks as they remain primarily responsible to their customers and regulators for the operational success and resilience of the value chain. Banks therefore need to establish a robust TPRM framework and processes to help them effectively identify, assess and mitigate risks across the spectrum of all their third parties, and in some cases extending this to fourth and fifth parties as well.

A quick look at recent cyber breaches and service delivery failures, where financial institutions have been penalised by regulators, indicates failure attributable to a third party involved in the delivery value chain. However, the financial institution/bank is the one held accountable and faces the risk of financial losses and reputational damage. Remember that "banking is the business of trust", and it is the one thing that matters the most.

"A quick look at recent cyber breaches and service delivery failures, where financial institutions have been penalised by regulators, indicates failure attributable to a third party involved in the delivery value chain. However, the financial institution/bank is the one held accountable and faces the risk of financial losses and reputational damage."

Why should banks focus on TPRM?

In our view, there are a number of key trends that are driving banks to reassess the effectiveness of their TPRM frameworks. First, the entry of fintech firms and large technology companies into financial services, and the launch of an Open API framework in Hong Kong are accelerating the rate of digitalisation in the industry, and have introduced a host of new players into the financial ecosystem. Traditional banks are more actively engaged with third party vendors to enhance their digital capabilities.

The COVID-19 pandemic has already disrupted business operations globally, including in financial services. This has elevated the need for a strong operational resilience and third party risk framework. We are already seeing a number of third parties calling out force majeure or shutting or scaling back operations due to the financial stress and operational difficulties that this pandemic has brought on. This poses a big challenge for banks to be able to deliver their services effectively.

Second, banks in Hong Kong have not kept pace with the extent of the digital shift that markets like mainland China and India have achieved, especially in the payments space. Hong Kong banks are still on the lower end of the learning curve in dealing with the new age banking ecosystem that includes a range of non-traditional players, fintech and service providers.

The Hong Kong banking market will be further put to the test as the push towards the Greater Bay Area formation increases the demand for interconnected and seamless banking services across Guangdong province, Hong Kong SAR and Macau SAR. This will introduce a host of mainland Chinese financial services and related entities to Hong Kong with more evolved and digitised service offerings. Given this, banks in Hong Kong need to accelerate their digital journey, and this will require them to increase their dependency on a new set of digital service providers, such as data firms and payments companies.

Third, the increasing cost pressure on banks and financial institutions is causing them to rethink their operating models. We are now witnessing a clear shift where banks want to focus on their core and strategic areas, and are completely rethinking how they define the non-core part of their operations.

Cognisant of these trends, regulators have also increased their focus on third party risks, and this is reflected in a spurt of regulatory guidance directed towards the use of emerging technologies, engaging with service providers, operational resiliency and data privacy.

The COVID-19 pandemic has already disrupted business operations globally, including in financial services. This has elevated the need for a strong operational resilience and third party risk framework. We are already seeing a number of third parties calling out force majeure or shutting or scaling back operations due to the financial stress and operational difficulties that this pandemic has brought on. This poses a big challenge for banks to be able to deliver their services effectively.

Banks need to ask themselves five things:

- Do I have a TPRM framework that enables me to effectively risk assess third parties and comprehensively identify their foreseeable risks?
- Do I have the ability to perform relevant checks and validations to be able to assess and then mitigate the risks?
- Do I have the ability to do the above on an ongoing basis effectively, and have a response plan for possible failures?
- Do I have the ability to look through my third party risks and understand potential contagion effects from fourth and even fifth parties?
- Do I have the data and digital tools to perform dynamic rather than point-in-time risk assessments?

The need for a well thought, comprehensive and enforceable TPRM framework has never been greater. We believe that building a strong ecosystem and establishing an effective TPRM framework with third parties will give banks a competitive edge in delivering a seamless service, establishing trust and providing an enhanced customer experience in an industry that is highly commoditised. A comprehensive TPRM framework coupled with seamless execution can help achieve this.

Non-performing loans

Patrick Cowley
Partner, Head of Restructuring Services, Hong Kong and Asia Pacific
KPMG China

Rosalie Lui
Partner, Deal Advisory, Restructuring Services
KPMG China

> *As the level of NPLs continues to increase, banks should be carefully considering the sectors where they want to bank, and those that they want to exit.*

NPLs in Hong Kong expected to increase as economic uncertainty looms

The sustained stress that business in Hong Kong faced throughout the second half of 2019 has now been greatly exacerbated by the COVID-19 outbreak this year. This signals an expected increase in banks' non-performing loans (NPLs) to levels not seen in the last two decades.

In the last decade or so, many of Hong Kong's banks often sold NPLs to secondary market investors as they became impaired, to take them off their balance sheet. NPL sales normally result in value being passed to the buyer, which banks were willing to accept due to the high capital cost of holding the impaired asset. However, the magnitude of the global economic slowdown and the scale of the NPLs banks will hold will likely make mass NPL sales too costly. Furthermore, banks have learned from the Global Financial Crisis (GFC) that their reputation is best served by being seen to be socially responsible and working out problem exposures. Banks may therefore find themselves holding NPLs on their books, working with borrowers to turnaround stressed situations, rather than selling them off at a significant discount and loss.

While global economies are slowing down as a whole, there are certain sectors that are clearly undergoing significant stress – and where we expect to see NPLs increase – such as retail, hospitality, aviation, real estate and tourist and travel. The recent volatility in oil prices has also placed added stress on many sectors and economies, requiring banks to critically review their portfolios for exposures to oil and other vulnerable sectors. In Hong Kong, the strain on businesses was evident even before the onset of COVID-19, as a result of the social unrest that swept through the city throughout the second half of last year.

We have also seen cases where the Chairmen of Hong Kong-listed companies have put up their shares as collateral to support margin loans. With the recent volatility in the stock market, we have seen instances where these loans have been called in, or additional collateral being required, and banks have had to take action to enforce the pledged shares. This situation can cause problems for lenders to the ListCo itself, if the arrangement had not been disclosed, and the enforcement action destabilises the ListCo's business.

Conducting a detailed portfolio review

As the level of NPLs continues to increase, banks have been conducting detailed reviews of their portfolios across all of their clients, sectors and geographies, and should be carefully considering the sectors where they want to bank, and those that they want to exit. Banks may seek to exit from sunset industries and those that may still be viable but are unattractive to the community, such as industries perceived to be socially or environmentally unfriendly. Meanwhile, we expect other sectors such as healthcare and technology to attract significant amounts of investment in the years ahead, while other sectors are likely to remain bankable in the long run, but face a challenging period of post-COVID-19 transformation. As part of their NPL strategy, banks need to weigh up all of these factors to form a clearer view of which parts of their existing portfolio they will look to exit from or to promote.

"It is essential that banks focus on training up their relationship managers to better understand the issues their clients are currently facing, whether those businesses are in sectors that are likely to become stressed and could be supported through the downturn, or need to be exited."

Many banks are also facing the challenge of having relatively inexperienced workout teams, which have generally been scaled back in the benign period since the GFC of 2008. Furthermore, in our view, many of the latest generation of frontline relationship managers and even their line managers will not have experienced an economic downturn, and therefore may not be able to identify red flags and adopt mitigating strategies early enough. It is essential that banks focus on training up their relationship managers to better understand the issues their clients are currently facing, whether those businesses are in sectors that are likely to become stressed and could be supported through the downturn, or need to be exited. In addition to training frontline teams, we expect to see banks building out their workout teams to provide adequate support to their NPL and overall risk management strategy.

This approach goes hand in glove with an increased focus by banks on leveraging big data analytics to manage the risk of increasing NPLs by better predicting and identifying the businesses, sectors and geographies that are likely to have more NPLs at an earlier stage. A smart approach to the use of data analytics will also enable banks to better identify fraud.

Uncertainty on the horizon

Looking ahead, it is difficult to predict how long this economic cycle – and its prolonged impact on NPLs – is likely to last. With some countries and regions still managing the primary outbreak of COVID-19 and others facing a second wave of infections, all of this points to an extended period of contracted trade, disrupted supply chains, rising unemployment and slow or negative economic growth. Furthermore, the uncertainty brought about by COVID-19 has resulted in significant levels of support being offered by governments around the world, including Hong Kong's, via the major commercial lenders in the form of repayment holidays and encouragement of forbearance. While necessary to address the immediate issues, this may serve only to create a more significant challenge in the coming months, as businesses struggle to wean themselves off that support.

Furthermore, in Hong Kong, as the city aims to bounce back from COVID-19, a potential return to the levels of social unrest seen in the second half of 2019 would place yet more stress on many businesses in the city. This challenging situation will likely flow through to their credit providers, leading to a continued uptick in NPLs in Hong Kong in the year ahead.

"The real challenge for Hong Kong's commercial lenders may well only become apparent as borrowers have to wean themselves off the support currently being provided through their banks."

Workforce management

Peter Outridge
Partner, Head of People & Change Advisory,
Hong Kong
KPMG China

Moving towards the 'New Reality' of work

The increasing digitalisation of the banking sector has been a frequent topic of discussion in recent years. However, recent events such as social unrest in Hong Kong and more notably the COVID-19 pandemic have acted as catalysts in driving banks towards greater organisational agility and a more fluid workforce. This is expected to have a significant impact on the shape and size of the banking workforce, as well as on the way teams are led and engage with each other. Under this 'New Reality', banks should take a longer-term view in ensuring that these new ways of working are effective and sustainable.

A shift towards new and innovative ways of working

The initial phase of this shift to more agile ways of working was part of banks' business continuity plans amid COVID-19 to 'keep the lights on' and to get employees adjusted and comfortable with working remotely. In our view, the banking industry as a whole has fared well in its ability to adapt to a fast-evolving situation and keep their operations running smoothly. The COVID-19 crisis has also increased banks' awareness and expanded the realm of possibility in terms of the types of work that can be conducted and managed remotely.

With the initial challenges of business continuity under control, the next phase for banks is to effectively maintain a connected, engaged and productive workforce. This involves ensuring every step is taken to support and improve employees' physical and mental well-being, and building trust within teams to empower them to work productively and deliver quality output through a remote or multi-location environment.

The final phase of the transition to the New Reality is for banks to effectively industrialise the fluid working model and make it a permanent way of working. This involves considering new operating models and organisational structures, and finding ways to take costs out of the organisation while ensuring risk is adequately managed. Banks understand that the traditional approach of relying heavily on one jurisdiction for their offshore service centres and supply chains has its risks, and may therefore opt to adopt a multi-location or near-shore strategy to minimise potential disruptions to the business in times of crisis.

> *Banks that implement a successful workforce strategy in this new environment will be able to reduce costs, effectively manage talent and business continuity risk, and improve employee well-being while maintaining or increasing productivity.*

Some banks might also reconsider how much office space they require – as well as where this space is located – as multi-location strategies and agile working become the norm. Banks that implement a successful workforce strategy in this new environment will be able to reduce costs, effectively manage talent and business continuity risk, and improve employee well-being while maintaining or increasing productivity.

Implementing a talent risk framework

In order to create an optimal agile workforce under the 'New Reality', we believe that banks should put in place a talent risk framework that identifies and assesses their level of talent risk across five key parameters: cost, capacity, capability, connectivity and compliance. The framework helps banks create mitigation plans and supports informed management decision-making. It also helps banks to focus on managing workforce costs to ensure business continuity, deploying sufficient resources in the right locations, and equipping staff with the right skills and capabilities to ensure that they can operate effectively on a sustained basis.

In the longer term, once banks bounce back from the fallout of COVID-19, they are likely to focus more on the risks associated with the 'connectivity' and 'capability' parameters. This involves ensuring that teams stay connected, motivated and engaged in this new environment, and managing the regulatory implications of remote working for a sustained period. Indeed, in an environment where employees may not meet face-to-face regularly, managers and leaders at banks will need to be trained and equipped with the right digital and leadership skills to help build relationships, and develop and manage their teams remotely.

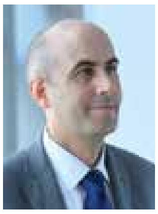
The transformation of workforce planning into workforce shaping

In our view, new ways of working are driving the transformation of the traditional model of workforce planning into 'workforce shaping', which requires organisations to become more agile, fluid and responsive to the needs of the moment, and to be able to model future scenarios and the impact on the workforce as situations evolve. This model involves having a more fungible workforce where employees' skills are matched to certain tasks or work rather than to traditional defined and rigid roles.

The use of workforce analytics is a key differentiator and accelerator in helping banks shape their workforce by providing real-time insight into individual, team and organisation-wide employee performance. Banks that can leverage analytics effectively will gain a competitive edge in the form of a greater ability to identify the skills and resources required based on different business scenarios, match these demands with clearer insight into the capabilities and talent in the organisation, and retrain and reskill people at scale to obtain the optimal shape.

> *The talent risk framework helps banks create mitigation plans and supports informed management decision-making. It also helps banks to focus on managing workforce costs to ensure business continuity, deploying sufficient resources in the right locations, and equipping staff with the right skills and capabilities to ensure that they can operate effectively on a sustained basis.*

LIBOR



Tom Jenkins
Partner, Head of Financial Risk Management
KPMG China

Marie Gervacio
Partner, Financial Risk Management
KPMG China

As LIBOR transition deadline remains unchanged, banks should have a greater sense of urgency in implementing a transition programme

With LIBOR still set to be phased out worldwide by the end of 2021, many banks in Hong Kong have not progressed their preparations significantly. These banks need to act fast to roll out an accelerated programme to manage the transition or risk facing higher costs and greater exposure to operational and reputational risk.

This lack of preparation was highlighted in the findings from the Hong Kong Monetary Authority's (HKMA) survey last November to monitor the banking sector's progress in preparing for the transition to alternative reference rates (ARRs). The survey results found that there were HK$4.5 trillion of assets and HK$1.6 trillion of liabilities referencing LIBOR in the Hong Kong banking system at the end of September 2019.[33] The survey also found that the banking system had derivative contracts totalling HK$35 trillion in notional value referencing LIBOR. It added that around one-third of the LIBOR-linked assets and liabilities and almost half of the derivative contracts will mature after end-2021 and did not have adequate fall-back provisions.

Increasing industry guidance on the accounting treatment of LIBOR

Banks therefore need to take swift action to ensure that they are prepared for the LIBOR transition. In our view, in addition to ensuring that commercial and operational transition measures are taken, banks now need to focus on the consequent impacts related to changes in accounting and reporting standards. We continue to see more guidance from international accounting standard-setting bodies such as the International Accounting Standards Board (IASB) and Financial Accounting Standards Board (FASB) on the accounting treatment of financial instruments impacted by the LIBOR transition. For example, in March this year, the FASB released its Accounting Standards Update to provide temporary optional guidance on addressing the operational challenges raised by stakeholders, simplify the process of migrating to new reference rates, and reduce transition-related costs. The guidance also provides information to address potential accounting challenges expected to arise from the transition with respect to contract modifications and hedging relationships, which could result in a significant impact on P&L.

[33] HKMA, April 2020, https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2020/20200423e1.pdf

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The IASB also launched a two-phase process to amend its guidance to facilitate a smoother transition away from IBOR. The first phase focused on hedge accounting issues, with amendments made to specific hedge accounting requirements to provide relief from the potential effects of the uncertainty caused by IBOR reform. The second phase focuses on the financial reporting issues that could arise when IBOR rates are either reformed or replaced. The IASB issued an exposure draft in April, which contains amendments to specific requirements in IFRS Standards relating to modifications of financial instruments and lease liabilities, hedge accounting and disclosures.

After considering the downstream impacts of the changes relating to accounting treatment and disclosures, banks then need to ensure alignment with the upstream chain of activity. First, banks need to consider changes to the valuation of existing instruments and contracts that do not expire until after 2021. In other words, when banks repaper contracts, they need to assess whether they are really in control of the P&L impact and/or their hedging positions, and they need to understand the related impact on their organisation from an operational, data, and information flow perspective.

No delays to the LIBOR deadline

While the onset of COVID-19 may have had an impact on banks' preparations for the LIBOR transition, there has been no indication that the end-2021 deadline will be pushed back. For banks that are still not ready – and the HKMA's survey results indicate that there are many – there should be a greater sense of urgency to develop and implement a comprehensive transition strategy.

In Hong Kong, financial institutions have been encouraged to adopt the Hong Kong Dollar Overnight Index Average (HONIA) – which is based solely on transaction data – as the ARR for HIBOR. The HKMA has reiterated that it does not plan to discontinue HIBOR, and in fact expects both HIBOR and HONIA to co-exist as benchmark reference rates in Hong Kong. However, with the global trend moving towards the use of ARRs, we expect to see banks in Hong Kong follow suit and increasingly use HONIA in the longer term as an alternative to HIBOR.

Banks in Hong Kong therefore need to develop a holistic transition strategy to prepare for not just the phasing out of LIBOR, but also for the long-term shift from HIBOR to HONIA. This transition strategy should help banks identify and remediate their LIBOR-linked contracts, models, systems and processes. Banks should also closely monitor the latest accounting developments to ensure that they apply the appropriate changes for all contracts and correctly reflect related downstream accounting and reporting impacts.

Lastly, from a product perspective, banks can also gain a competitive edge by offering more risk-free rate-based products to clients and issuing contracts that do not reference LIBOR, while also carefully managing conduct risk. Hong Kong banks have not yet made meaningful strides into ARR products locally, but they should be encouraged by greater usage of the U.S. Secured Overnight Financing Rate (SOFR) overseas; according to an ISDA report, trading volume of SOFR futures increased from US$4.3 trillion in the first quarter of 2019 to US$11 trillion in the fourth quarter of 2019, while the trading of SOFR swaps also increased from US$6 billion in 2018 to US$393 billion in 2019 in notional value.

> *While the onset of COVID-19 may have had an impact on banks' preparations for the LIBOR transition, there has been no indication that the end-2021 deadline will be pushed back. For banks that are still not ready – and the HKMA's survey results indicate that there are many – there should be a greater sense of urgency to develop and implement a comprehensive transition strategy.*

James O'Callaghan
Partner, Head of Technology Consulting, Hong Kong
KPMG China

Bradley Scheepers
Associate Director, Data & Analytics (Technology Advisory)
KPMG China

Trialling new use cases while ensuring robust governance are key to successful AI adoption in banking

As banks continue to pursue digital transformation and seek to leverage emerging technologies, the rapid evolution of artificial intelligence (AI) solutions presents a significant opportunity to increase operational efficiency and drive growth. However, the reality in Hong Kong is that the development and adoption of AI in banking is still in its infancy. While we believe that banks will shift gears in the coming year and seek to implement AI-powered solutions more widely across their organisations, they also need to ensure that appropriate governance and controls are put in place to manage the evolving risks these new technologies can bring.

Limited implementation of AI

In Hong Kong, we have observed that many AI use cases for banks continue to focus on more simple marketing or automation tasks, rather than on more significant judgment-based functions. However, in order to truly harness the power of AI, banks need to build and deploy solutions across the entire organisation that can help improve operations, remove pain points, drive revenue, strengthen risk management and enhance customer experience. To this end, we believe that banks need to experiment more with proofs of concept (POCs) and trial new technologies to solve problems and improve parts of their business, while keeping a broader platform mindset for the ultimate solution. We are already seeing use cases in the form of AI-powered natural language processing technology to improve regulatory compliance in areas such as sales conduct, sales suitability, market surveillance, order taking, pricing and disclosure.

In the future, we expect talent within banks to be structured differently, with innovation teams, centres of excellence and pockets of people with data science capabilities scattered across the organisation and working on small POCs. Banks are also expected to increasingly work with start-ups, fintech firms and other third parties that offer AI solutions and can help banks build AI models. The proliferation of available AI technologies and service providers means that banks have a fast-growing number of avenues to develop their capabilities and a greater selection of potential use cases, but with that comes an increase in third party risk management to govern the new types of technology.

> *In the future, we expect talent within banks to be structured differently, with innovation teams, centres of excellence and pockets of people with data science capabilities scattered across the organisation and working on small POCs.*

The importance of AI controls and governance frameworks

While this fast-growing ecosystem is undoubtedly a positive development, it also underscores the importance of having effective AI controls and governance frameworks in place to ensure that associated risks are properly managed. For example, banks need to be able to explain AI-powered decisions to all relevant parties, and show how this was understood, managed and tested at each stage.

The challenge for banks in Hong Kong is that the development of AI applications is arguably ahead of the governance needed to monitor and control them. Regulators have yet to issue a comprehensive set of specific rules, although there have been some developments in recent months. Last year, the Hong Kong Monetary Authority (HKMA) and the Monetary Authority of Singapore (MAS) issued closely related circulars that, in broad strokes, set up guiding principles on the use of big data analytics and artificial intelligence, and principles on the use of AI in the banking industry. Building on these principles, banks are taking a fresh look at how they are approaching this evolving topic. While some banks have established professional teams to take care of the governance oversight for AI, it is not nearly as mature as the applications themselves.

To this end, KPMG's 'AI in Control' framework, which is supported by a set of methods, tools and assessments, can help banks generate value from AI technologies while addressing their inherent challenges, such as integrity, explainability, fairness and resilience. The framework enables banks to develop a responsible AI programme, and build and evaluate sound AI models to help drive better adoption, confidence and compliance. The key to managing AI and its associated risks is for banks to have a comprehensive understanding of who developed the algorithm, the value the technology currently delivers and how it fits into the overall business strategy. Indeed, by addressing key inherent risks associated with AI, this should help foster transparency and confidence in AI, and serve as a foundation for innovation and new use cases.

Another key consideration for the effective application of AI in banking is the overall quality of data, as well as having a thorough understanding and control over this data. An algorithm may have been written the right way, but if inconsistent data is used to train it, the results are going to be unpredictable. Furthermore, if the banks are not aware of the quality or integrity of the data, they are unlikely to recognise discrepancies between outcomes and see the effects of unintentional biases.

A focus on trust and education

While the need to trial new technologies and ensuring effective governance and controls are key, banks also need to ensure that they create the right environment in order for the application of AI in banking to really take off. Banks need to consider whether they have the right infrastructure and storage, buy-in from senior management, and proper education and trust – not just among internal staff and stakeholders, but also from customers – in the AI technologies that are being used. The banks that can put all of these pieces of the puzzle in place will be best positioned to see their AI solutions really thrive, and realise real tangible benefits across their organisation.

> *While this fast-growing ecosystem is undoubtedly a positive development, it also underscores the importance of having effective AI controls and governance frameworks in place to ensure that associated risks are properly managed. For example, banks need to be able to explain AI-powered decisions to all relevant parties, and show how this was understood, managed and tested at each stage.*

Transaction banking

Pranav Parekh
Director
KPMG China

Tatjana Schaefer
Associate Director
KPMG China

Transaction banking can be a differentiator for banks as corporates adopt new operating models

In times of crisis, transaction banking services play a vital role to ensure that corporate and commercial customers are able to effectively manage their operations both domestically and across borders. In turn, this has a direct effect on the health of both upstream and downstream supply chain partners.

Since the onset of the COVID-19 pandemic in late 2019, the global transaction banking business has remained sound. At a time when other banking revenue streams have been impacted, transaction banking has provided an important income source for banks. Furthermore, it has served as an important intermediary to deliver subsidies and other relief to businesses impacted by the pandemic.

As companies continue to navigate the impacts of COVID-19 through 2020 and into the next year, changes in their business models are causing transaction banking to evolve more rapidly. For example, the shift of manufacturing operations to regions such as Southeast Asia and Latin America is creating new challenges for supply chain finance, cash flow management and regulatory compliance. Furthermore, as more businesses deliver products and services online, transaction banking services need to respond to customers' changing requirements. As a result, CFOs and treasurers have a new set of expectations in terms of what transaction banking services they require.

Below are three ways banks can adjust their service offerings to align with customer expectations and guide their clients through this difficult period:

1. Offer solutions that are data-driven, real-time and secure

With the current economic volatility likely to continue in the medium-term, banks need to respond to treasurers' requirements on real-time cash visibility, flexible liquidity solutions and adapting to new supply chains. They also need to better understand their customers' needs in a constantly changing digital economy.

For most banks, the biggest hurdle to creating these solutions is legacy technology and infrastructure. In order to succeed, banks need to take an integrated approach across their front, middle and back offices with a focus on meeting customer expectations.

"By adopting solutions that work on existing technology rails and create new value propositions for CFOs and Treasurers, banks can enable "quick wins" for their transaction banking clients. For example, utilising a combination of data-driven and machine-learning technologies, they can create cash forecasting tools, real-time transaction reporting and trade financing solutions."

KPMG's Connected Enterprise approach helps banks to meet this challenge. The key to this transformation is aligning every process, function and relationship of an organisation to meet customer expectations, create business value and drive sustainable growth in a digital world.

By adopting solutions that work on existing technology rails and create new value propositions for CFOs and Treasurers, banks can enable "quick wins" for their transaction banking clients. For example, utilising a combination of data-driven and machine-learning technologies, they can create cash forecasting tools, real-time transaction reporting and trade financing solutions. As part of the overall framework for these solutions, banks should have sufficient defence mechanisms in place to counter the growing threats of fraud and cyber attacks.

2. Become a trusted advisor

To compete, banks need to adopt a customer-centric mindset to be advisors and create a consultative sales approach. Solutions must take into account the pain points that CFOs and treasurers face – such as deciphering cash centralisation options and regulatory requirements, and managing forex exposure and fluctuating interest rates.

To become an effective, trusted advisor, it is important to understand customers and "speak their language". One way to develop this capability is to build a messaging framework for customers aligned to their operational requirements, which allows relationship managers to better understand and respond to clients' needs and behaviours.

Banks can adopt tools that help their advisors succeed in a highly regulated and fragmented Asia Pacific market. For example, a customised knowledge management tool developed by KPMG provides a one-stop liquidity and cash management dashboard for both bank staff and client treasurers. Such tools provide banks with points of crucial engagement with treasury clients around regulatory requirements for cash management, currency exchange controls, cross-border payments, taxation considerations and trade finance. The platforms harness artificial intelligence (AI) technology to analyse unstructured data in order to provide additional insights to end users. In addition to helping treasurers make better-informed cash management and transaction decisions, the tools also enable banks to position themselves as cross-border advisors for their clients.

"By utilising fintechs and other service providers who may be better positioned to provide regtech, payment or documentation solutions, banks can focus on their core key competencies. Doing this can also allow banks to go to market more quickly with new products and reach a wider base of customers."

3. Consider partnering with or purchasing from service providers and fintechs

In today's digital world, another element that will help to ensure traditional banks' future competitiveness will be the ability to co-develop agile solutions with service providers or outsource development to them. By utilising fintechs and other service providers who may be better positioned to provide regtech, payment or documentation solutions, banks can focus on their core key competencies. Doing this can also allow banks to go to market more quickly with new products and reach a wider base of customers. Going forward, to further enable future cooperation with fintechs, banks should consider adopting application programming interfaces (APIs) and open banking architecture on their platforms.

These unprecedented times have created a myriad of challenges for customers and banks alike. Transaction banks that can create value for their customers using the levers of innovation, empathy and co-creation will emerge as winners.

Peter Outridge
Partner, Head of People & Change Advisory,
Hong Kong
KPMG China

A focus on incentive systems to promote a sound bank culture

Conduct and culture continue to be a key regulatory focus area for banks in Hong Kong, evidenced by the Hong Kong Monetary Authority's (HKMA) ongoing efforts to drive Bank Culture Reform. Banks in Hong Kong have generally viewed culture as a tick-box exercise. However, in order to truly promote sound culture and prevent incidents of misconduct, banks need to shift away from their traditional reactionary approach to regulators, and towards being more proactive and accountable for monitoring their culture enhancement efforts.

We believe that one way leading banks can achieve this is by focusing on forward-looking real-time metrics and conducting culture assessments to generate deep insight into the drivers of day-to-day behaviours within their organisation, and to better understand the levers that can shape desired behaviours and outcomes. These levers then become the basis for the change management activity required to achieve the required culture change through a structured and well thought through plan.

The HKMA's self-assessment exercise on bank culture

With regards to culture assessments, as part of its ongoing Bank Culture Reform, the HKMA commenced a self-assessment exercise in 2019, requiring 30 banks (all major retail banks and selected foreign bank branches with substantial operations in Hong Kong) to conduct self-assessments on their culture enhancement efforts.

The HKMA issued a report on its review of these self-assessments in May this year, noting that while the participating banks have made significant progress in promoting sound bank culture over the past two years, there were still discrepancies in the quality and depth of the self-assessments. The HKMA has therefore called on banks to actively seek to identify gaps between their current and desired culture, benchmark themselves against the reviews of major misconduct incidents worldwide, better align their culture initiatives in Hong Kong with their head office and related entities, and focus more on continuous staff training and development around culture.

Notably, the regulator also highlighted the importance of incentive systems in promoting a sound bank culture, and stated its aim to conduct focused reviews that dive deeper into the incentive systems of retail banks' front offices.

The HKMA's report on its review of these self-assessments noted that while the participating banks have made significant progress in promoting sound bank culture over the past two years, there were still discrepancies in the quality and depth of the self-assessments.

Building a strong incentive system framework

This calls for a renewed focus by banks to develop and implement a robust and comprehensive incentive system framework. Remuneration in particular is an important driver of behaviour. The HKMA's review of banks' self-assessments stated that they generally lacked details on the design and implementation of remuneration frameworks, including the link between staff performance assessment results and remuneration. Banks should therefore focus on designing and strengthening their remuneration practices to encourage the desired behaviours and focus not only on *what* is done, but also on *how* it is done.

In doing so, banks should ensure that their remuneration frameworks give appropriate weight to both financial and non-financial factors as part of their staff's key performance indicators. These non-financial factors include employees demonstrating the bank's desired culture and behaviours, treating customers fairly and complying with policies and procedures. Banks should also regularly review the effectiveness of their remuneration structures and practices to truly promote sound culture and prevent incidents of misconduct.

Driving the right culture

In order to drive the right culture throughout the organisation, it is essential that leaders and managers at banks understand and ensure that they reward the people that demonstrate the right behaviours, rather than focusing solely on punishing or discouraging bad behaviour. These rewards should comprise a combination of both financial and non-financial incentives, such as career advancement opportunities and employee recognition schemes. Indeed, leading banks will view incentive systems beyond just remuneration to include recruitment, performance assessment and promotion systems.

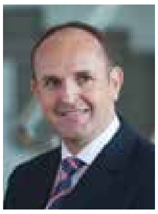
With many banks behind the curve with regards to designing and implementing a robust incentive system framework, some might consider working with external advisors that can help perform document reviews and gap analyses, test and assess the effectiveness of procedures, conduct external culture assessments and provide insights and recommendations to address any key issues or gaps.

As one of the three key pillars of the HKMA's Bank Culture Reform, incentive systems undoubtedly play a crucial role in driving behaviour. However, we believe that for a bank's culture to be effective in the long run, banks need to focus on continuous monitoring on desired behaviours, and the effectiveness of the levers that shape those behaviours, to assess how embedded the desired culture is throughout the organisation. This requires accountability and a strong and positive tone from the top to encourage all employees across the bank to shape and take responsibility for driving the right culture throughout the organisation. Banks that couple this with a focus on forward-looking real-time metrics and deep and rigorous culture assessments that culminate in a structured and well thought through change management plan will be well-positioned for success.

In order to drive the right culture throughout the organisation, it is essential that leaders and managers at banks understand and ensure that they reward the people that demonstrate the right behaviours, rather than focusing solely on punishing or discouraging bad behaviour. These rewards should comprise a combination of both financial and non-financial incentives, such as career advancement opportunities and employee recognition schemes.

Tax

John Timpany
Partner, Head of Tax, Hong Kong
KPMG China



Matthew Fenwick
Partner, Corporate Tax Advisory
KPMG China

Redefining tax strategy in a time of significant disruption

In today's rapidly changing environment, a combination of political, economic, social and technological factors continue to disrupt the tax functions at organisations – including banks – forcing them to re-evaluate how they fulfil their tax obligations. This calls for a fresh approach to managing tax obligations by adopting an innovative and holistic framework and technology-enabled solutions to enhance the digital, transformation and compliance capabilities of the tax function.

Disruptors affecting the tax function

We believe that there are a number of drivers that are increasingly disrupting the tax function. First is the global push on tax reform to increase transparency and responsibility, as well as the OECD's BEPS 2.0 initiative which aims to address the tax challenges around the digitalisation of economies and ensure that businesses pay their fair share.

More specifically for banks, there continues to be a shift towards labour arbitrage through the use of outsourced locations and shared service centres to achieve operational and cost efficiencies. In some cases, this has also led to the centralisation of the finance and tax functions.

In addition, the proliferation of technology – and the data that supports this – is fast transforming how reporting is managed by tax functions, and how monitoring is conducted by tax authorities. The Hong Kong tax regulator, as well as their counterparts in other jurisdictions, are expected to continue to invest heavily in technology in coming years in order to make their operations more effective and efficient. Banks are also facing demands from tax authorities for more granular information on an increasingly real-time basis, as well as internal pressure to provide better insight into the tax position of the group at an overall business line or product level.

Banks therefore need to find an effective way to respond to these demands on a more real-time basis, with little room for error. The current reactive and compliance-driven approach adopted by many tax functions is no longer acceptable. Banks need to invest in new and emerging technologies that can enable them to meet their external and internal tax obligations in a less manual and more efficient and timely manner.

> *Banks are facing demands from tax authorities for more granular information on an increasingly real-time basis, as well as internal pressure to provide better insight into the tax position of the group at an overall business line or product level. Banks therefore need to find an effective way to respond to these demands on a more real-time basis, with little room for error.*

> *An effective Tax Reimagined framework will help generate in-depth analytics and insights to the bank to help them make decisions, assess their current resources against the required capabilities, and create an optimal model to deliver on these obligations.*

When it comes to digital solutions and transformation, many banks have traditionally tried to do everything internally, building new technologies from scratch or establishing centres of excellence. However, we see an emerging trend of banks partnering with external service providers for digital tax solutions, which enables them to focus on their core and urgent priorities and gain competitive advantages that may not have been achieved by retaining those projects in-house.

Tax Reimagined

KPMG's framework – *Tax Reimagined* – helps organisations devise a strategy to meet their tax obligations efficiently and effectively, helping to reduce costs, improve quality and unlock value from the tax function. In its simplest form, it enhances the way organisations like banks can deliver their corporate income tax filings. In its more complex form, it encompasses much more, including a focus on indirect taxes, transfer pricing, withholding tax and other tax-related obligations that do not always fall naturally within the tax or finance team.

An effective Tax Reimagined framework will help generate in-depth analytics and insights to the bank to help them make decisions, assess their current resources against the required capabilities, and create an optimal model to deliver on these obligations. The framework will also help deliver value to the business by freeing up time for the tax function to focus more on higher level strategic and business advisory matters.

The tax implications of COVID-19 for banks

A robust framework will also help banks navigate the challenging environment as a result of the COVID-19 pandemic. For example, a large part of the time and effort that goes into the tax compliance process is the gathering and documentation of information in the form of structured and unstructured data. With employees working remotely, the logistics of collating that information and documentation adds an additional layer of complexity, and also underscores the need for a technology-enabled solution that facilitates the efficient interaction between different functions within a bank, as well as with service providers.

The economic fallout as a result of COVID-19 has also led governments worldwide to lend significant financial support to their local economies. Banks too have a key role to play in providing financial support and relief measures to their corporate and retail clients. As the world emerges from the worst of the pandemic, we predict that businesses that are viewed as having been successful during this period will be asked to pay their fair share to help repay the support that governments have given to their economies. Banks may be a beneficiary of this through their role as intermediaries to collect tax on behalf of governments.

On the other hand, governments and tax authorities might also require multinational banks to pay more in tax, which will put issues such as transfer pricing under the microscope for banks. The ability of banks to defend and support what they have been doing during these difficult times will be important. The effective use of technology, maintaining accurate records and supporting documentation, and the ability to deliver information quickly should help banks resolve some of these challenges in an efficient and timely manner.

Given the fast-evolving landscape and disruption to the industry, it is imperative for banks in Hong Kong to revisit how they meet their tax obligations. While there is a real drive to manage costs, technology-enabled solutions offer a relatively inexpensive means for banks to streamline and automate key processes, and generate real-time insights to enable them to become more proactive rather than reactive in fulfilling their tax obligations.

IFRS 9 and credit risk

Michael Monteforte
Partner, Financial Risk Management
KPMG China

In an uncertain economy, proper risk model validation is essential for IFRS 9 compliance

As the effects of the COVID-19 pandemic on the global economy continue to play out, medium and long-term economic indicators, including GDP growth and default rates, are changing and increasingly difficult to forecast. This dynamic is further complicated by differing levels of severity from country to country, which is affecting the timing and extent to which governments are implementing relief and support measures. Banks are facing a growing challenge of accurately assessing credit risk, which directly affects decisions on whether to extend credit to businesses and individuals.

Banks need to routinely calculate expected credit losses (ECLs) to incorporate changes in credit risk expectations into loan loss provisions. Recent results announcements highlight that major banks are setting aside billions of USD in loan loss provisions to counter rising default rates; but correctly predicting how much is necessary to allocate is becoming increasingly difficult.

How COVID-19 may impact financial instruments under IFRS 9

Initially adopted in 2018, IFRS 9 is the primary accounting standard for financial instruments, covering how these instruments are classified and measured as well as impairment of financial assets and hedge accounting. Under IFRS 9 Financial Instruments, the assessment of credit risk – the risk of a borrower defaulting – is an integral part of measuring ECLs. At each reporting date, a company needs to assess whether the credit risk on a financial instrument has increased significantly (known as a Significant Increase in Credit Risk or "SICR") since initial recognition. If SICR is present, then ECLs are recognised for an amount that represents the entire credit risk period, i.e. for the remaining expected life of the exposure.

Aside from meeting IFRS reporting standards, understanding SICR is an invaluable tool for banks to calculate explicit probabilities of default (PDs) for individual exposures and to use these to perform quantitative assessments. As such, banks need to consider whether they can incorporate the rising risk of default due to COVID-19 into their IFRS 9 PDs for individual exposures on a timely basis. This, in turn, directly affects the loan loss provisions that banks will set aside.[34]

[34] IFRS, "IFRS 9 and Covid-19", March 2020, https://cdn.ifrs.org/-/media/feature/supporting-implementation/ifrs-9/ifrs-9-ecl-and-coronavirus.pdf?la=en

> *The COVID-19 outbreak and resulting economic uncertainty will have a wide-ranging impact on the financial reporting by banks, specifically the recognition of ECLs in terms of IFRS 9. In the current environment, the challenge is incorporating available forward-looking information into the ECL without undue cost or effort at the reporting date.*

The COVID-19 outbreak and resulting economic uncertainty will have a wide-ranging impact on the financial reporting by banks, specifically the recognition of ECLs in terms of IFRS 9. In the current environment, the challenge is incorporating available forward-looking information into the ECL without undue cost or effort at the reporting date. Banks also need to understand how government support and relief measures should be reflected in credit provisions, as this will have an impact on calculating ECL.

Specific considerations for banks include the following:

- Banks may need to re-segment loan portfolios based on risk characteristics such as geographical locations, industry sectors and financial leverage. For certain sectors such as travel, hospitality, and oil-related services, it will be hard to argue why any financial instrument should still be in Stage '1', as these are all industries that are facing significant difficulties in the current environment which are likely to affect them in the medium to long term.
- Banks need to reassess the triggers and indicators they are using for SICR. For example, models might be automatically categorising loans into Stage '2' based on existing SICR indicators, but this may not represent reality as some borrowers may be financially strong after receiving government support. However, payment holidays should not automatically result in a Stage '1' loan remaining as Stage 1 and there still needs to be an assessment on SICR.
- Some institutions may consider adding new SICR indicators – for example an individual's employment status as a binary variable in the models or if a customer asks for a sudden large limit increase.
- Banks should consider how the days past due (DPD) criteria (>30 days for Stage '2' and >90 days for Stage '3') should be implemented given the temporary payment relief offered to customers as a result of the COVID-19 outbreak. Would the borrower have gone 30 DPD without the benefit of relief indicating SICR was always present? Prior history of DPD should also be taken into consideration.
- With regards to future uncertainty, banks will also need to use qualitative factors to assess SICR. These factors assist the bank in distinguishing between customers who are expected to resume normal payment behaviour after the payment holiday and exposures which have undergone a permanent increase in credit risk.
- PDs should be increasing at present even for Stage '1' financial instruments. Banks should consider how the mechanism for calculating PD is impacted by the temporary payment relief measures and whether adjustments to models are required; for example, if DPD is auto-populated into a PD model.
- Banks should consider the effect of payment relief on the definitions of "forbearance" and "non-performing" and how this interacts with the definition of default for modelling purposes. This may need to be updated to adjust for concessions.
- Historical macroeconomic relationships are unlikely to bear significance during the COVID-19 pandemic. Therefore, adjustments to ECL model results, based on expert credit judgement, could be necessary to reflect the latest information available at the reporting date.

Impact of COVID-19 on the impairment process

Example impacts	Inputs into ECL model	ECL model changes	Post-model adjustment*
Impact of payment holidays on SICR	✔	✔	✔
Macro-economic forecast			
• Variables for base case, downside, upside	✔		✔
• Probability weightings for each scenario	✔		✔
• Impact of economic variables on Staging, PD, LGD		✔	✔
Other ECL considerations			
EAD			
• Expected increase and utilisation of loan commitments / overdraft limits	✔		✔
• Expected changes in the cash flows should be captured in the impairment calculations (due to payment holidays)	✔		✔
PD / SICR			
• Updating internal rating to reflect risk of individual borrower	✔	✔	
• Collective assessment of staging for specific industries and adjustment to their PDs			✔
LGD			
• Decline in the collateral valuation	✔		✔
• Impact of guarantees on LGD	✔		✔

*If the effect of COVID-19 cannot be incorporated in ECL models before the end of a reporting period, post-model adjustments may be required. Adequate controls and governance should be in place for post-model adjustments.

Source: KPMG

The importance of IFRS 9 ECL model validation and review

It is important to note that IFRS 9 does not dictate the exact basis on which entities should determine forward-looking scenarios to determine ECL – banks must apply their own judgment in this regard. IFRS 9 official guidelines for banks amid the current COVID-19 situation re-emphasise this point: "…changes in economic conditions should be reflected in macroeconomic scenarios applied by entities and in their weightings. If the effects of COVID-19 cannot be reflected in models, post-model overlays or adjustments will need to be considered."[35]

As such, it is critical for banks to conduct a thorough validation (internal or external) of their credit risk models that feed into ECL calculations in addition to validating the ECL calculations themselves. Banks can obtain external support in several ways: one is by commissioning a "challenger model" to validate the strength of their models; another is performing a "sanity check" on internal models benchmarking to industry peers; and by recalibrating existing models to adjust to new realities.

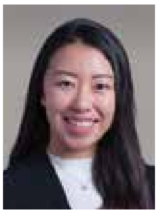
Another area that should be covered in a review is governance and controls. In addition to management overlays, the impact of COVID-19 will require modifications to models and SICR criteria. Manual processes may need to be temporally established to incorporate regulatory and government measures. Governance and controls over these modifications should also fall under the scope of review.

By thoroughly validating the IFRS 9 models in lieu of the macroeconomic challenges as well as government intervention schemes, banks can gain a clearer perspective on the reliability of their existing ECLs. Regulators such as the European Securities and Markets Authority (ESMA) have issued guidance to help ensure companies faithfully represent ECLs and apply IFRS 9 consistently. As of the launch date of this publication, Hong Kong authorities have not yet issued similar guidance. In addition to thoroughly examining the validity of their current models, it is important for banks to stay abreast of further guidance from regulatory bodies as the current situation continues to evolve.

[35] IFRS, "IFRS 9 and Covid-19", March 2020.

Jeffrey Hau
Partner, Risk Consulting
KPMG China

Edward Choi
Associate Director, Risk Consulting
KPMG China



Alison Ip
Manager, Risk Consulting
KPMG China

Taking sales suitability to the next level through the effective use of digitalisation and automation

Sales suitability and its related risks such as mis-selling, misconduct and the broader issue of conflicts of interest remain a key focus for regulators in Hong Kong. We have seen increased regulatory enforcement and financial penalties imposed on banks and, most recently, have even seen previously concluded investigations referred by the HKMA to the SFC for additional review and disciplinary action. Facing increasing regulatory scrutiny, as well as new banking and investing channels such as virtual banking, online-only platforms and other financial technologies, traditional banks need to innovate their approach to investment selling. In our view, this should take the form of the digitalisation and automation of suitability in order to better serve and protect clients, while improving the overall customer experience.

Suitability 2.0

With the proliferation of technology, leading financial institutions have been increasingly investing in the latest tools and solutions to redefine their value proposition and serve their customers in different ways. Online platforms, robo-advisors and advanced customer profiling are just some of the new building blocks available as part of a holistic design framework to improve sales suitability. Banks should carefully assess their risk appetite and invest in the development of a robust sales suitability framework – *Suitability 2.0* – to take suitability to the next level through the effective use of digitalisation and automation.

Suitability 2.0 will benefit banks through reduced administration and labour costs leading to greater efficiency, and also help to strengthen compliance and enable enhanced monitoring and reduction of mis-selling activities. It can also help to drive sales and improve profitability, allowing banks to leverage big data to target investment sales, shorten the lead time for product due diligence, improve the speed of execution, and provide greater accuracy over suitability assessments, ultimately leading to better client outcomes.

> *The digitalisation and automation of suitability will benefit banks not only through reduced administration and labour costs leading to greater efficiency, but it will also help to strengthen compliance and enable enhanced monitoring and reduction of mis-selling activities.*

A conventional sales suitability framework comprises four key pillars: client risk profiling; product due diligence; sales and advisory; and supervision and oversight. We believe a robust and effective Suitability 2.0 framework will take on the following characteristics across the four pillars:

- **Client risk profiling:** Deploying machine learning capabilities and big data analytics to capture and analyse customer behaviour for real-time dynamic profiling, cross-checking risk profiles with other KYC information for inconsistencies, setting up a virtual relationship manager with 24/7 availability to service customers digitally, and improving workflow processes for client acquisition, profiling and approvals, limiting undue influence.

- **Product due diligence:** Standardising data feeds from product providers with the establishment of a golden source for product information, rules-based product classification, comprehensive product inventory management, and automated product risk calculations, flagging of changes in product characteristics or other trigger events, and the auto-generation of product risk disclosures.

- **Sales and advisory:** Implementing robo-advisory on a portfolio-basis with pre-set algorithms and correlations with asset allocation and automatic rebalancing, voice-to-text and digital call memos to identify solicitation versus execution-only trades, system-generated recommendations to facilitate cross-selling to clients based on investment profiles, and enhanced conflict checking between client profiling and products.

- **Supervision and oversight:** Robust MI for suitability exception monitoring, automated pre- and post-trade controls, full data-set compliance reviews, coupled with powerful trend analytics to find hot-spots for bad behaviour, including product/RM analysis to target additional reviews, thus evolving controls from retrospective to preventative.

Sales suitability frameworks, whether it be Suitability 1.0, 2.0 or beyond, should be reviewed periodically to ensure that they continue to be fit-for-purpose for the organisation.

Instead of budgeting for a standalone sales suitability project, banks should integrate suitability as part of their overall strategic plan. Many Hong Kong banks have had to wait for implementation in Asia of head office systems which may not cater to Hong Kong regulations. We believe such banks could be left exposed if they do not respond to the latest regulations and improve efficiency and effectiveness through technology, especially in light of changing client expectations.

The trade-off between digitalisation and human interaction

The trend towards greater digitalisation in suitability will lead to a trade-off between enhanced compliance through better controls, and the desire for the personal, and somewhat emotional, approach to investing. In Hong Kong, many customers, regardless of whether they are high-net-worth private banking customers or mass retail, want the best of both worlds – managing their own investments while having access to personalised advice.

This will certainly be a cultural challenge for banks in Hong Kong to overcome. The launch of virtual banks in Hong Kong may help to reshape customer behaviour as they will utilise technology and digital interfaces to enable clients to find and purchase suitable products. For traditional banks that want to offer a personalised service with a human touch, digitalisation could also come in the form of a tool for relationship managers to effectively filter for suitable products and offer timely product recommendations to their clients.

Suitability will remain a top regulatory priority

It is clear that suitability will continue to remain a top priority for regulators. With recent market volatility, the SFC again reminded intermediaries of their obligations to ensure suitability and the timely dissemination of information to clients. We expect to see increased regulatory scrutiny and enforcement in the year ahead, in particular after the large corrections to client portfolios in recent months, and therefore suitability should remain high on the agenda for banks. Furthermore, the COVID-19 pandemic has changed consumer behaviour, leading to a more digital experience between banks and their customers. An effective suitability framework will be able to respond to different ways of doing business and the increasing demand for digital interactions.

While there has been some regulatory guidance on robo-advisory and more broadly around digital sales channels in Hong Kong, as they become more mainstream in the industry, regulators will increasingly seek to understand from banks how the risks are managed, especially how algorithms and other inputs are controlled and understood. This is likely to be coupled with a change in supervisory approach, where regulators will increasingly leverage supervisory technology (suptech) to enhance their regulatory oversight and monitoring.

Ultimately, we believe that banks that take a more digitalised and automated approach to suitability and implement a robust sales suitability framework will be best placed to reduce mis-selling, minimise conduct risk, manage conflicts of interest, and gain an overall competitive edge in the market.

> *“For traditional banks that want to offer a personalised service with a human touch, digitalisation could also come in the form of a tool for relationship managers to effectively filter for suitable products and offer timely product recommendations to their clients.”*

ESG

Pat Woo
Partner, Head of Sustainable Finance, Hong Kong
KPMG China

Sanel Tomlinson
Partner
KPMG China

Viewing existing systems and frameworks through a sustainability lens is key to ESG integration

Sustainability and environmental, social and governance (ESG) issues continue to come under the spotlight as investors increasingly demand that financial institutions enhance their sustainability practices to target positive and measurable ESG outcomes. Integrating ESG across the organisation is therefore key for banks in Hong Kong, especially in light of recent regulatory developments that will help to raise the bar for ESG and sustainable banking standards in the city.

The HKMA's Common Assessment Framework

The most immediate step for banks in Hong Kong is to complete a self-assessment as part of the Hong Kong Monetary Authority's (HKMA) Common Assessment Framework that measures an institution's readiness to manage climate and environmental-related risks, which in turn will enable the regulator to determine the "Greenness Baseline" of individual banks. The framework examines six key elements: governance; corporate planning and tools; risk management process; business policies, products and services; performance and resources; and disclosure and communication.

We believe that banks should view this framework as more than just an assessment, as the value generated from the process will help to identify the gaps and actions needed to futureproof the organisation. Importantly, banks should also note that the focus is not on reputational risk when completing the assessment, but rather it is financial risks (e.g. credit and market risks) that are under the microscope.

In addition, we have observed that many banks continue to view ESG as a standalone area, and therefore often have a fragmented strategy to managing sustainability across their organisation. We believe that banks should instead focus on holistically integrating a firm-wide ESG strategy that covers all aspects of governance, risk management, stress testing and scenario analysis through to disclosures and communication. While some banks already have existing frameworks in place to drive risk management across the organisation, leading banks will seek to incorporate an ESG lens to these existing frameworks, rather than viewing ESG as a separate component.

> *Banks should focus on holistically integrating a firm-wide ESG strategy that covers all aspects of governance, risk management, stress testing and scenario analysis through to disclosures and communication. While some banks already have existing frameworks in place to drive risk management across the organisation, leading banks will seek to incorporate an ESG lens to these existing frameworks, rather than viewing ESG as a separate component.*

Banks that can effectively follow this integrated approach and embed ESG throughout their organisation are likely to fare better in their self-assessments. Importantly, integrating ESG across the business effectively will also require buy-in from senior leadership, who are key to shaping and driving their organisation's ESG integration strategy.

While risk management is not a new concept for banks, connecting climate-related impacts to financial risks is a complicated task that requires multi-disciplinary expertise in ESG, risk management and banking. Part of incorporating ESG into banks' strategy across different service lines could also include opting into the voluntary climate-related financial risk disclosures – developed by the Task Force on Climate-related Financial Disclosures – to provide information to investors and other stakeholders.

Leveraging the HKMA's self-assessment to prepare for new HKEX requirements

For those financial institutions that are listed in Hong Kong, leading organisations will consider how the outputs from the HKMA's self-assessment can be effectively used to prepare for the Hong Kong Stock Exchange's (HKEX) more stringent ESG disclosure requirements for listed companies. The HKEX's revised ESG Reporting Guide in December 2019, which will become effective for financial years commencing on or after 1 July 2020, represents a shift away from reporting and towards management, with an emphasis on the board's role in the governance structure for ESG matters.

Some key amendments include strengthening the board's responsibility for overseeing ESG issues, improving ESG management, the mandatory disclosure of the application of reporting principles (including materiality), and measures to enhance overall reporting quality, including through encouraging independent assurance to strengthen the credibility of disclosed ESG information.

These new developments from the HKMA and HKEX should ensure that ESG and sustainability remain top of mind for bank executives, and that viewing the HKMA's self-assessment as more than a tickbox exercise will help the organisation to address gaps and tackle challenges that may arise in the future.

Looking ahead

Furthermore, the HKMA and SFC's announcement in May on the establishment of the Green and Sustainable Finance Cross-Agency Steering group is another positive step towards realising Hong Kong's green finance ambitions. In addition to the HKMA and the SFC, the Steering Group includes the Environment Bureau, the Financial Services and the Treasury Bureau, Hong Kong Exchanges and Clearing Limited, the Insurance Authority and the Mandatory Provident Fund Schemes Authority. The launch of this Steering Group sends a clear statement of intent to take a coordinated, cross-sectoral approach to provide strategic direction on regulatory and market development to make Hong Kong a hub for green and sustainable finance.

Going forward, climate-related aspects will certainly be an initial key driver of sustainable banking, but there are also other elements to consider. For example, we believe there will be a renewed focus on the 'social' aspect of ESG, especially in light of the Covid-19 pandemic and the impact this is having on operating models, employee well-being and ways of working.

Investors are also starting to call for a more consistent way of rating and for consistent industry standards for ESG and sustainability. We believe that regulators and the financial services industry in Hong Kong should work together to develop industry-wide standards for ESG in Hong Kong, perhaps considering best practices from other jurisdictions to achieve greater alignment.

> *"While there are a number of traditional ESG professionals in the market, there is a notable shortage of skills and understanding in the area where finance and ESG intersect. Finding the right talent who are well-equipped and knowledgeable about the application of ESG in the financial realm will continue to be a challenge – and should be a focus – for banks in Hong Kong."*

Capacity building and education will also be key to the successful development of sustainable banking in Hong Kong. While we acknowledge that there are a number of traditional ESG professionals in the market, there is a notable shortage of skills and understanding in the area where finance and ESG intersect. Finding the right talent who are well-equipped and knowledgeable about the application of ESG in the financial realm will continue to be a challenge – and should be a focus – for banks in Hong Kong.

This is where leading banks can gain a competitive advantage. By viewing ESG from an integrated rather than a standalone perspective, banks can seek out effective ways to incorporate an ESG lens into existing systems and frameworks. Banks already have a skilled workforce that manages risk management, governance, strategy, stress testing and scenario analysis. Incorporating ESG thinking into existing systems and frameworks does not necessarily translate to a large amount of investment in terms of new hires, but rather a focus on upskilling existing teams with the support from external advisors.

The integration of ESG principles across the organisation is not just about minimising reputational risk or a tickbox compliance exercise. It is about ensuring robust risk management with clear business benefits. In fact, several studies indicate that companies with greater levels of ESG integration are likely to benefit from better financial performance, talent retention and long-term growth and profitability. At the end of the day, sustainability affects all stakeholders in the community, be it banks, regulators, customers or employees. Banks that actively take steps to conduct a thorough self-assessment to identify and address gaps, and build on this to integrate ESG across the business will be the ones that enjoy success in the longer term.

Wealth management

Edmond Tan
Partner
KPMG China

Ricardo Wenzel
Director, Wealth & Asset Management
KPMG China

A watershed moment for wealth management in China

China's strong historical economic growth, rapid technological development and its fast-growing middle class represent key growth opportunities for financial institutions worldwide. Coupled with the dropping of foreign ownership restrictions in the country's financial services sector, 2020 marks a watershed moment for international banks seeking to enter or expand their presence in mainland China.

The case for going onshore

The case for going onshore in mainland China is clear. Between 2013 and 2018, China had an average annual economic growth rate of 7%, significantly higher than the world average of 2.9%.[36] Despite the global economic slowdown caused by the COVID-19 pandemic, China remains among the largest and most attractive markets for wealth and asset management worldwide.

This is largely due to the innovation and rapid growth of the digital economy in the last few years, which both foreign and domestic wealth managers can capitalise on by focusing less on developing extensive physical branch networks with large headcounts, and more on digital infrastructure and distribution channels to speed up market penetration with continuous coverage. Another opportunity for wealth managers is the large and growing population of mass affluent and high net worth individuals, many of whom are seeking greater product diversity and new investment opportunities while increasingly demanding more diversified, portfolio-based solutions for wealth protection purposes. This emerging trend is not only driven by a shifting investor attitude towards risk, but also by the wealth transfer to the next (mostly second) generation and very likely accelerated by the market turbulence caused by COVID-19.

From a regulatory perspective, the phasing in of wealth management product regulations issued by the People's Bank of China, China Securities Regulatory Commission and China Banking and Insurance Regulatory Commission in 2019 is expected to be completed by the end of 2020, which should help to level the playing field for foreign entrants with regards to investment product requirements, suitability checks, disclosure and asset value calculation, as well as curbing shadow banking. The new regulation also provides an opportunity for foreign entrants to leverage their overseas wealth management expertise and experience.

[36] http://www.samacn.org.cn/files/frame/20200331120451120 4.pdf

> *"The average Chinese customer is highly digital and plugged into the latest technologies, turning to their smartphones for payments, investments and all other key aspects of their daily lives. They therefore have very specific and high expectations when it comes to banking and wealth management, particularly around the ease and accessibility of banking and wealth management services."*

Mainland China also continues to open up its economy to foreign investment in its financial services sector. From a shareholding perspective, in the past foreign banks could only hold a minority share in their mainland China operations. However, there has been a continued loosening of foreign investment restrictions. In 2018, shareholding limitations were dropped for foreign institutions investing in local Chinese banks, with the latest development involving the scrapping of foreign ownership limits for public fund management and securities firms from April 1 this year. Under the new US-China trade rules the management of pension funds is also opening up to foreign financial institutions.

Key considerations and challenges for an onshore operation

A number of international financial institutions have taken steps to take a majority or wholly-owned stake in their mainland China operations, and we expect to see an increasing interest in market entry or further expansion onshore. When devising their onshore strategy, foreign financial institutions should be mindful of the competitive landscape in China and take into account the strength of the existing players in the market, which includes the larger domestic banks, the wealth management arms of rural and commercial banks, and the tech giants.

In addition, it is crucial that new entrants ensure that they adapt to the PRC regulatory framework and effectively manage regulatory risk. The regulatory landscape in mainland China can be challenging, with certain restrictions hindering the full implementation of business services, and varying interpretations of regulations. Foreign banks should therefore invest in building up a robust compliance department to appropriately monitor regulatory risk with respect to capital requirements, services and products they are allowed to provide, and disclosure practices.

Foreign banks also need to assess their existing digital capabilities and consider how this can be expanded or tailored for the digitally savvy clientele in mainland China. The average Chinese customer is highly digital and plugged into the latest technologies, turning to their smartphones for payments, investments and all other key aspects of their daily lives. They therefore have very specific and high expectations when it comes to banking and wealth management, particularly around the ease and accessibility of banking and wealth management services.

This requires a shift in foreign banks' approach to access and service their clients in mainland China. Building digital infrastructure and distribution channels from scratch is a very challenging option, and may only bring limited benefits as the large tech incumbents already command powerful distribution capabilities and sticky client relationships. The same goes for physical branch networks, which will be virtually impossible for international banks to build from scratch to span the entire country and to compete with regional institutions. We believe that banks will therefore seek to forge alliances and partnerships to create new channels and drive growth and innovation onshore. A successful partnership could result in win-win outcomes for both parties through access to new revenue pools, product manufacturing expertise, risk management, advisory capabilities and an enhancement of the investment product shelf.

Data management and IT infrastructure are also key considerations for foreign banks' onshore operations. Banks should build localised and sustainable IT architecture in compliance with regulatory requirements, and ensure robust controls around data security and the management of cross-border data transfers. Local IT vendors will play a key role with regards to software procurement and assisting foreign banks during the implementation stage. It is crucial for foreign banks to select a partner that can provide market-leading solutions with long-term maintenance support and upgrade opportunities.

> *We believe the key is to unlock access to a large breadth of new clients and revenue pools onshore. While creating a comprehensive digital strategy and finding the right partner are crucial, we believe that in order to set themselves up for success, foreign banks should focus not only on a niche of UHNW clients for their wealth management business, but also on the rapidly growing mid-tier high-net-worth entrepreneur client base.*

What does success look like?

Given the potentially challenging market environment for foreign entrants, what will define the long-term success of international financial institutions? We believe the key is to unlock access to a large breadth of new clients and revenue pools onshore. While creating a comprehensive digital strategy and finding the right partner are crucial, we believe that in order to set themselves up for success, foreign banks should focus not only on a niche of UHNW clients (who often hold assets offshore and also bank offshore) for their wealth management business, but also on the rapidly growing mid-tier high-net-worth client base. Indeed, in 2018, China had 1.97 million high-net-worth individuals, with entrepreneurs being a crucial segment, whose personal investable assets exceed RMB 10 million, totalling about RMB 190 trillion of personal investable assets nationwide.[37] This is a sizeable sum, and with wealth management penetration remaining relatively low in mainland China, this indicates a largely untapped opportunity for growth.

While foreign banks are getting their digital offerings up to scratch in order to target this broader client segment, they also need to ensure that they get their operating model and product mix right for the onshore market. Hiring the right talent is also crucial. There is clearly an abundance of new talent and innovation in mainland China, but at the same time there is also fierce competition between traditional banks, tech companies and start-ups for this talent. Foreign entrants will need to ensure that they focus on remuneration, career development and company culture as key differentiators in order to attract top talent.

Another success factor is the ability to project the bank's offshore brand recognition and the ability to leverage their product, operational and risk management expertise. However, while brand recognition is important, foreign entrants should also recognise that localisation is key to success in the mainland China market. A common pitfall of multinational banks entering China is to manage their operations from outside of China – in some cases, even from outside of Asia. We believe that in order for foreign banks to truly succeed, strategic senior management decision-making needs to come from within mainland China, and from experienced people who fully understand and are immersed in the local market.

Winning in China for foreign private banking and wealth management entrants will certainly be challenging yet rewarding, and will require long-term commitment. Furthermore, as the effects of COVID-19 continue to change ways of working and weigh on business and economic growth, the long-term opportunities and strategic importance of China remains. While there is no single formula for success, the relaxed foreign ownership rules gives foreign entrants more leeway than ever before to operate as they see fit within regulatory boundaries. Ultimately, we believe that succeeding in mainland China can only be achieved by being on the ground, close to prospects, clients and regulators, with the right capabilities and expertise, digital channels and product suite.

[37] http://www.samacn.org.cn/files/frame/202003311204511204.pdf

Customer experience

Isabel Zisselsberger
Partner, Head of
Customer and
Operations, Hong Kong
KPMG China

Sean Ren
Associate Director,
Customer and
Operations, Hong Kong
KPMG China

Accelerating the push to deliver next-level customer experience

Over the past 12 months, traditional banks in Hong Kong have continued to invest in improving the experiences of their customers amid an ever-increasing urgency to retain customers as virtual banks begin entering the market. Apart from this disruption, social unrest and the COVID-19 outbreak have further impacted the average Hong Kong customer's behaviour, creating new expectations and demands on banks as they look to engage their customers.

With a rise in social distancing and more time spent at home, Hong Kong consumers are embracing digital for everything from work-from-home arrangements to where they spend their money. As a greater number of people go online to fulfil their daily needs, they now expect the same level of digital service and innovation from financial services companies as those provided by leading tech companies.

Digital transformation must keep going

Despite increasing cost pressures, a focus on accelerating the digital transformation journey by traditional banks is a must. Of course banks have not just woken up to the importance of digital – many have already made significant investments in enhancing their offer. However, progress has arguably been too slow, hampered by legacy architectures and constraints whilst outsiders keep moving the bar higher. Greater investments by financial institutions in the right areas will lead these institutions down a path of success and improve their financial position in the longer term. It is our view that an enhanced digital offering is an absolutely integral part of providing a better experience for the end customer.

Our globally developed methodology, The Six Pillars of Customer Experience Excellence, measures companies in how they engage their customers on personalisation, integrity, expectations, resolution, time and effort, and empathy. It is clear that getting the basics right around time and effort, enabled by digital, is fundamental. In fact, investing in customer experience measures without getting the foundation right could be counterproductive.

> *An enhanced digital offering is an absolutely integral part of providing a better experience for the end customer.*

Trust and integrity – at the heart of what customers expect

Further, our studies have shown that integrity continues to be the most important pillar for banks when it comes to customer loyalty. In addition to digital transformation, banks must think about investment in trust and integrity; not investment in the sense of pure dollars, but investment in its purpose, culture and behaviour in a way that is meaningful for all stakeholders including customers. Banks should consider all elements of the Trust Framework.

Trust Framework

Reputation	• Moral purpose • Stand for something • Dependable and consistent
Act in my best interest	• Treat me fairly • Consider my wellness • Put me in control • Be open and honest • Care about the outcomes
Ability	• Be likeable • Demonstrate expertise, skill, competence • Resourceful
Behavioural integrity	• Commit to standards • Communicate credibly • Consistency in interactions • Congruence of words and actions • Keep commitments and deadlines • Deliver on promises

Achieving a personal touch

As banks automate and digitise to create more convenient and streamlined operations for their organisation and consumers alike, they still need to provide a personalised and personal experience. Our research indicates that human interaction remains a preferred model of engagement when it comes to larger and more complex financial transactions. That expectation is no different for younger generations like Generation Z and Millennials, as customers of all age groups in Hong Kong prefer to speak with someone when navigating their options and decisions for major transactions. To achieve this balance of digital and human channels, banks need to enable relationship managers and client-facing staff with the right training and tools to deliver a world-class service.

Part of a personal touch is providing a personalised experience. Consumers are more and more willing to hand over significant amounts of their personal data, but in exchange they expect banks to demonstrate a much greater understanding of who they are and what they need.

In the case of one bank we worked with, where efforts to improve personalisation were subject to stringent compliance oversight, the organisation integrated the compliance function into the customer experience team. Significant improvements in customer experience ratings followed, without increasing compliance risk.

> *Strong community ties are essential for banks to build long-term customer satisfaction and loyalty.*

In another case, a bank improved the types of marketing materials that were being distributed to be more tailored to their target audience. More affluent customers who possessed substantial cash deposits were provided offers for short-term deposit products, while customers who needed liquidity were provided offers for loan products. This personalised approach was clearly preferable to both sets of customers being provided the same offers.

Community is key

Extending beyond physical in-person interactions, our research further shows that customers value the feeling of community. Once properly engaged, customers want an experience that goes above and beyond that of a typical commercial transaction. They seek from banks a sense that their concerns and values are understood, respected and shared; in short, customers want to engage financial institutions that are truly empathetic and understanding of their needs.

A perceived shared identity and resulting familiarity provide customers with a sense of belonging and community. For traditional banks, strong community ties are essential for banks to improve long-term customer satisfaction and loyalty. These organisations are looking to continue to build upon existing successes in achieving customer loyalty, and very often that begins with how they fare in the communities they serve.

Virtual banks are also trying to build their own communities, albeit digitally. Their focus is placed squarely on empowering the end customer and developing the bank together through open dialogue and communication.

Employee experience matters

No matter the organisation, an effective digital transformation requires a similarly attentive effort in improving employee experience which in turn is vital to improving the end customer experience. A favourable employee experience is critical to recruiting and retaining top talent. This will foster a satisfying work culture and align employees around the organisation's shared vision.

Not surprisingly, our six pillars methodology applies to employees as well. Integrity is again foremost among the six, built on the principle that all relationships are based on trust. By investing in improving internal organisational integrity, the organisation will experience improvements in the other pillars.

Financial highlights

Performance rankings:

- Licensed banks
- Restricted licence banks
- Deposit-taking companies
- Foreign bank branches

Performance rankings

Licensed banks

Ranking	Total assets	HK$ million	Ranking	Net profit after tax	HK$ million	Ranking	Cost/income ratio	
1.	Hongkong And Shanghai Banking Corporation Limited (The)	8,661,714	1.	Hongkong And Shanghai Banking Corporation Limited (The)	115,040	1.	Industrial And Commercial Bank of China (Asia) Limited	23.9%
2.	Bank of China (Hong Kong) Limited	2,874,554	2.	Bank of China (Hong Kong) Limited	33,354	2.	Bank of China (Hong Kong) Limited	28.3%
3.	Standard Chartered Bank (Hong Kong) Limited	2,118,648	3.	Hang Seng Bank, Limited	24,822	3.	Hang Seng Bank, Limited	30.0%
4.	Hang Seng Bank, Limited	1,676,991	4.	Standard Chartered Bank (Hong Kong) Limited	14,632	4.	Shanghai Commercial Bank Limited	30.4%
5.	Industrial And Commercial Bank of China (Asia) Limited	953,564	5.	Industrial And Commercial Bank of China (Asia) Limited	8,302	5.	CMB Wing Lung Bank Limited	32.7%
6.	Bank of East Asia, Limited (The)	865,198	6.	DBS Bank (Hong Kong) Limited	5,361	6.	Chiyu Banking Corporation Limited	34.0%
7.	Nanyang Commercial Bank, Limited	489,589	7.	CMB Wing Lung Bank Limited	3,987	7.	Bank of Communications (Hong Kong) Limited	37.4%
8.	China Construction Bank (Asia) Corporation Limited	488,349	8.	Nanyang Commercial Bank, Limited	3,951	8.	Nanyang Commercial Bank, Limited	37.6%
9.	DBS Bank (Hong Kong) Limited	446,697	9.	China Construction Bank (Asia) Corporation Limited	3,682	9.	China Construction Bank (Asia) Corporation Limited	39.2%
10.	China CITIC Bank International Limited	361,222	10.	Bank of East Asia, Limited (The)	3,336	10.	Chong Hing Bank Limited	40.7%

Restricted licence banks

Ranking	Total assets	HK$ million	Ranking	Net profit after tax	HK$ million	Ranking	Cost/income ratio	
1.	Bank of Shanghai (Hong Kong) Limited	32,941	1.	Citicorp International Limited	2,032	1.	Siam Commercial Bank Public Company Limited (The)	17.8%
2.	KDB Asia Limited	18,679	2.	Bank of Shanghai (Hong Kong) Limited	308	2.	Scotiabank (Hong Kong) Limited	24.7%
3.	Siam Commercial Bank Public Company Limited (The)	16,503	3.	KDB Asia Limited	138	3.	KDB Asia Limited	33.7%
4.	Scotiabank (Hong Kong) Limited	16,137	4.	Scotiabank (Hong Kong) Limited	116	4.	Bank of Shanghai (Hong Kong) Limited	33.8%
5.	Kasikornbank Public Company Limited	15,571	5.	Siam Commercial Bank Public Company Limited (The)	57	5.	Kasikornbank Public Company Limited	35.1%
6.	J.P. Morgan Securities (Asia Pacific) Limited	11,931	6.	Bank of China International Limited	31	6.	Citicorp International Limited	45.8%
7.	Bank of China International Limited	9,687	7.	Kasikornbank Public Company Limited	29	7.	Allied Banking Corporation (Hong Kong) Limited	52.2%
8.	Citicorp International Limited	8,079	8.	Allied Banking Corporation (Hong Kong) Limited	28	8.	ORIX Asia Limited	69.4%
9.	ORIX Asia Limited	5,781	9.	ORIX Asia Limited	22	9.	Goldman Sachs Asia Bank Limited	69.8%
10.	Banc of America Securities Asia Limited	4,489	10.	Habib Bank Zurich (Hong Kong) Limited	16	10.	Habib Bank Zurich (Hong Kong) Limited	79.4%

Deposit-taking companies

Ranking	Total assets	HK$ million	Ranking	Net profit after tax	HK$ million	Ranking	Cost/income ratio	
1.	Public Finance Limited	7,435	1.	Public Finance Limited	214	1.	BCOM Finance (Hong Kong) Limited	11.1%
2.	Woori Global Markets Asia Limited	4,189	2.	Woori Global Markets Asia Limited	48	2.	Woori Global Markets Asia Limited	28.6%
3.	Kexim Asia Limited	3,360	3.	KEB Hana Global Finance Limited	41	3.	KEB Hana Global Finance Limited	34.2%
4.	KEB Hana Global Finance Limited	1,364	4.	Kexim Asia Limited	20	4.	Kexim Asia Limited	43.5%
5.	Gunma Finance (Hong Kong) Limited	412	5.	BCOM Finance (Hong Kong) Limited	7	5.	Public Finance Limited	49.8%
6.	BPI International Finance Limited	388	6.	Vietnam Finance Company Limited	3	6.	Corporate Finance (D.T.C.) Limited	57.1%
7.	Commonwealth Finance Corporation Limited	318	7.	Commonwealth Finance Corporation Limited	3	7.	Commonwealth Finance Corporation Limited	72.2%
8.	Corporate Finance (D.T.C.) Limited	318	8.	Gunma Finance (Hong Kong) Limited	3	8.	Vietnam Finance Company Limited	72.7%
9.	BCOM Finance (Hong Kong) Limited	261	9.	Corporate Finance (D.T.C.) Limited	2	9.	Gunma Finance (Hong Kong) Limited	81.3%
10.	Vietnam Finance Company Limited	255	10.	Chong Hing Finance Limited	1	10.	Chau's Brothers Finance Company Limited	100.0%

Foreign bank branches

Ranking	Total assets	HK$ million	Ranking	Net profit after tax	HK$ million	Ranking	Cost/income ratio	
1.	Agricultural Bank of China Limited	582,044	1.	Citibank, N.A.	4,485	1.	China Development Bank	8.1%
2.	Mizuho Bank, Ltd.	512,026	2.	Bank of Communications Co., Ltd.	3,739	2.	Agricultural Bank of China Limited	9.4%
3.	Bank of Communications Co., Ltd.	496,890	3.	UBS AG	3,507	3.	First Commercial Bank, Ltd.	11.5%
4.	Citibank, N.A.	477,788	4.	Agricultural Bank of China Limited	3,141	4.	Taiwan Cooperative Bank, Ltd.	12.0%
5.	China Development Bank	409,140	5.	DBS Bank Ltd.	2,914	5.	KEB Hana Bank	13.1%
6.	MUFG Bank, Ltd.	402,099	6.	China Development Bank	2,662	6.	Chang Hwa Commercial Bank, Ltd.	13.6%
7.	BNP Paribas	369,725	7.	China Merchants Bank Co., Ltd.	2,135	7.	Bank of China Limited	13.7%
8.	DBS Bank Ltd.	358,116	8.	United Overseas Bank Ltd.	2,131	8.	Axis Bank Limited	14.0%
9.	Sumitomo Mitsui Banking Corporation	308,641	9.	China Construction Bank Corporation	1,733	9.	Woori Bank	14.3%
10.	China Construction Bank Corporation	290,399	10.	China Minsheng Banking Corp., Ltd.	1,286	10.	Shinhan Bank	14.4%

Source: Extracted from individual banks' financial and public statements

Licensed banks

Ranking	Return on equity		Ranking	Growth in assets		Ranking	Growth in net profit after tax	
1.	Hang Seng Bank, Limited	14.6%	1.	Chiyu Banking Corporation Limited	45.7%	1.	Bank of Communications (Hong Kong) Limited	109.9%
2.	Morgan Stanley Bank Asia Limited	14.0%	2.	Morgan Stanley Bank Asia Limited	34.6%	2.	Tai Yau Bank, Limited	38.5%
3.	DBS Bank (Hong Kong) Limited	13.9%	3.	Shanghai Commercial Bank Limited	12.7%	3.	Chiyu Banking Corporation Limited	25.9%
4.	Hongkong And Shanghai Banking Corporation Limited (The)	13.6%	4.	Chong Hing Bank Limited	11.6%	4.	Wing Lung Bank Limited	23.9%
5.	Citibank (Hong Kong) Limited	12.2%	5.	Bank of Communications (Hong Kong) Limited	9.3%	5.	Morgan Stanley Bank Asia Limited	13.1%
6.	Bank of China (Hong Kong) Limited	12.1%	6.	Wing Lung Bank Limited	8.7%	6.	Chong Hing Bank Limited	8.0%
7.	Bank of Communications (Hong Kong) Limited	10.4%	7.	Fubon Bank (Hong Kong) Limited	8.4%	7.	Shanghai Commercial Bank Limited	6.2%
8.	Shanghai Commercial Bank Limited	10.3%	8.	Standard Chartered Bank (Hong Kong) Limited	7.2%	8.	Bank of China (Hong Kong) Limited	5.3%
9.	Chiyu Banking Corporation Limited	9.8%	9.	Hang Seng Bank, Limited	6.7%	9.	DBS Bank (Hong Kong) Limited	4.5%
10.	CMB Wing Lung Bank Limited	9.2%	10.	Industrial And Commercial Bank of China (Asia) Limited	6.7%	10.	Dah Sing Bank, Limited	3.5%

Restricted licence banks

Ranking	Return on equity		Ranking	Growth in assets		Ranking	Growth in net profit after tax	
1.	Citicorp International Limited	29.5%	1.	KDB Asia Limited	36.4%	1.	Goldman Sachs Asia Bank Limited	44.4%
2.	Bank of Shanghai (Hong Kong) Limited	6.5%	2.	Kasikornbank Public Company Limited	31.3%	2.	Bank of Shanghai (Hong Kong) Limited	41.3%
3.	Kasikornbank Public Company Limited	6.0%	3.	Siam Commercial Bank Public Company Limited (The)	17.0%	3.	Bank of China International Limited	34.8%
4.	Allied Banking Corporation (Hong Kong) Limited	5.4%	4.	Habib Bank Zurich (Hong Kong) Limited	16.7%	4.	Kasikornbank Public Company Limited	26.1%
5.	KDB Asia Limited	4.9%	5.	Bank of Shanghai (Hong Kong) Limited	15.2%	5.	Nippon Wealth Limited	19.7%
6.	Habib Bank Zurich (Hong Kong) Limited	2.9%	6.	Citicorp International Limited	5.3%	6.	KDB Asia Limited	11.3%
7.	Scotiabank (Hong Kong) Limited	2.1%	7.	Goldman Sachs Asia Bank Limited	3.6%	7.	Scotiabank (Hong Kong) Limited	0.9%
8.	Bank of China International Limited	1.9%	8.	Scotiabank (Hong Kong) Limited	-2.1%	8.	Citicorp International Limited	-1.8%
9.	Goldman Sachs Asia Bank Limited	1.4%	9.	Allied Banking Corporation (Hong Kong) Limited	-2.9%	9.	Habib Bank Zurich (Hong Kong) Limited	-15.8%
10.	ORIX Asia Limited	1.0%	10.	Bank of China International Limited	-6.2%	10.	Siam Commercial Bank Public Company Limited (The)	-16.2%

Deposit-taking companies

Ranking	Return on equity		Ranking	Growth in assets		Ranking	Growth in net profit after tax	
1.	Public Finance Limited	14.2%	1.	Woori Global Markets Asia Limited	15.6%	1.	Chau's Brothers Finance Company Limited	249.30%
2.	KEB Hana Global Finance Limited	8.3%	2.	Public Finance Limited	4.2%	2.	Chong Hing Finance Limited	55.60%
3.	Woori Global Markets Asia Limited	5.5%	3.	Kexim Asia Limited	3.3%	3.	Woori Global Markets Asia Limited	33.30%
4.	Kexim Asia Limited	4.3%	4.	BCOM Finance (Hong Kong) Limited	2.8%	4.	KEB Hana Global Finance Limited	24.20%
5.	BCOM Finance (Hong Kong) Limited	2.7%	5.	Chong Hing Finance Limited	0.0%	5.	Kexim Asia Limited	17.60%
6.	Vietnam Finance Company Limited	2.7%	6.	Fubon Credit (Hong Kong) Limited	1.6%	6.	BCOM Finance (Hong Kong) Limited	-1.50%
7.	Commonwealth Finance Corporation Limited	2.7%	7.	Corporate Finance (D.T.C.) Limited	-3.3%	7.	Gunma Finance (Hong Kong) Limited	-5.30%
8.	Chong Hing Finance Limited	2.2%	8.	Commonwealth Finance Corporation Limited	-6.5%	8.	Public Finance Limited	-16.10%
9.	Corporate Finance (D.T.C.) Limited	2.0%	9.	Chau's Brothers Finance Company Limited	-10.1%	9.	Commonwealth Finance Corporation Limited	-21.60%
10.	Gunma Finance (Hong Kong) Limited	1.0%	10.	BPI International Finance Limited	-14.9%	10.	Corporate Finance (D.T.C.) Limited	-33.30%

Foreign bank branches

Ranking	Growth in assets		Ranking	Growth in net profit after tax	
1.	Bank of New York Mellon (The)	65.1%	1.	Westpac Banking Corporation	875.0%
2.	Kookmin Bank	42.0%	2.	State Bank of India	753.3%
3.	Shanghai Commercial & Savings Bank, Ltd. (The)	26.0%	3.	Bank of Baroda	300.0%
4.	Woori Bank	25.5%	4.	MUFG Bank, Ltd.	271.9%
5.	Shinhan Bank	24.6%	5.	Bank of Singapore Limited	262.5%
6.	Intesa Sanpaolo Spa	22.7%	6.	Australia And New Zealand Banking Group Limited	213.8%
7.	Taiwan Cooperative Bank, Ltd.	19.7%	7.	China Development Bank	203.2%
8.	Natixis	19.2%	8.	Banco Bilbao Vizcaya Argentaria S.A.	190.3%
9.	Royal Bank of Canada	18.5%	9.	Macquarie Bank Limited	133.3%
10.	Industrial Bank of Korea	18.2%	10.	Erste Group Bank AG	120.4%

Source: Extracted from individual banks' financial and public statements

Licensed banks - Financial highlights

	HK$ million	Year ended	Income statement						
			Net interest income	Non-interest income	Operating expenses	Operating profit before impairment charges	Change in expected credit loss against customer advances	Other items	Profit before tax
1	Bank of China (Hong Kong) Limited	31-Dec-19	37,265	19,784	16,124	40,925	1,840	249	39,334
2	Bank of Communications (Hong Kong) Limited	31-Dec-19	2,921	1,214	1,546	2,589	92	(68)	2,429
3	Bank of East Asia, Limited (The)	31-Dec-19	14,500	5,184	9,891	9,793	7,253	658	3,198
4	China CITIC Bank International Limited	31-Dec-19	6,343	2,008	3,696	4,655	1,314	(7)	3,334
5	China Construction Bank (Asia) Corporation Limited	31-Dec-19	6,242	2,131	3,286	5,087	741	23	4,369
6	Chiyu Banking Corporation Limited	31-Dec-19	2,019	758	945	1,832	313	(25)	1,494
7	Chong Hing Bank Limited	31-Dec-19	3,260	762	1,635	2,387	97	(8)	2,282
8	Citibank (Hong Kong) Limited	31-Dec-19	3,635	4,061	4,215	3,481	205	(2)	3,274
9	CMB Wing Lung Bank Limited	31-Dec-19	5,220	1,904	2,333	4,791	329	274	4,736
10	Dah Sing Bank, Limited	31-Dec-19	4,056	1,318	2,861	2,513	343	398	2,568
11	DBS Bank (Hong Kong) Limited	31-Dec-19	8,911	3,732	5,533	7,110	613	(9)	6,488
12	Fubon Bank (Hong Kong) Limited	31-Dec-19	1,416	346	899	863	105	(41)	717
13	Hang Seng Bank, Limited	31-Dec-19	32,255	11,259	13,057	30,457	1,837	193	28,813
14	Hongkong And Shanghai Banking Corporation Limited (The)	31-Dec-19	130,903	88,478	93,494	125,887	5,420	15,966	136,433
15	Industrial And Commercial Bank of China (Asia) Limited	31-Dec-19	12,155	3,374	3,708	11,821	1,861	20	9,980
16	Morgan Stanley Bank Asia Limited	31-Dec-19	661	2,171	2,053	779	-	-	779
17	Nanyang Commercial Bank, Limited	31-Dec-19	6,650	2,352	3,382	5,620	1,177	34	4,477
18	OCBC Wing Hang Bank Limited	31-Dec-19	5,009	1,407	3,260	3,156	278	55	2,933
19	Public Bank (Hong Kong) Limited	31-Dec-19	1,384	260	887	757	222	-	535
20	Shanghai Commercial Bank Limited	31-Dec-19	3,977	1,456	1,649	3,784	62	38	3,760
21	Standard Chartered Bank (Hong Kong) Limited	31-Dec-19	27,289	20,943	29,789	18,443	1,648	1,116	17,911
22	Tai Sang Bank Limited	31-Dec-19	22	15	26	11	-	(6)	5
23	Tai Yau Bank, Limited	31-Dec-19	37	-	17	20	-	1	21
	TOTAL[N1]	**2019**	**283,875**	**163,658**	**191,229**	**256,304**	**23,913**	**18,666**	**251,057**
	Total excluding HSBC[N2]	**2019**	**185,227**	**86,439**	**110,792**	**160,874**	**20,330**	**2,893**	**143,437**
	Total excluding BOCHK & HSBC[N2]	**2019**	**147,962**	**66,655**	**94,668**	**119,949**	**18,490**	**2,644**	**104,103**

* This is Liquidity Coverage Ratio.
\# This is Liquidity Maintenance Ratio.
N1 This does not include Hang Seng Bank, as it is already included in the results of The Hongkong and Shanghai Banking Corporation.
N2 This includes Hang Seng Bank.
N3 ROA is calculated as net profit after tax divided by average total assets.
N4 ROE is calculated as net profit after tax divided by average total equity.

Source: Extracted from individual banks' financial and public statements

Financial highlights								
	Size and strength measures							
Net profit after tax	Total assets	Risk-weighted assets ("RWA")	Gross advances to customers	Expected credit loss allowance against customer advances	Total deposits from customers	Total equity	Total capital ratio	Liquidity ratio
33,354	2,874,554	1,098,018	1,416,150	7,036	2,014,092	282,630	22.89%	146.53%*
2,063	227,113	128,663	79,519	317	170,755	21,086	18.2%	163.8%*
3,336	865,198	484,195	509,725	3,769	573,527	109,638	20.4%	175.70%*
2,810	361,222	262,432	189,377	3,597	276,873	46,450	20.0%	225.70%*
3,682	488,349	393,410	292,314	2,700	393,461	70,265	18.3%	231.9%*
1,263	149,855	74,656	77,620	633	116,291	14,123	17.7%	210.2%*
1,901	212,768	153,151	118,079	620	162,665	24,863	17.5%	46.1%#
2,800	232,827	81,630	99,070	397	174,759	22,836	28.1%	50.5%#
3,987	341,843	231,889	185,156	1,114	243,136	46,743	18.6%	173.80%*
2,215	244,258	159,234	140,342	1,011	183,544	28,084	17.9%	46.1%#
5,361	446,697	230,076	157,831	2,703	374,100	39,027	18.4%	155.00%*
601	111,407	69,559	53,323	290	75,043	14,647	19.7%	69.7%#
24,822	1,676,991	658,856	946,443	3,513	1,203,458	178,917	20.8%	201.80%*
115,040	8,661,714	2,851,380	3,738,269	17,394	5,432,424	879,281	21.0%	163.50%*
8,302	953,564	654,655	455,541	5,531	535,277	133,855	20.6%	191.29%*
658	36,518	15,746	21,571	-	28,526	6,959	43.0%	63.0%*
3,951	489,589	273,126	265,121	2,708	345,888	58,791	21.7%	154.97%*
2,483	297,135	209,152	190,948	489	209,528	43,242	18.7%	38.7%#
443	41,595	27,125	28,426	217	33,941	6,025	20.9%	48.3%#
3,022	222,625	169,831	99,187	413	172,439	30,624	19.5%	57.3%#
14,632	2,118,648	836,118	1,011,766	4,731	1,530,112	166,004	18.4%	146.00%*
4	1,509	612	166	-	752	727	90.0%	93.5%#
18	2,608	520	1	-	1,791	812	156.2%	116.0%#
211,926	**19,381,596**	**8,405,178**	**9,129,502**	**55,670**	**13,048,924**	**2,046,712**	**-**	**-**
121,708	**12,396,873**	**6,212,654**	**6,337,676**	**41,789**	**8,819,958**	**1,346,348**	**-**	**-**
88,354	**9,522,319**	**5,114,636**	**4,921,526**	**34,753**	**6,805,866**	**1,063,718**	**-**	**-**

	HK$ million	Year ended	Key ratios: Performance measures – Net customer loan/deposit ratio	Net interest income/ average total assets	Non-interest income/total operating income	Cost/ income ratio	ROA[N3]	ROE[N4]
1	Bank of China (Hong Kong) Limited	31-Dec-19	70.0%	1.3%	34.7%	28.3%	1.2%	12.1%
2	Bank of Communications (Hong Kong) Limited	31-Dec-19	46.4%	1.3%	29.4%	37.4%	0.9%	10.4%
3	Bank of East Asia, Limited (The)	31-Dec-19	88.2%	1.7%	26.3%	50.2%	0.4%	3.1%
4	China CITIC Bank International Limited	31-Dec-19	67.1%	1.8%	24.0%	44.3%	0.8%	6.1%
5	China Construction Bank (Asia) Corporation Limited	31-Dec-19	73.6%	1.3%	25.5%	39.2%	0.8%	5.5%
6	Chiyu Banking Corporation Limited	31-Dec-19	66.2%	1.6%	27.3%	34.0%	1.0%	9.8%
7	Chong Hing Bank Limited	31-Dec-19	72.2%	1.6%	18.9%	40.7%	0.9%	8.0%
8	Citibank (Hong Kong) Limited	31-Dec-19	56.5%	1.6%	52.8%	54.8%	1.2%	12.2%
9	CMB Wing Lung Bank Limited	31-Dec-19	75.7%	1.6%	26.7%	32.7%	1.2%	9.2%
10	Dah Sing Bank, Limited	31-Dec-19	75.9%	1.7%	24.5%	53.2%	0.9%	8.1%
11	DBS Bank (Hong Kong) Limited	31-Dec-19	41.5%	2.0%	29.5%	43.8%	1.2%	13.9%
12	Fubon Bank (Hong Kong) Limited	31-Dec-19	70.7%	1.3%	19.6%	51.0%	0.6%	4.2%
13	Hang Seng Bank, Limited	31-Dec-19	78.4%	2.0%	25.9%	30.0%	1.5%	14.6%
14	Hongkong And Shanghai Banking Corporation Limited (The)	31-Dec-19	68.5%	1.5%	40.3%	42.6%	1.4%	13.6%
15	Industrial And Commercial Bank of China (Asia) Limited	31-Dec-19	84.1%	1.3%	21.7%	23.9%	0.9%	6.6%
16	Morgan Stanley Bank Asia Limited	31-Dec-19	75.6%	2.1%	76.7%	72.5%	2.1%	14.0%
17	Nanyang Commercial Bank, Limited	31-Dec-19	75.9%	1.4%	26.1%	37.6%	0.8%	6.9%
18	OCBC Wing Hang Bank Limited	31-Dec-19	90.9%	1.6%	21.9%	50.8%	0.8%	6.0%
19	Public Bank (Hong Kong) Limited	31-Dec-19	83.1%	3.3%	15.8%	54.0%	1.1%	7.5%
20	Shanghai Commercial Bank Limited	31-Dec-19	57.3%	1.9%	26.8%	30.4%	1.4%	10.3%
21	Standard Chartered Bank (Hong Kong) Limited	31-Dec-19	65.8%	1.3%	43.4%	61.8%	0.7%	9.1%
22	Tai Sang Bank Limited	31-Dec-19	22.1%	1.4%	40.5%	70.3%	0.2%	0.6%
23	Tai Yau Bank, Limited	31-Dec-19	0.1%	1.3%	0.0%	45.9%	0.7%	2.2%
	TOTAL[N1]	**2019**	**69.5%**	**1.6%**	**36.6%**	**42.7%**	**1.2%**	**12.1%**
	Total excluding HSBC[N2]	**2019**	**71.4%**	**1.7%**	**31.8%**	**40.8%**	**1.1%**	**10.7%**
	Total excluding BOCHK & HSBC[N2]	**2018**	**71.8%**	**1.8%**	**31.1%**	**44.1%**	**1.1%**	**10.0%**

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\# This is Liquidity Maintenance Ratio.
N1 This does not include Hang Seng Bank, as it is already included in the results of The Hongkong and Shanghai Banking Corporation.
N2 This includes Hang Seng Bank.
N3 ROA is calculated as net profit after tax divided by average total assets.
N4 ROE is calculated as net profit after tax divided by average total equity.

Source: Extracted from individual banks' financial and public statements

Loan asset quality							
Impaired advances (stage 3)					Advances (stage 2)		
Gross impaired advances	Gross impaired advances/ Advances to customers	Stage 3 expected credit loss allowance made against impaired advances	Stage 3 expected credit loss allowance as a percentage of gross impaired advances	Collateral for impaired advances	Gross advances in Stage 2	Expected credit loss allowance made against Stage 2 advances	Stage 2 expected credit loss allowances as a percentage of gross stage 2 advances
3,217	0.2%	2,175	67.6%	2,187	4,213	297	7.0%
62	0.1%	29	46.8%	24	571	60	10.5%
6,189	1.2%	2,752	44.5%	4,958	25,313	516	2.0%
2,271	1.2%	1,086	47.8%	1,296	12,025	1,750	14.6%
844	0.3%	502	59.5%	324	7,311	902	12.3%
296	0.4%	285	96.3%	49	1,293	18	1.4%
398	0.3%	194	48.7%	256	775	44	5.7%
53	0.1%	39	73.6%	N/A	297	183	61.6%
969	0.5%	887	91.5%	143	8,073	72	0.9%
1,061	0.8%	381	35.9%	590	6,899	153	2.2%
2,387	1.5%	1,308	54.8%	903	17,784	958	5.4%
171	0.3%	162	94.7%	8	2,027	36	1.8%
2,073	0.2%	814	39.3%	N/A	112,530	1,757	1.6%
16,639	0.4%	8,999	54.1%	5,298	296,522	4,615	1.6%
4,984	1.1%	2,469	49.5%	8,098	36,606	798	2.2%
-	-	N/A	N/A	N/A	N/A	N/A	N/A
1,770	0.7%	1,316	74.4%	550	2,963	78	2.6%
745	0.4%	124	16.6%	601	15,266	104	0.7%
194	0.7%	69	35.6%	83	249	38	15.3%
567	0.6%	24	4.2%	1,389	4,908	73	1.5%
5,250	0.5%	2,642	50.3%	2,279	53,988	817	1.5%
-	0.0%	-	N/A	-	-	-	N/A
-	-	N/A	N/A	N/A	N/A	N/A	N/A
48,067	**0.5%**	**25,443**	**52.9%**	**29.036**	**497,083**	**11,512**	**2.3%**
33,501	**0.5%**	**17,258**	**51.5%**	**23,738**	**313,091**	**8,654**	**2.8%**
30,284	**0.6%**	**15,083**	**49.8%**	**21,551**	**308,878**	**8,357**	**2.7%**

Restricted licence banks - Financial highlights

	HK$ million	Year ended	Income statement						
			Net interest income	Non-interest income	Operating expenses	Operating profit before impairment charges	Change in expected credit loss against customer advances	Other items	Profit before tax
1	Allied Banking Corporation (Hong Kong) Limited	31-Dec-19	59	10	36	33	(1)	-	34
2	Banc of America Securities Asia Limited	31-Dec-19	34	62	85	11	-	-	11
3	Bank of China International Limited	31-Dec-19	138	131	232	37	-	-	37
4	Bank of Shanghai (Hong Kong) Limited	31-Dec-19	625	188	275	538	101	(67)	370
5	Citicorp International Limited	31-Dec-19	113	4,360	2,048	2,425	-	-	2,425
6	Goldman Sachs Asia Bank Limited	31-Dec-19	17	36	37	16	-	-	16
7	Habib Bank Zurich (Hong Kong) Limited	31-Dec-19	58	49	85	22	2	(1)	19
8	J.P. Morgan Securities (Asia Pacific) Limited	31-Dec-19	205	6,000	6,620	(415)	-	-	(415)
9	Kasikornbank Public Company Limited	31-Dec-19	44	13	20	37	3	-	34
10	KDB Asia Limited	31-Dec-19	189	60	84	165	(1)	-	166
11	Nippon Wealth Limited	31-Dec-19	2	11	86	(73)	-	-	(73)
12	ORIX Asia Limited	31-Mar-19	150	43	134	59	33	-	26
13	Scotiabank (Hong Kong) Limited	31-Oct-19	166	16	45	137	(1)	-	138
14	Siam Commercial Bank Public Company Limited (The)	31-Dec-19	59	14	13	60	(2)	-	62
	TOTAL	**2019**	**1,859**	**10,993**	**9,800**	**3,052**	**134**	**(68)**	**2,850**

Source: Extracted from individual banks' financial and public statements

Financial highlights							
	Size and strength measures						
Net profit after tax	Total assets	Gross advances to customers	Expected credit loss allowance against customer advances	Total deposits from customers	Total equity	Total capital ratio	Liquidity ratio
28	1,706	1,181	-	1,124	535	32.6%	46.7%
9	4,489	-	-	-	4,170	457.7%	4,278,110.7%
31	9,687	5,050	1	7,958	1,611	36.5%	48.7%
308	32,941	16,854	285	12,374	5,010	20.7%	51.6%
2,032	8,079	-	-	-	6,902	72.2%	160.0%
13	1,067	-	-	8	907	164.3%	160.0%
16	2,531	1,623	27	1,611	557	30.0%	77.6%
(407)	11,931	-	-	-	7,521	41.8%	253.4%
29	15,571	1,174	12	26	494	19.6%	89.0%
138	18,679	12,755	35	8	3,292	21.8%	80.4%
(73)	200	-	-	68	119	109%	160.0%
22	5,781	5,313	73	885	2,170	38.5%	75.0%
116	16,137	13,381	2	-	5,425	43.6%	62.0%
57	16,503	1,276	4	624	-	18.1%	64.6%
2,319	**145,302**	**58,607**	**439**	**24,686**	**38,713**	**-**	**-**

	HK$ million	Year ended	Key ratios					
			Performance measures					
			Net customer loan/deposit ratio	Net interest income/ average total assets	Non-interest income/total operating income	Cost/ income ratio	ROA	ROE
1	Allied Banking Corporation (Hong Kong) Limited	31-Dec-19	105.1%	3.4%	14.5%	52.2%	1.6%	5.4%
2	Banc of America Securities Asia Limited	31-Dec-19	N/A	0.7%	64.6%	88.5%	0.2%	0.2%
3	Bank of China International Limited	31-Dec-19	63.4%	1.4%	48.7%	86.2%	0.3%	1.9%
4	Bank of Shanghai (Hong Kong) Limited	31-Dec-19	133.9%	2.0%	23.1%	33.8%	1.0%	6.5%
5	Citicorp International Limited	31-Dec-19	N/A	1.4%	97.5%	45.8%	25.8%	29.5%
6	Goldman Sachs Asia Bank Limited	31-Dec-19	0.0%	1.6%	67.9%	69.8%	1.2%	1.4%
7	Habib Bank Zurich (Hong Kong) Limited	31-Dec-19	99.1%	2.5%	45.8%	79.4%	0.7%	2.9%
8	J.P. Morgan Securities (Asia Pacific) Limited	31-Dec-19	N/A	1.6%	96.7%	106.7%	-3.3%	-5.3%
9	Kasikornbank Public Company Limited	31-Dec-19	4,469.2%	0.3%	22.8%	35.1%	0.2%	6.0%
10	KDB Asia Limited	31-Dec-19	159,000.0%	1.2%	24.1%	33.7%	0.9%	4.9%
11	Nippon Wealth Limited	31-Dec-19	0.0%	0.8%	84.6%	661.5%	-28.1%	-46.9%
12	ORIX Asia Limited	31-Mar-19	592.1%	2.4%	22.3%	69.4%	0.4%	1.0%
13	Scotiabank (Hong Kong) Limited	31-Oct-19	N/A	1.0%	8.8%	24.7%	0.7%	2.1%
14	Siam Commercial Bank Public Company Limited (The)	31-Dec-19	203.8%	0.4%	19.2%	17.8%	0.4%	N/A
	TOTAL	**2019**	**235.6%**	**1.3%**	**85.5%**	**76.3%**	**1.6%**	**7.0%**

Source: Extracted from individual banks' financial and public statements

	Loan asset quality							
	Impaired advances / Stage 3 advances					Stage 2 Advances (HKFRS 9)		
	Gross impaired advances	Gross impaired advances/ Advances to customers	Stage 3 expected credit loss allowance made against impaired advances	Stage 3 expected credit loss allowance as a percentage of gross impaired advances	Collateral for impaired advances	Gross advances in Stage 2	Expected credit loss allowance made against Stage 2 advances	Stage 2 expected credit loss allowances as a percentage of gross stage 2 advances
	1	0.1%	-	0.0%	-	N/A	N/A	N/A
	-	N/A	-	N/A	-	-	-	N/A
	1	0.0%	1	100.0%	-	-	-	N/A
	342	2.0%	114	33.3%	-	N/A	N/A	N/A
	-	N/A	-	N/A	-	-	-	N/A
	-	N/A	-	N/A	-	-	-	N/A
	36	2.2%	16	44.4%	18	64	5	7.8%
	-	N/A	-	N/A	-	-	-	N/A
	-	0.0%	-	N/A	-	-	-	N/A
	93	0.7%	24	25.8%	1	31	-	0.0%
	-	N/A	-	N/A	-	-	-	N/A
	92	1.7%	60	65.2%	33	N/A	N/A	N/A
	-	0.0%	-	N/A	-	-	-	N/A
	-	0.0%	-	N/A	-	N/A	N/A	N/A
	565	**1.0%**	**215**	**38.1%**	**52**	**95**	**5**	**5.3%**

Deposit-taking companies – Financial highlights

	HK$ million	Year ended	Income statement						
			Net interest income	Non-interest income	Operating expenses	Operating profit before impairment charges	Change in expected credit loss against customer advances	Other items	Profit before tax
1	BCOM Finance (Hong Kong) Limited	31-Dec-19	1	8	1	8	-	-	8
2	BPI International Finance Limited	31-Dec-19	6	23	51	(22)	-	1	(21)
3	Chau's Brothers Finance Company Limited	31-Dec-19	5	-	5	-	-	-	-
4	Chong Hing Finance Limited	31-Dec-19	1	-	-	1	-	-	1
5	Commonwealth Finance Corporation Limited	31-Dec-19	13	5	13	5	2	-	3
6	Corporate Finance (D.T.C.) Limited	31-Dec-19	7	-	4	3	-	-	3
7	Fubon Credit (Hong Kong) Limited	31-Dec-19	-	-	1	(1)	(1)	-	-
8	Gunma Finance (Hong Kong) Limited	31-Dec-19	10	6	13	3	-	-	3
9	KEB Hana Global Finance Limited	31-Dec-19	31	42	25	48	(1)	-	49
10	Kexim Asia Limited	31-Dec-19	40	6	20	26	2	-	24
11	Public Finance Limited	31-Dec-19	797	128	461	464	208	-	256
12	Vietnam Finance Company Limited	31-Dec-19	9	2	8	3	-	-	3
13	Woori Global Markets Asia Limited	31-Dec-19	65	47	32	80	21	-	59
	TOTAL	**2019**	**985**	**267**	**634**	**618**	**231**	**1**	**388**

Source: Extracted from individual banks' financial and public statements

Financial highlights

	Size and strength measures							
Net profit after tax	Total assets	Risk-weighted assets ("RWA")	Gross advances to customers	Expected credit loss allowance against customer advances	Total deposits from customers	Total equity	Total capital ratio	Liquidity ratio
7	261	N/A	-	-	1	259	N/A	N/A
(21)	388	200	19	-	225	144	72.0%	405.0%
-	71	N/A	57	-	1	69	105.4%	156.9%
1	46	N/A	-	-	-	46	N/A	N/A
3	318	N/A	251	4	146	113	58.2%	78.1%
2	318	N/A	122	-	215	102	N/A	N/A
-	97	N/A	1	-	-	91	N/A	N/A
3	412	N/A	245	-	15	316	N/A	N/A
41	1,364	735	1,141	2	-	515	69.6%	5,379%
20	3,360	2,941	1,833	6	-	486	20.7%	108.9%
214	7,435	5,777	6,140	192	5,576	1,498	22.0%	76.4%
3	255	N/A	1	-	-	112	N/A	N/A
48	4,189	3,839	2,136	26	-	900	23.6%	181.9%
321	**18,514**	**13,492**	**11,946**	**230**	**6,179**	**4,651**	**-**	**-**

			Key ratios					
			Performance measures					
	HK$ million	Year ended	Net customer loan/deposit ratio	Net interest income/ average total assets	Non-interest income/ total operating income	Cost/ income ratio	ROA	ROE
1	BCOM Finance (Hong Kong) Limited	31-Dec-19	0.0%	0.4%	88.9%	11.1%	2.7%	2.7%
2	BPI International Finance Limited	31-Dec-19	8.4%	1.4%	79.3%	175.9%	-5.0%	-13.6%
3	Chau's Brothers Finance Company Limited	31-Dec-19	5,700%	6.7%	0.0%	100.0%	0.0%	0.0%
4	Chong Hing Finance Limited	31-Dec-19	N/A	2.2%	0.0%	0.0%	2.2%	2.2%
5	Commonwealth Finance Corporation Limited	31-Dec-19	169.2%	4.0%	27.8%	72.2%	0.9%	2.7%
6	Corporate Finance (D.T.C.) Limited	31-Dec-19	56.7%	2.2%	0.0%	57.1%	0.6%	2.0%
7	Fubon Credit (Hong Kong) Limited	31-Dec-19	N/A	0.0%	N/A	N/A	0.0%	0.0%
8	Gunma Finance (Hong Kong) Limited	31-Dec-19	1,633.3%	2.2%	37.5%	81.3%	0.7%	1.0%
9	KEB Hana Global Finance Limited	31-Dec-19	N/A	2.0%	57.5%	34.2%	2.7%	8.3%
10	Kexim Asia Limited	31-Dec-19	N/A	1.2%	13.0%	43.5%	0.6%	4.3%
11	Public Finance Limited	31-Dec-19	106.7%	10.9%	13.8%	49.8%	2.9%	14.2%
12	Vietnam Finance Company Limited	31-Dec-19	N/A	1.5%	18.2%	72.7%	0.5%	2.7%
13	Woori Global Markets Asia Limited	31-Dec-19	N/A	1.7%	42.0%	28.6%	1.2%	5.5%
	TOTAL	**2019**	**189.6%**	**4.5%**	**21.3%**	**50.6%**	**1.5%**	**5.7%**

Source: Extracted from individual banks' financial and public statements

	Loan asset quality							
	Impaired advances (stage 3)					Advances (stage 2)		
	Gross impaired advances	Gross impaired advances/ Advances to customers	Stage 3 expected credit loss allowance made against impaired advances	Stage 3 expected credit loss allowance as a percentage of gross impaired advances	Collateral for impaired advances	Gross advances in Stage 2	Expected credit loss allowance made against Stage 2 advances	Stage 2 expected credit loss allowances as a percentage of gross stage 2 advances
	-	N/A	-	N/A	-	-	-	N/A
	-	0.0%	-	N/A	-	-	-	N/A
	-	0.0%	-	N/A	N/A	N/A	N/A	N/A
	-	N/A	-	N/A	-	-	-	N/A
	11	4.4%	2	18.2%	N/A	N/A	N/A	N/A
	-	0.0%	-	N/A	-	-	-	N/A
	-	0.0%	-	N/A	-	-	-	N/A
	-	0.0%	-	N/A	-	-	-	N/A
	-	0.0%	-	N/A	N/A	4	1	25.0%
	-	0.0%	-	N/A	-	-	-	N/A
	122	2.0%	62	50.8%	-	60	34	56.7%
	-	0.0%	-	N/A	-	N/A	N/A	N/A
	72	3.4%	20	27.8%	-	-	-	N/A
	205	**1.7%**	**84**	**41.0%**	**-**	**64**	**35**	**54.7%**

Foreign bank branches - Financial highlights

	HK$ million	Year ended	Income statement: Net interest income	Non-interest income	Operating expenses	Operating profit before impairment charges	Change in expected credit loss against customer advances	Other items
1	ABN AMRO Bank N.V.	31-Dec-19	271	223	296	198	263	(15)
2	Agricultural Bank of China Limited	31-Dec-19	3,454	965	417	4,002	120	(71)
3	First Abu Dhabi Bank PJSC	31-Dec-19	39	333	169	203	48	-
4	Australia And New Zealand Banking Group Limited	30-Sep-19	691	712	1,163	240	(20)	-
5	Axis Bank Limited	31-Mar-19	145	62	29	178	395	-
6	Banco Bilbao Vizcaya Argentaria S.A.	31-Dec-19	267	172	187	252	(88)	-
7	Banco Santander, S.A.	31-Dec-19	(85)	687	576	26	-	-
8	Bangkok Bank Public Company Limited	31-Dec-19	416	73	152	337	264	-
9	Bank J. Safra Sarasin AG	31-Dec-19	111	266	309	68	(2)	-
10	Bank Julius Baer & Co. Ltd.	31-Dec-19	625	1,810	1,673	762	-	-
11	Bank of America, National Association	31-Dec-19	1,276	1,443	1,735	984	81	-
12	Bank of Baroda	31-Mar-19	42	25	18	49	35	-
13	Bank of China Limited	31-Dec-19	122	649	106	665	-	11
14	Bank of Communications Co., Ltd.	31-Dec-19	3,434	2,309	1,454	4,289	(234)	(72)
15	Bank of India	31-Mar-19	103	26	46	83	573	7
16	Bank of Montreal	31-Oct-19	203	275	458	20	2	-
17	Bank of New York Mellon (The)	31-Dec-19	203	637	631	209	-	-
18	Bank of Nova Scotia (The)	31-Oct-19	158	198	299	57	-	-
19	Bank of Singapore Limited	31-Dec-19	168	757	746	179	5	-
20	Bank of Taiwan	31-Dec-19	253	13	50	216	(7)	12
21	Bank Sinopac	31-Dec-19	408	139	161	386	5	31
22	Barclays Bank PLC	31-Dec-19	167	1,693	1,714	146	-	(1)
23	BDO Unibank, Inc.	31-Dec-19	76	17	35	58	-	(5)
24	BNP Paribas	31-Dec-19	2,215	3,085	4,341	959	24	-
25	CA Indosuez (Switzerland) SA	31-Dec-19	26	358	357	27	-	-
26	Canadian Imperial Bank of Commerce	31-Oct-19	65	241	212	94	-	-
27	Canara Bank	31-Mar-19	60	21	19	62	51	-
28	Cathay Bank	31-Dec-19	81	13	43	51	2	-
29	Cathay United Bank Company, Limited	31-Dec-19	297	145	199	243	24	(2)
30	Chang Hwa Commercial Bank, Ltd.	31-Dec-19	239	34	37	236	16	-
31	China Construction Bank Corporation	31-Dec-19	1,509	948	747	1,710	(422)	-
32	China Development Bank	31-Dec-19	3,319	507	308	3,518	385	-
33	China Everbright Bank Co., Ltd.	31-Dec-19	1,199	451	339	1,311	(71)	-
34	China Merchants Bank Co., Ltd.	31-Dec-19	2,317	704	518	2,503	(47)	-
35	China Minsheng Banking Corp., Ltd.	31-Dec-19	1,477	828	489	1,816	320	-
36	China Zheshang Bank Co., Ltd.	31-Dec-19	346	34	121	259	9	-

Source: Extracted from individual companies' financial and public statements

Financial highlights							
		Size and strength measures					
Profit before tax	Net profit after tax	Total assets	Risk-weighted assets ("RWA")	Gross advances to customers	Expected credit loss allowance against customer advances	Total deposits from customers	Liquidity ratio
(80)	(72)	40,117	110	12,972	437	1,719	57.9%
3,811	3,141	582,044	N/A	276,941	1,310	147,648	79.4%
155	130	27,885	N/A	15,017	60	6,517	47.5%
260	204	157,497	2,205,559	55,695	339	46,907	43.1%
(217)	(217)	12,493	N/A	7,093	452	793	79.3%
340	299	36,412	N/A	29,403	23	1,242	52.5%
26	7	59,486	N/A	21,482	7	390	45.8%
73	60	85,115	N/A	17,737	2,084	10,953	40.9%
70	54	12,140	N/A	8,211	-	5,604	44.3%
762	634	94,814	N/A	47,341	1	53,280	40.6%
903	759	135,362	1,495	61,788	1,099	45,867	54.4%
14	12	3,108	N/A	1,574	72	512	65.0%
676	564	252,736	N/A	-	-	-	454.8%
4,451	3,739	496,890	N/A	161,666	830	308,030	166.9%
(483)	(450)	22,780	N/A	6,930	241	3,554	219.2%
18	18	31,941	N/A	8,880	N/A	8,859	45.2%
209	166	120,825	N/A	1,989	-	2,284	538.8%
57	41	46,455	N/A	19,275	-	14,200	43.0%
174	145	27,601	N/A	13,412	5	17,496	46.2%
235	235	17,315	N/A	5,375	96	6,758	49.5%
412	350	25,532	N/A	7,252	104	20,608	50.6%
145	133	12,933	N/A	101	1	1,071	112.6%
53	47	6,759	N/A	4,000	73	2,793	70.8%
935	748	369,725	N/A	149,294	642	174,302	37.6%
27	25	8,357	N/A	1,984	-	5,134	61.9%
94	80	17,620	N/A	5,457	N/A	5,268	123.8%
11	6	16,132	N/A	11,223	117	1,610	86.0%
49	40	4,371	N/A	2,377	24	2,832	42.9%
217	181	22,940	N/A	14,212	148	10,787	44.6%
220	180	13,715	N/A	6,069	94	7,628	75.9%
2,132	1,733	290,399	N/A	92,705	1,004	127,228	234.5%
3,133	2,662	409,140	N/A	272,727	13,640	23,350	130.1%
1,382	1,155	171,690	N/A	64,809	193	64,705	48.4%
2,550	2,135	188,364	N/A	83,077	317	97,849	47.5%
1,496	1,286	200,004	N/A	81,309	660	88,343	62.1%
250	220	27,706	N/A	8,834	58	224	459.6%

	HK$ million	Year ended	Income statement					
			Net interest income	Non-interest income	Operating expenses	Operating profit before impairment charges	Change in expected credit loss against customer advances	Other items
37	CIMB Bank Berhad	31-Dec-19	67	119	100	86	-	-
38	Citibank, N.A.	31-Dec-19	6,510	2,172	3,309	5,373	109	-
39	Commerzbank AG	31-Dec-19	98	138	339	(103)	8	-
40	Commonwealth Bank of Australia	30-Jun-19	166	46	234	(22)	(5)	-
41	Coöperatieve Rabobank U.A.	31-Dec-19	659	296	688	267	167	-
42	Credit Agricole Corporate And Investment Bank	31-Dec-19	103	1,558	1,200	461	42	(8)
43	Crédit Industriel et Commercial	31-Dec-19	59	25	52	32	(4)	-
44	Credit Suisse AG	31-Dec-19	1,474	2,477	2,735	1,216	11	-
45	CTBC Bank Co., Ltd.	31-Dec-19	1,301	514	532	1,283	164	(1)
46	DBS Bank Ltd.	31-Dec-19	2,721	1,450	760	3,411	(38)	-
47	Deutsche Bank Aktiengesellschaft	31-Dec-19	1,170	5,191	6,226	135	1,031	-
48	DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt Am Main	31-Dec-19	144	49	161	32	97	-
49	E.Sun Commercial Bank, Ltd.	31-Dec-19	664	303	148	819	(9)	-
50	East West Bank	31-Dec-19	219	40	176	83	10	-
51	EFG Bank AG	31-Dec-19	79	422	616	(115)	-	-
52	Erste Group Bank AG	31-Dec-19	177	31	68	140	-	-
53	Far Eastern International Bank	31-Dec-19	62	15	36	41	59	-
54	First Commercial Bank, Ltd.	31-Dec-19	399	37	50	386	(10)	(1)
55	HDFC Bank Limited	31-Mar-19	43	7	18	32	(6)	-
56	Hua Nan Commercial Bank, Ltd.	31-Dec-19	332	25	85	272	(28)	-
57	ICICI Bank Limited	31-Mar-19	132	278	128	282	5	-
58	Indian Overseas Bank	31-Mar-19	78	109	32	155	518	(1)
59	Industrial And Commercial Bank of China Limited	31-Dec-19	1,061	233	305	989	(225)	-
60	Industrial Bank Co., Ltd.	31-Dec-19	1,716	1,385	671	2,430	2,233	-
61	Industrial Bank of Korea	31-Dec-19	59	114	33	140	(3)	-
62	ING Bank N.V.	31-Dec-19	516	308	427	397	56	-
63	Intesa Sanpaolo S.p.A.	31-Dec-19	195	359	149	405	326	2
64	JPMorgan Chase Bank, National Association	31-Dec-19	662	8,497	7,744	1,415	317	-
65	KBC Bank N.V.	31-Dec-19	90	29	72	47	(17)	-
66	KEB Hana Bank	31-Dec-19	295	157	59	393	(4)	1
67	Kookmin Bank	31-Dec-19	117	44	49	112	5	-
68	LGT Bank AG	31-Dec-19	364	1,492	1,715	141	(1)	-
69	Macquarie Bank Limited	31-Mar-19	(118)	624	819	(313)	-	-
70	Malayan Banking Berhad	31-Dec-19	296	197	207	286	80	-
71	Mega International Commercial Ban Co., Ltd.	31-Dec-19	528	67	136	459	(7)	-
72	Mitsubishi UFJ Trust And Banking Corporation	31-Mar-19	138	35	56	117	-	-

Source: Extracted from individual companies' financial and public statements

Financial highlights								
		Size and strength measures						
Profit before tax	Net profit after tax	Total assets	Risk-weighted assets ("RWA")	Gross advances to customers	Expected credit loss allowance against customer advances	Total deposits from customers	Liquidity ratio
86	73	9,879	N/A	3,786	3	3,114	86.7%
5,264	4,485	477,788	7,936,525	155,356	226	356,825	34.3%
(111)	(111)	22,709	N/A	8,278	17	1,800	57.1%
(17)	(14)	17,760	N/A	6,574	(33)	2,171	162.6%
100	97	88,731	N/A	43,665	688	6,980	42.3%
411	348	186,255	N/A	53,892	182	31,632	58.8%
36	27	13,453	N/A	8,756	6	698	56.0%
1,205	979	173,011	N/A	77,408	14	100,129	193.5%
1,118	932	75,312	N/A	24,403	382	63,228	68.3%
3,449	2,914	358,116	N/A	238,326	507	50,776	43.4%
(896)	(1,071)	115,506	N/A	49,171	424	33,998	102.4%
(65)	(65)	23,271	N/A	9,269	153	427	127.0%
828	691	38,077	N/A	14,477	316	34,425	45.3%
73	61	10,476	N/A	4,480	79	8,840	40.6%
(115)	(115)	27,522	N/A	16,220	-	22,942	60.0%
140	119	25,550	N/A	-	3	-	66.1%
(18)	(28)	4,121	N/A	2,207	96	2,893	51.1%
395	332	19,146	N/A	8,682	91	13,049	47.0%
38	30	3,790	N/A	2,313	27	755	72.3%
300	254	21,725	N/A	5,600	73	18,970	73.3%
277	236	25,658	N/A	9,291	124	2,557	45.7%
(364)	(338)	6,438	N/A	3,243	49	2,128	108.3%
1,214	978	209,391	N/A	69,188	456	-	64.9%
197	173	212,117	N/A	81,653	3,019	104,071	65.4%
143	126	13,536	N/A	3,456	10	1,185	250.7%
341	284	104,413	N/A	42,221	70	6,925	44.9%
81	122	55,015	N/A	21,741	517	46,824	49.8%
1,098	911	174,433	N/A	14,134	342	53,787	64.1%
64	54	9,136	N/A	2,533	13	1,567	46.0%
398	312	25,069	N/A	18,433	66	5,268	39.3%
107	100	17,726	N/A	13,146	25	1,517	82.7%
142	97	59,455	N/A	18,338	1	47,466	61.2%
(313)	(315)	36,779	N/A	-	-	-	299.1%
206	261	38,743	N/A	18,534	167	19,611	58.0%
466	356	32,327	N/A	31,314	123	30,487	57.7%
117	117	27,454	N/A	-	-	671	95.1%

	HK$ million	Year ended	Income statement					
			Net interest income	Non-interest income	Operating expenses	Operating profit before impairment charges	Change in expected credit loss against customer advances	Other items
73	Mizuho Bank, Ltd.	31-Mar-19	57	1,850	810	1,097	8	-
74	MUFG Bank, Ltd.	31-Mar-19	998	940	1115	823	(244)	(3)
75	National Australia Bank Limited	30-Sep-19	198	321	308	211	(14)	(1)
76	Natixis	31-Dec-19	203	1,928	1,523	608	17	-
77	O-Bank Co., Ltd.	31-Dec-19	291	60	135	216	2	-
78	Oversea-Chinese Banking Corporation Limited	31-Dec-19	760	374	321	813	80	-
79	Pictet & Cie (Europe) S.A.	31-Dec-19	91	280	473	(102)	(1)	-
80	PING AN BANK CO., LTD.	31-Dec-19	(1)	-	40	(41)	18	-
81	Punjab National Bank	31-Mar-19	58	76	20	114	372	-
82	Royal Bank of Canada	31-Oct-19	97	713	860	(50)	-	-
83	Shanghai Commercial & Savings Bank, Ltd. (The)	31-Dec-19	143	35	40	138	12	-
84	Shanghai Pudong Development Bank Co., Ltd.	31-Dec-19	1,180	784	453	1,511	221	-
85	Shinhan Bank	31-Dec-19	248	202	65	385	18	-
86	Societe Generale	31-Dec-19	86	2,770	2,000	856	19	(1)
87	State Bank of India	31-Mar-19	429	(1)	(9)	437	19	-
88	State Street Bank And Trust Company	31-Dec-19	276	1,098	1,332	42	-	-
89	Sumitomo Mitsui Banking Corporation	31-Mar-19	1,215	375	652	938	-	-
90	Sumitomo Mitsui Trust Bank, Limited	31-Mar-19	(1,230)	1,508	76	202	-	-
91	Taipei Fubon Commercial Bank Co., Ltd.	31-Dec-19	751	389	187	953	5	(3)
92	Taishin International Bank Co., Ltd	31-Dec-19	206	123	150	179	11	-
93	Taiwan Business Bank, Ltd	31-Dec-19	146	10	34	122	3	-
94	Taiwan Cooperative Bank, Ltd.	31-Dec-19	232	9	29	212	1	-
95	Taiwan Shin Kong Commercial Bank Co., Ltd.	31-Dec-19	103	21	34	90	9	(2)
96	UBS AG	31-Dec-19	2,479	12,766	10,978	4,267	(12)	-
97	UCO Bank	31-Mar-19	69	13	61	21	203	-
98	UniCredit Bank AG	31-Dec-19	696	(321)	298	77	-	-
99	Union Bancaire Privée, UBP SA	31-Dec-19	203	336	483	56	-	-
100	Union Bank of India	31-Mar-19	(121)	198	(17)	94	168	-
101	United Overseas Bank Ltd.	31-Dec-19	2,006	1,259	707	2,558	4	-
102	Wells Fargo Bank, National Association	31-Dec-19	90	1,283	1,247	126	-	-
103	Westpac Banking Corporation	30-Sep-19	(91)	266	122	53	8	-
104	Woori Bank	31-Dec-19	164	67	33	198	112	-
105	Yuanta Commercial Bank Co., Ltd.	31-Dec-19	82	16	48	50	(6)	-
	TOTAL	**2019**	**-**	**-**	**-**	**-**	**-**	**-**

Source: Extracted from individual companies' financial and public statements

Financial highlights							
		Size and strength measures					
Profit before tax	Net profit after tax	Total assets	Risk-weighted assets ("RWA")	Gross advances to customers	Expected credit loss allowance against customer advances	Total deposits from customers	Liquidity ratio
1,089	986	512,026	4,099,285	199,021	85	182,263	78.5%
1064	967	402,099	N/A	213,483	2,134	138,381	44.7%
224	182	44,031	N/A	3,517	27	16,245	117.4%
591	511	106,293	N/A	31,314	50	8,223	83.4%
214	179	13,207	N/A	8,307	108	10,456	58.7%
733	610	119,011	N/A	50,091	264	27,103	85.6%
(101)	(101)	6,748	N/A	2,531	1	2,154	83.0%
(59)	(59)	4,130	N/A	779	16	2,528	664%
(258)	(245)	28,093	N/A	10,108	620	276	379.6%
(50)	(50)	46,261	N/A	298	-	860	189.0%
126	103	7,820	N/A	3,185	53	5,408	50.5%
1,290	1,053	205,634	N/A	94,962	482	98,948	63.6%
367	322	32,800	N/A	19,568	61	4,387	113.1%
836	711	151,672	N/A	49,857	136	9,943	54.7%
418	384	114,098	N/A	26,539	244	4,075	53.8%
42	35	41,766	N/A	37	-	16,180	68.6%
938	897	308,641	N/A	133,799	53	75,963	47.6%
202	180	100,445	N/A	15,562	23	20,354	160.8%
945	790	58,304	N/A	20,840	256	39,808	39.2%
168	168	16,618	N/A	6,633	30	13,810	50.1%
119	96	5,825	N/A	3,552	39	3,743	41.3%
211	175	11,242	N/A	6,760	69	6,182	44.2%
79	66	6,973	N/A	3,106	45	4,745	73.4%
4,279	3,507	227,071	N/A	158,471	-	167,651	75.7%
(182)	(171)	6,855	N/A	4,492	25	2,082	278.0%
77	77	71,488	N/A	4,295	-	1,441	441.2%
56	50	22,198	N/A	10,090	-	11,794	75.4%
(74)	(74)	14,984	N/A	10,946	321	1,306	139.5%
2,554	2,131	194,810	N/A	131,006	472	68,826	39.8%
126	94	33,615	N/A	7,228	-	1,060	571.5%
45	39	32,313	N/A	21,599	47	15,934	56.3%
86	62	21,842	N/A	14,103	152	2,654	75.1%
56	57	4,049	N/A	2,337	31	3,467	68.8%
-	-	-	-	-	-	-	-

Foreign bank branches - Financial highlights

(Continued)

	HK$ million	Year ended	Key ratios				
			Performance measures				
			Net customer loan/deposit ratio	Net interest income/ average total assets	Non-interest income/total operating income	Cost/ income ratio	ROA
1	ABN AMRO Bank N.V.	31-Dec-19	729.2%	0.7%	45.1%	59.9%	-0.2%
2	Agricultural Bank of China Limited	31-Dec-19	186.7%	0.6%	21.8%	9.4%	0.5%
3	First Abu Dhabi Bank PJSC	31-Dec-19	229.5%	0.1%	89.5%	45.4%	0.4%
4	Australia And New Zealand Banking Group Limited	30-Sep-19	118.0%	0.4%	50.7%	82.9%	0.1%
5	Axis Bank Limited	31-Mar-19	837.5%	1.0%	30.0%	14.0%	-1.5%
6	Banco Bilbao Vizcaya Argentaria S.A.	31-Dec-19	2365.5%	0.8%	39.2%	42.6%	0.9%
7	Banco Santander, S.A.	31-Dec-19	5506.4%	-0.1%	114.1%	95.7%	0.0%
8	Bangkok Bank Public Company Limited	31-Dec-19	142.9%	0.5%	14.9%	31.1%	0.1%
9	Bank J. Safra Sarasin AG	31-Dec-19	146.5%	0.8%	70.6%	82.0%	0.4%
10	Bank Julius Baer & Co. Ltd.	31-Dec-19	88.9%	0.7%	74.3%	68.7%	0.7%
11	Bank of America, National Association	31-Dec-19	132.3%	1.0%	53.1%	63.8%	0.6%
12	Bank of Baroda	31-Mar-19	293.4%	0.7%	37.3%	26.9%	0.2%
13	Bank of China Limited	31-Dec-19	N/A	0.0%	84.2%	13.7%	0.1%
14	Bank of Communications Co., Ltd.	31-Dec-19	52.2%	0.7%	40.2%	25.3%	0.8%
15	Bank of India	31-Mar-19	188.2%	0.4%	20.2%	35.7%	-1.9%
16	Bank of Montreal	31-Oct-19	N/A	0.6%	57.5%	95.8%	0.1%
17	Bank of New York Mellon (The)	31-Dec-19	87.1%	0.2%	75.8%	75.1%	0.2%
18	Bank of Nova Scotia (The)	31-Oct-19	135.7%	0.4%	55.6%	84.0%	0.1%
19	Bank of Singapore Limited	31-Dec-19	76.6%	0.6%	81.8%	80.6%	0.5%
20	Bank of Taiwan	31-Dec-19	78.1%	1.6%	4.9%	18.8%	1.5%
21	Bank Sinopac	31-Dec-19	34.7%	1.6%	25.4%	29.4%	1.3%
22	Barclays Bank PLC	31-Dec-19	9.3%	1.3%	91.0%	92.2%	1.0%
23	BDO Unibank, Inc.	31-Dec-19	140.6%	1.2%	18.3%	37.6%	0.7%
24	BNP Paribas	31-Dec-19	85.3%	0.6%	58.2%	81.9%	0.2%
25	CA Indosuez (Switzerland) SA	31-Dec-19	38.6%	0.3%	93.2%	93.0%	0.3%
26	Canadian Imperial Bank of Commerce	31-Oct-19	N/A	0.4%	78.8%	69.3%	0.4%
27	Canara Bank	31-Mar-19	689.8%	0.4%	25.9%	23.5%	0.0%
28	Cathay Bank	31-Dec-19	83.1%	1.9%	13.8%	45.7%	1.0%
29	Cathay United Bank Company, Limited	31-Dec-19	130.4%	1.3%	32.8%	45.0%	0.8%
30	Chang Hwa Commercial Bank, Ltd.	31-Dec-19	78.3%	1.7%	12.5%	13.6%	1.2%
31	China Construction Bank Corporation	31-Dec-19	72.1%	0.4%	38.6%	30.4%	0.5%
32	China Development Bank	31-Dec-19	1109.6%	0.9%	13.3%	8.1%	0.7%
33	China Everbright Bank Co., Ltd.	31-Dec-19	99.9%	0.7%	27.3%	20.5%	0.7%
34	China Merchants Bank Co., Ltd.	31-Dec-19	84.6%	1.2%	23.3%	17.1%	1.2%
35	China Minsheng Banking Corp., Ltd.	31-Dec-19	91.3%	0.8%	35.9%	21.2%	0.7%
36	China Zheshang Bank Co., Ltd.	31-Dec-19	3917.9%	1.3%	8.9%	31.8%	0.8%

Source: Extracted from individual companies' financial and public statements

Loan asset quality				
Impaired advances / Stage 3 advances				
Gross impaired advances	Gross impaired advances/ Advances to customers	Stage 3 expected credit loss allowance made against impaired advances	Stage 3 expected credit loss allowance made against impaired advances as percentage of gross impaired advances	Collateral for impaired advances
845	6.5%	380	45.0%	14
116	0.0%	112	96.6%	1
-	0.0%	-	N/A	-
18	0.0%	18	100.0%	-
252	3.6%	-	0.0%	-
182	0.6%	10	5.5%	160
-	0.0%	-	N/A	-
112	0.6%	112	100.0%	-
-	0.0%	-	N/A	-
-	0.0%	-	N/A	-
399	0.6%	398	99.7%	-
80	5.1%	33	41.3%	6
-	N/A	-	N/A	-
396	0.2%	253	63.9%	187
144	2.1%	133	92.4%	59
-	0.0%	-	N/A	-
-	0.0%	-	N/A	-
-	0.0%	-	N/A	-
5	0.0%	5	100.0%	-
21	0.4%	21	100.0%	-
3	0.0%	N/A	N/A	-
-	0.0%	-	N/A	-
N/A	N/A	N/A	N/A	N/A
443	0.3%	387	87.4%	324
-	0.0%	-	N/A	-
-	0.0%	-	N/A	-
-	0.0%	-	N/A	-
40	1.7%	-	0.0%	1
-	0.0%	-	N/A	-
113	1.9%	16	14.2%	-
-	0.0%	-	N/A	-
5,836	2.1%	5,032	86.2%	1,151
9	0.0%	9	100.0%	-
232	0.3%	232	100.0%	-
828	1.0%	294	35.5%	5
-	0.0%	-	N/A	-

	HK$ million	Year ended	Key ratios				
			Performance measures				
			Net customer loan/deposit ratio	Net interest income/ average total assets	Non-interest income/total operating income	Cost/ income ratio	ROA
37	CIMB Bank Berhad	31-Dec-19	121.5%	0.7%	64.0%	53.8%	0.8%
38	Citibank, N.A.	31-Dec-19	43.5%	1.4%	25.0%	38.1%	1.0%
39	Commerzbank AG	31-Dec-19	458.9%	0.4%	58.5%	143.6%	-0.5%
40	Commonwealth Bank of Australia	30-Jun-19	304.3%	0.7%	21.7%	110.4%	-0.1%
41	Coöperatieve Rabobank U.A.	31-Dec-19	615.7%	0.6%	31.0%	72.0%	0.1%
42	Credit Agricole Corporate And Investment Bank	31-Dec-19	169.8%	0.1%	93.8%	72.2%	0.2%
43	Crédit Industriel et Commercial	31-Dec-19	1253.6%	0.4%	29.8%	61.9%	0.2%
44	Credit Suisse AG	31-Dec-19	77.3%	0.8%	62.7%	69.2%	0.5%
45	CTBC Bank Co., Ltd.	31-Dec-19	38.0%	1.7%	28.3%	29.3%	1.2%
46	DBS Bank Ltd.	31-Dec-19	468.4%	0.8%	34.8%	18.2%	0.9%
47	Deutsche Bank Aktiengesellschaft	31-Dec-19	143.4%	1.1%	81.6%	97.9%	-1.0%
48	DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt Am Main	31-Dec-19	2134.9%	0.6%	25.4%	83.4%	-0.3%
49	E.Sun Commercial Bank, Ltd.	31-Dec-19	41.1%	1.8%	31.3%	15.3%	1.9%
50	East West Bank	31-Dec-19	49.8%	2.2%	15.4%	68.0%	0.6%
51	EFG Bank AG	31-Dec-19	70.7%	0.3%	84.2%	123.0%	-0.4%
52	Erste Group Bank AG	31-Dec-19	N/A	0.6%	14.9%	32.7%	0.4%
53	Far Eastern International Bank	31-Dec-19	73.0%	1.2%	19.5%	46.8%	-0.5%
54	First Commercial Bank, Ltd.	31-Dec-19	65.8%	2.1%	8.5%	11.5%	1.7%
55	HDFC Bank Limited	31-Mar-19	302.8%	1.1%	14.0%	36.0%	0.7%
56	Hua Nan Commercial Bank, Ltd.	31-Dec-19	29.1%	1.5%	7.0%	23.8%	1.1%
57	ICICI Bank Limited	31-Mar-19	358.5%	0.5%	67.8%	31.2%	0.9%
58	Indian Overseas Bank	31-Mar-19	150.1%	0.8%	58.3%	17.1%	-3.4%
59	Industrial And Commercial Bank of China Limited	31-Dec-19	N/A	0.5%	18.0%	23.6%	0.5%
60	Industrial Bank Co., Ltd.	31-Dec-19	75.6%	0.8%	44.7%	21.6%	0.1%
61	Industrial Bank of Korea	31-Dec-19	290.8%	0.5%	65.9%	19.1%	1.0%
62	ING Bank N.V.	31-Dec-19	608.7%	0.5%	37.4%	51.8%	0.3%
63	Intesa Sanpaolo S.p.A.	31-Dec-19	45.3%	0.4%	64.8%	26.9%	0.2%
64	JPMorgan Chase Bank, National Association	31-Dec-19	25.6%	0.4%	92.8%	84.6%	0.5%
65	KBC Bank N.V.	31-Dec-19	160.8%	0.9%	24.4%	60.5%	0.6%
66	KEB Hana Bank	31-Dec-19	348.7%	1.1%	34.7%	13.1%	1.2%
67	Kookmin Bank	31-Dec-19	864.9%	0.8%	27.3%	30.4%	0.7%
68	LGT Bank AG	31-Dec-19	38.6%	0.6%	80.4%	92.4%	0.2%
69	Macquarie Bank Limited	31-Mar-19	N/A	-0.3%	123.3%	161.9%	-0.9%
70	Malayan Banking Berhad	31-Dec-19	93.7%	0.7%	40.0%	42.0%	0.6%
71	Mega International Commercial Bank Co., Ltd.	31-Dec-19	102.3%	1.7%	11.3%	22.9%	1.1%
72	Mitsubishi UFJ Trust And Banking Corporation	31-Mar-19	0.0%	0.5%	20.2%	32.4%	0.4%

Source: Extracted from individual companies' financial and public statements

Loan asset quality				
Impaired advances / Stage 3 advances				
Gross impaired advances	Gross impaired advances/ Advances to customers	Stage 3 expected credit loss allowance made against impaired advances	Stage 3 expected credit loss allowance made against impaired advances as percentage of gross impaired advances	Collateral for impaired advances
-	0.0%	-	N/A	-
-	0.0%	-	N/A	-
-	0.0%	-	N/A	-
-	0.0%	-	N/A	-
951	2.2%	669	70.3%	259
283	0.5%	60	21.2%	N/A
-	0.0%	N/A	N/A	-
21	0.0%	6	28.6%	21
386	1.6%	316	81.9%	62
N/A	N/A	N/A	N/A	N/A
1,503	3.1%	387	25.7%	652
424	4.6%	153	36.1%	-
-	0.0%	-	N/A	-
161	3.6%	32	19.9%	94
-	0.0%	-	N/A	-
N/A	N/A	N/A	N/A	N/A
71	3.2%	71	100.0%	-
3	0.0%	3	100.0%	-
-	0.0%	-	N/A	-
N/A	N/A	-	N/A	-
117	1.3%	31	26.5%	104
87	2.7%	49	56.3%	69
30	0.0%	30	100.0%	-
N/A	N/A	N/A	N/A	N/A
-	0.0%	N/A	N/A	N/A
-	0.0%	-	N/A	-
509	2.3%	431	84.7%	239
-	0.0%	-	N/A	-
9	0.4%	9	100.0%	-
-	0.0%	-	N/A	-
-	0.0%	-	N/A	-
-	0.0%	-	N/A	-
-	N/A	-	N/A	-
117	0.6%	116	99.1%	N/A
-	0.0%	-	N/A	-
-	N/A	-	N/A	-

	HK$ million	Year ended	Key ratios				
			Performance measures				
			Net customer loan/deposit ratio	Net interest income/ average total assets	Non-interest income/total operating income	Cost/ income ratio	ROA
73	Mizuho Bank, Ltd.	31-Mar-19	109.1%	0.0%	97.0%	42.5%	0.2%
74	MUFG Bank, Ltd.	31-Mar-19	152.7%	0.2%	48.5%	57.5%	0.2%
75	National Australia Bank Limited	30-Sep-19	21.5%	0.5%	61.8%	59.3%	0.4%
76	Natixis	31-Dec-19	380.2%	0.2%	90.5%	71.5%	0.5%
77	O-Bank Co., Ltd.	31-Dec-19	78.4%	2.1%	17.1%	38.5%	1.3%
78	Oversea-Chinese Banking Corporation Limited	31-Dec-19	183.8%	0.7%	33.0%	28.3%	0.5%
79	Pictet & Cie (Europe) S.A.	31-Dec-19	117.5%	1.1%	75.5%	127.5%	-1.2%
80	PING AN BANK CO., LTD.	31-Dec-19	30.2%	0.0%	0.0%	-4,000.0%	-1.4%
81	Punjab National Bank	31-Mar-19	3,437.7%	0.2%	56.7%	14.9%	-0.7%
82	Royal Bank of Canada	31-Oct-19	34.7%	0.2%	88.0%	106.2%	-0.1%
83	Shanghai Commercial & Savings Bank, Ltd. (The)	31-Dec-19	57.9%	2.0%	19.7%	22.5%	1.5%
84	Shanghai Pudong Development Bank Co., Ltd.	31-Dec-19	95.5%	0.6%	39.9%	23.1%	0.5%
85	Shinhan Bank	31-Dec-19	444.7%	0.8%	44.9%	14.4%	1.1%
86	Societe Generale	31-Dec-19	500.1%	0.1%	97.0%	70.0%	0.4%
87	State Bank of India	31-Mar-19	645.3%	0.4%	-0.2%	-2.1%	0.3%
88	State Street Bank And Trust Company	31-Dec-19	0.2%	0.6%	79.9%	96.9%	0.1%
89	Sumitomo Mitsui Banking Corporation	31-Mar-19	176.1%	0.4%	23.6%	41.0%	0.3%
90	Sumitomo Mitsui Trust Bank, Limited	31-Mar-19	76.3%	-1.2%	542.4%	27.3%	0.2%
91	Taipei Fubon Commercial Bank Co., Ltd.	31-Dec-19	51.7%	1.4%	34.1%	16.4%	1.5%
92	Taishin International Bank Co., Ltd	31-Dec-19	47.8%	1.3%	37.4%	45.6%	1.1%
93	Taiwan Business Bank, Ltd	31-Dec-19	93.9%	2.5%	6.4%	21.8%	1.7%
94	Taiwan Cooperative Bank, Ltd.	31-Dec-19	108.2%	2.2%	3.7%	12.0%	1.7%
95	Taiwan Shin Kong Commercial Bank Co., Ltd.	31-Dec-19	64.5%	1.5%	16.9%	27.4%	1.0%
96	UBS AG	31-Dec-19	94.5%	1.0%	83.7%	72.0%	1.4%
97	UCO Bank	31-Mar-19	214.6%	0.6%	15.9%	74.4%	-1.5%
98	UniCredit Bank AG	31-Dec-19	298.1%	1.0%	-85.6%	79.5%	0.1%
99	Union Bancaire Privée, UBP SA	31-Dec-19	85.6%	0.9%	62.3%	89.6%	0.2%
100	Union Bank of India	31-Mar-19	813.6%	-0.5%	257.1%	-22.1%	-0.3%
101	United Overseas Bank Ltd.	31-Dec-19	189.7%	1.0%	38.6%	21.7%	1.1%
102	Wells Fargo Bank, National Association	31-Dec-19	681.9%	0.3%	93.4%	90.8%	0.3%
103	Westpac Banking Corporation	30-Sep-19	135.3%	-0.3%	152.0%	69.7%	0.1%
104	Woori Bank	31-Dec-19	525.7%	0.8%	29.0%	14.3%	0.3%
105	Yuanta Commercial Bank Co., Ltd.	31-Dec-19	66.5%	1.8%	16.3%	49.0%	1.3%
	TOTAL	**2019**	-	-	-	-	-

Source: Extracted from individual companies' financial and public statements

	Loan asset quality				
	Impaired advances / Stage 3 advances				
	Gross impaired advances	Gross impaired advances/ Advances to customers	Stage 3 expected credit loss allowance made against impaired advances	Stage 3 expected credit loss allowance made against impaired advances as percentage of gross impaired advances	Collateral for impaired advances
	244	0.1%	85	34.8%	1
	21	0.0%	-	0.0%	21
	-	0.0%	-	N/A	-
	272	0.9%	31	11.4%	-
	65	0.8%	15	23.1%	63
	703	1.4%	214	30.4%	-
	-	0.0%	-	N/A	-
	-	0.0%	-	N/A	-
	616	6.1%	484	78.6%	N/A
	-	0.0%	-	N/A	-
	16	0.5%	8	50.0%	-
	114	0.1%	114	100.0%	N/A
	-	0.0%	-	N/A	-
	805	1.6%	125	15.5%	-
	-	0.0%	-	N/A	-
	-	0.0%	-	N/A	-
	54	0.0%	53	98.1%	-
	-	0.0%	-	N/A	-
	209	1.0%	50	23.9%	57
	12	0.2%	12	100.0%	-
	13	0.4%	3	23.1%	-
	-	0.0%	-	N/A	-
	2	0.1%	2	100.0%	-
	-	0.0%	-	N/A	-
	5	0.1%	2	40.0%	-
	-	0.0%	-	N/A	-
	-	0.0%	-	N/A	-
	374	3.4%	135	36.1%	612
	230	0.2%	98	42.6%	104
	-	0.0%	-	N/A	-
	-	0.0%	-	N/A	-
	117	0.8%	117	100.0%	N/A
	-	0.0%	-	N/A	-
	-	-	-	-	-

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Contact us

Andrew Weir
Global Head of Asset Management,
Vice-Chairman, KPMG China and
Senior Partner, Hong Kong
KPMG China
+852 2826 7243
andrew.weir@kpmg.com

Ayesha Lau
Managing Partner, Hong Kong
KPMG China
+852 2826 7165
ayesha.lau@kpmg.com

Bonn Liu
Partner, Head of Financial Services,
Hong Kong
KPMG China
+852 2826 7241
bonn.liu@kpmg.com

Paul McSheaffrey
Partner, Head of Banking & Capital Markets,
Hong Kong
KPMG China
+852 2978 8236
paul.mcsheaffrey@kpmg.com

Terence Fong
Partner, Head of Chinese Banks, Hong Kong
KPMG China
+852 2978 8953
terence.fong@kpmg.com

Kyran McCarthy
Partner, Asia-Pacific Head of AML &
Sanctions Services
KPMG China
+852 2140 2286
kyran.mccarthy@kpmg.com

Patrick Cowley
Partner, Head of Restructuring Services,
Hong Kong and Asia Pacific
KPMG China
+852 2140 2836
patrick.cowley@kpmg.com

John Timpany
Partner, Head of Tax, Hong Kong
KPMG China
+852 2143 8790
john.timpany@kpmg.com

James O'Callaghan
Partner, Head of Technology Consulting,
Hong Kong
KPMG China
+852 2143 8866
james.ocallaghan@kpmg.com

Isabel Zisselsberger
Partner, Head of Customer and Operations,
Hong Kong
KPMG China
+852 2826 8033
isabel.zisselsberger@kpmg.com

Peter Outridge
Partner, Head of People & Change Advisory,
Hong Kong
KPMG China
+852 2847 5159
peter.outridge@kpmg.com

Tom Jenkins
Partner, Head of Financial Risk Management
KPMG China
+852 2143 8570
tom.jenkins@kpmg.com

Rani Kamaruddin
Partner, Head of AML & Sanctions,
Hong Kong
KPMG China
+852 2140 2815
rani.kamaruddin@kpmg.com

Pat Woo
Partner, Head of Sustainable Finance,
Hong Kong
KPMG China
+852 3927 5674
pat.woo@kpmg.com

Jianing Song
Partner, Risk Consulting
KPMG China
+852 2978 8101
jianing.n.song@kpmg.com

Jeffrey Hau
Partner, Risk Consulting
KPMG China
+852 2685 7780
jeffrey.hau@kpmg.com

Edmond Tan
Partner
KPMG China
+86 21 2212 3567
edmond.tan@kpmg.com

Rosalie Lui
Partner, Deal Advisory, Restructuring Services
KPMG China
+852 2140 2848
rosalie.lui@kpmg.com

Matthew Fenwick
Partner, Corporate Tax Advisory
KPMG China
+852 2143 8761
matthew.fenwick@kpmg.com

Michael Monteforte
Partner, Financial Risk Management
KPMG China
+852 2847 5012
michael.monteforte@kpmg.com

Mary Wong
Partner, AML & Sanctions Services,
Hong Kong
KPMG China
+852 2685 7576
mary.wong@kpmg.com

Marie Gervacio
Partner, Financial Risk Management
KPMG China
+852 2685 7880
marie.gervacio@kpmg.com

Sanel Tomlinson
Partner
KPMG China
+852 2143 8694
sanel.tomlinson@kpmg.com

Ricardo Wenzel
Director, Wealth & Asset Management
KPMG China
+852 2913 2978
ricardo.wenzel@kpmg.com

David Lonergan
Director, Risk Consulting
KPMG China
+852 2826 7195
david.lonergan@kpmg.com

Pranav Parekh
Director
KPMG China
+852 2140 2216
pranav.parekh@kpmg.com

Bradley Scheepers
Associate Director, Data & Analytics
(Technology Advisory)
KPMG China
+852 2847 5023
bradley.scheepers@kpmg.com

Tatjana Schaefer
Associate Director
KPMG China
+852 3927 5735
tatjana.schaefer@kpmg.com

Sean Ren
Associate Director, Customer and Operations,
Hong Kong
KPMG China
+852 3927 5818
sean.ren@kpmg.com

Edward Choi
Associate Director, Risk Consulting
KPMG China
+852 2143 8569
edward.choi@kpmg.com

Alison Ip
Manager, Risk Consulting
KPMG China
+852 2847 5175
alison.ip@kpmg.com

kpmg.com/cn/socialmedia

kpmg.com/cn/banking

For a list of KPMG China offices, please scan the QR code or visit our website:
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