



Banking in Asia-Pacific

Time to reinvent the digital landscape



Building a better
working world

Contents

Foreword	3
Where are the opportunities?	4
1. Consumer banking: rising wealth and financial inclusion	5
2. Corporate and commercial banking: corporate expansion and infrastructure demand	6
3. Investment banking: entrepreneurial activity	8
How can banks maximize the opportunities?	10
Drive efficiency and agility with intelligent automation	10
Take advantage of open APIs	12
How can banks defend against increased risks?	15
Use digital innovation to disrupt financial crime	15
Develop an integrated cybersecurity vision	17
What can banks learn from new entrants?	20
What advantages do banks' traditional strengths deliver?	24
Next steps	24
Appendix: Market overviews	25
Australia	26
New Zealand	28
China	30
Hong Kong	32
Taiwan	34
South Korea	36
Singapore	38
Indonesia	40
Malaysia	42
Philippines	44
Thailand	46
Vietnam	48
India	50

Foreword

The Asia-Pacific (APAC) banking sector offers opportunities for all banks. But, with disruptors and platform players redefining the financial services landscape, and with banks' profitability under pressure, not all banks can be winners.

To succeed, incumbent players must accelerate their digital maturity and exploit their unique strengths. In particular, to optimize, grow and protect their business, they must embrace:

- ▶ Intelligent automation to deliver efficiencies
- ▶ Open application programming interfaces (APIs) to allow them to participate in the emerging data-sharing ecosystem and realize new growth opportunities
- ▶ Digital strategies to manage financial crime and cybersecurity risks

Incumbent banks cannot afford to keep ceding territory to digital disruptors. As customer preferences are shaped by their digital experiences outside of banking, alternative providers delivering financial offerings are making their presence felt. These nontraditional players are often better able to address customer expectations of a fast, frictionless experience through bespoke services, digital infrastructure and platform ecosystems.

To defend their turf and get ready for the banking ecosystem of the future, APAC banks must ask themselves:

- ▶ Does my strategy take advantage of changing revenue opportunities?
- ▶ How do I innovate for agility, efficiency and growth?
- ▶ Am I sufficiently considering new risks and the need to embed cybersecurity in my strategy?
- ▶ How can I use my traditional strengths to compete?

Winning banks in the fast-evolving APAC banking landscape will be those that deliver leaner, more agile business models; who play to their strengths and who not only understand their customers, but also move forward with them.

Andrew Gilder

EY Asia-Pacific Banking & Capital Markets Leader

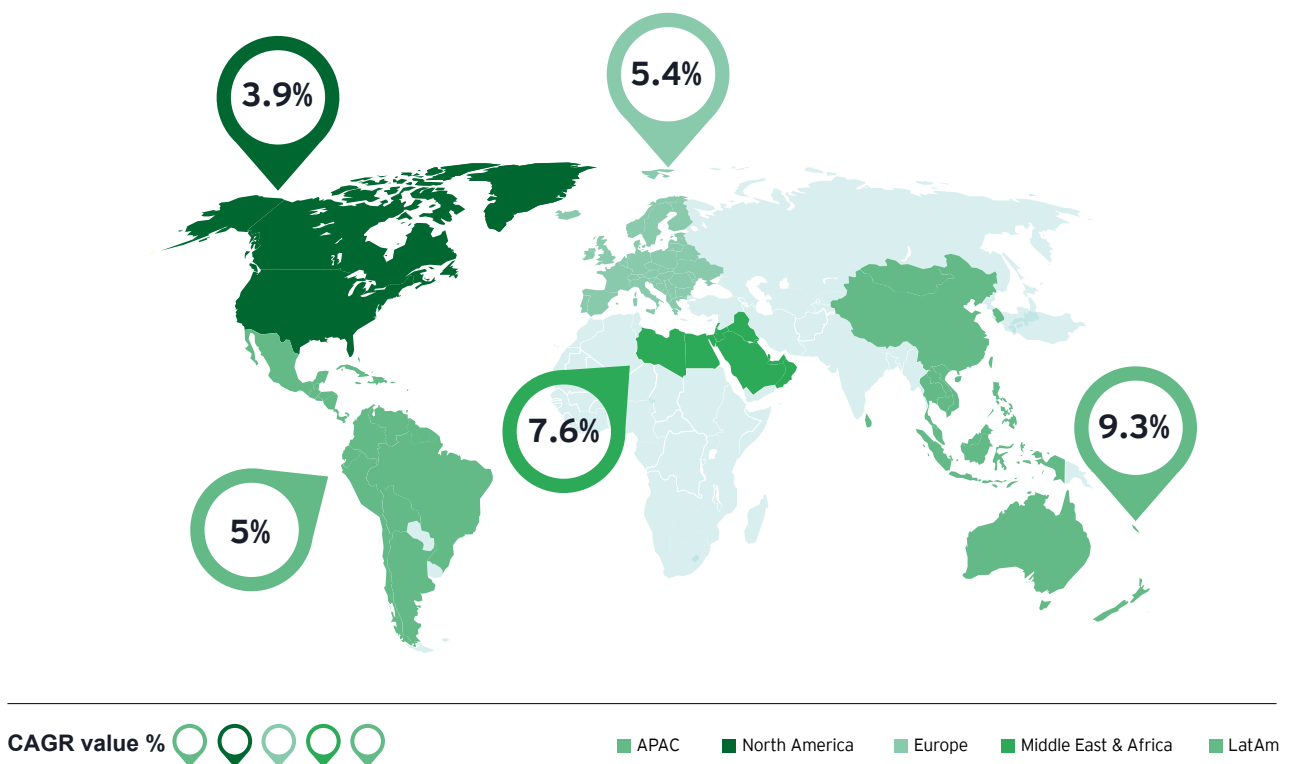
Where are the opportunities?

EY 2018 *Global banking outlook survey* found APAC banks expecting improved financial performance over the short to medium term. Key growth drivers include:

- ▶ Consumer banking, due to rising wealth and financial inclusion
- ▶ Corporate and commercial banking, due to expanding Asian corporates and strong demand for infrastructure development
- ▶ Investment banking, due to rapid-growth entrepreneurial tech start-ups and corporates expanding offshore

APAC is expected to enjoy resilient economic growth in the coming years, despite headwinds such as US-China trade tensions and tempered global economic growth. Growth in APAC will be underpinned by strong economic fundamentals and digitally savvy consumers, open to technology innovation.

Nominal gross domestic product (GDP) growth forecast, 2018-22 compound annual growth rate (CAGR)¹



Source: Oxford Economics, EY analysis

¹ Markets included:

APAC: Australia, Hong Kong, New Zealand, Singapore, South Korea, Taiwan, China (mainland), India, Indonesia, Malaysia, Philippines, Thailand and Vietnam

Europe: Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Russia, Spain, Sweden, Switzerland and UK

North America: Canada and the US

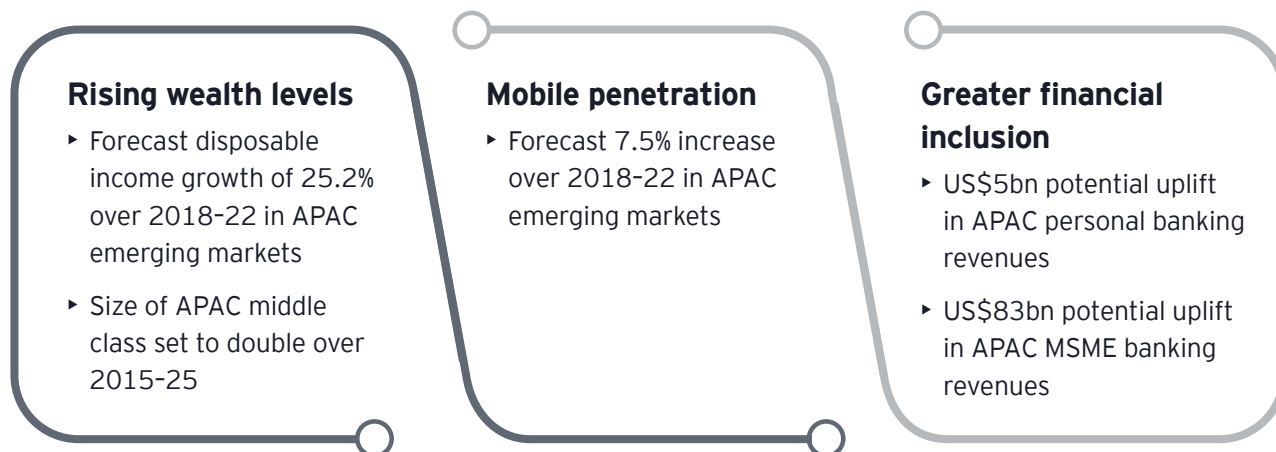
Latin America (LatAm): Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela

Middle East and Africa: Bahrain, Egypt, Iran, Islamic Rep., Israel, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, South Africa, Turkey and the UAE

1. Consumer banking: rising wealth and financial inclusion

Rapid expansion of the middle class in emerging markets will continue to spur urbanization and demand for financial services, including consumer finance, wealth management and insurance. Banks will focus on increasing financial services access and offerings, underpinned by greater mobile penetration in emerging markets and technological innovation.

Consumer banking drivers²



Digital innovation opportunity: growing financial inclusion

Banks' financial inclusion growth opportunities are greatest in markets with a strong digital agenda. Technology-led innovation enables cost efficiencies and lowers the risk in serving financially excluded individuals, and micro, small and medium enterprises (MSMEs).

Important levers include:

- ▶ National digital identity systems that make it easier to open an account
- ▶ Innovative payments to simplify financial transactions
- ▶ Digital channels that provide cheaper and greater access for customers in remote areas
- ▶ Greater availability of customer data, so providers can customize offerings to better fit the needs of unbanked individuals and MSMEs
- ▶ Alternative and nonconventional risk scoring techniques supporting loan provision to the financially excluded without prior credit histories

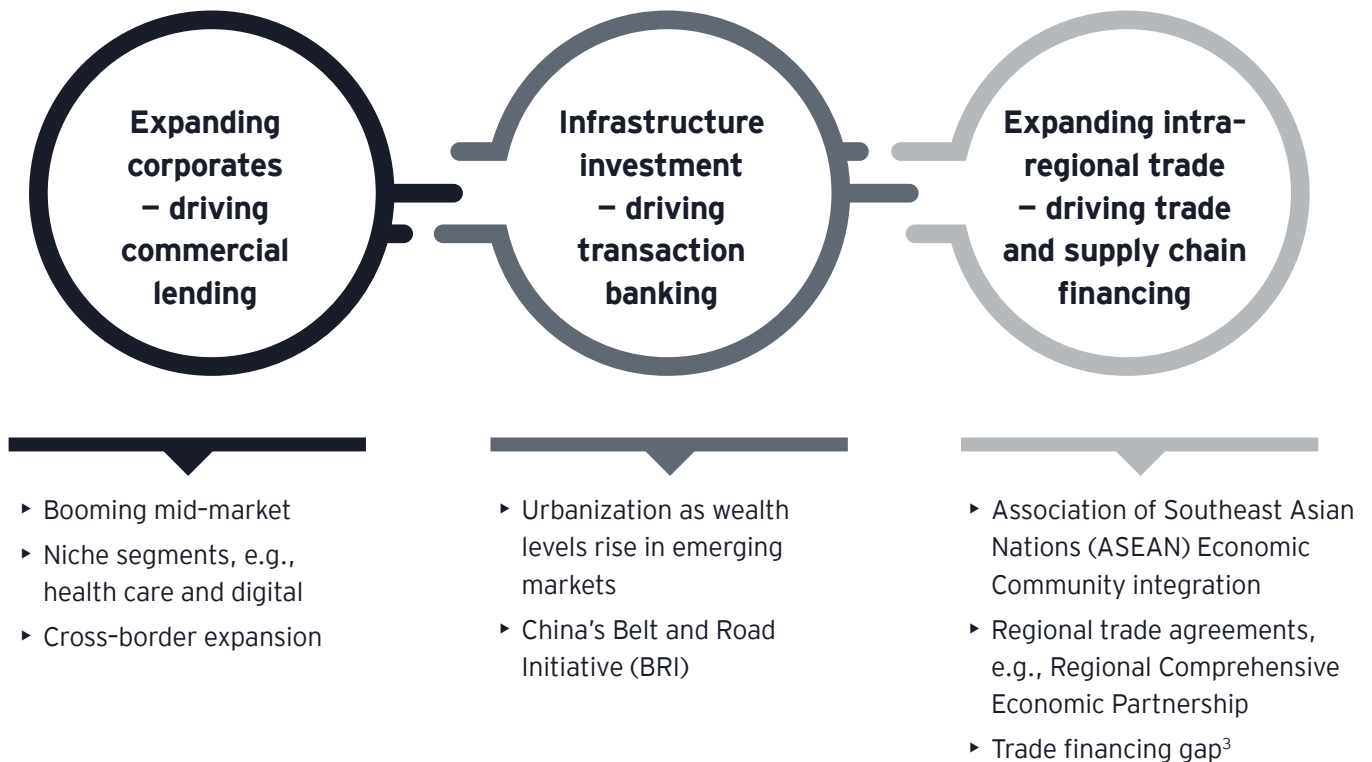
² Sources:

- ▶ Forecast disposable income: Oxford Economics, EY analysis. It is calculated by taking the average of incomes of seven countries: China, India, Indonesia, Malaysia, Philippines, Thailand and Vietnam.
- ▶ Size of middle class: "Global Markets, Supporting Asia's Growth," *Monetary Authority of Singapore*, <http://www.mas.gov.sg/News-and-Publications/Speeches-and-Monetary-Policy-Statements/Speeches/2018/Connecting-Global-Markets-Supporting-Asias-Growth.aspx>, 5 June 2018.
- ▶ Financial inclusion: "Innovation in financial inclusion: Revenue growth through innovative inclusion," *EY*, <https://www.ey.com/Publication/vwLUAs-sets/EY-innovation-in-financial-inclusion/%24FILE/EY-innovation-in-financial-inclusion.pdf>, 2017.
- ▶ Mobile penetration: Oxford Economics, EY analysis. The countries included are China, India, Indonesia, Malaysia, Philippines, Thailand and Vietnam. Mobile penetration is defined as the weighted average mobile ownership per 100 people.

2. Corporate and commercial banking: corporate expansion and infrastructure demand

The corporate and commercial sector will continue to provide predictable growth and diversification benefits for the region's financial institutions, as corporates seek loans and lines of credit from traditional banks to fund expansion and working capital requirements. As Asia opens up to foreign investment and financial markets continue to develop, growing corporates will seek longer-term, more complex finance – an opportunity for banks to deepen their client relationships.

Corporate and commercial banking drivers



³ APAC accounts for the largest share of the estimated US\$1.5tn global trade financing gap, according to the Asian Development Bank's 2017 Trade Finance Gaps, Growth, and Jobs Survey (ADB Briefs, No. 83, September 2017). The gap represents rejected requests by firms for trade finance support.

Digital innovation opportunity: using emerging technologies to deliver efficiencies and improve customer experience

Banks are increasingly committing to digital transformation and deepening relationships with partners and clients within the corporate and commercial banking ecosystem. Banks are deploying technology to increase efficiency and improve client experience with real-time cross-border payments, mobile payment services, and APIs that can integrate the bank's system with the client's enterprise resource planning (ERP) system to facilitate transaction processing.

A key opportunity lies in automating the manual processes of trade finance to harmonize and simplify transactions, lower costs and reduce risk. Blockchain for trade finance holds great promise and is a sought-after technology by the corporate and commercial banking sector. For example:

- ▶ Fourteen banks in Thailand launched a blockchain-based trade finance platform in March 2018 to issue letters of guarantee.⁴
- ▶ In May 2018, seven banks in India joined a blockchain-based trade finance network that aims to digitize and automate the entire trade finance process.⁵
- ▶ Twelve banks in Hong Kong developed eTradeConnect, a blockchain-based trade finance platform launched in October 2018.⁶

⁴ "Banks blaze trail with blockchain," *The Nation*, 20 March 2018.

⁵ "Indian banks team up in blockchain-powered trade finance network," *Asian Banking & Finance*, 17 May 2018.

⁶ "The launch of eTradeConnect and the collaboration with we.trade," *Hong Kong Monetary Authority*, <https://www.hkma.gov.hk/eng/key-information/press-releases/2018/20181031-4.shtml>, 31 October 2018.

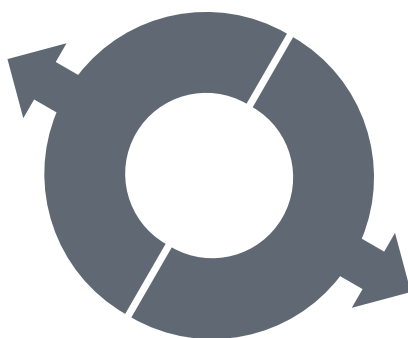
3. Investment banking: entrepreneurial activity

High levels of entrepreneurial activity are driving investment banking services, with recent reforms in Hong Kong and mainland China likely to further spur the growth of equity markets. For instance, new listing rules⁷ have attracted high profile technology and biotech companies to list in Hong Kong. Hong Kong's Main Market and Growth Enterprise Market saw a rise of 24% in the number of deals (197 deals), and 120% in proceeds (US\$35.4bn) in 2018 when compared with 2017.⁸ Corporates looking to expand also drive demand for corporate finance and transaction support. While investor caution over US-China trade tensions and the Federal Reserve's expansionary monetary policy affected debt capital markets activity in 2018, emerging market corporate debt in the region showed robust growth.⁹

Investment banking drivers¹⁰

Dynamic IPO market led by China and Hong Kong

- ▶ Hong Kong's initial public offering (IPO) market became the most active stock exchange globally in 2018 on the back of three mega IPOs.
- ▶ New listing regulations encourage large Chinese, and international technology and biotech companies to raise funds on the Hong Kong exchange.
- ▶ Launch of the Science and Technology Innovation Board on the Shanghai Stock Exchange is expected to drive momentum of the A-share IPO market.



Resilient M&A activity

- ▶ Eighty-four percent of APAC executives surveyed in EY's latest Capital Confidence Barometer expect the APAC M&A market to improve over the next 12 months.
- ▶ More than half (51%) say that they intend to pursue deals in the next 12 months.
- ▶ State-owned enterprise reforms and multinational companies repositioning their operations in China have spurred China activity.

The return of international banks

International banks that downsized their APAC operations over recent years are now reinvesting in the region. These banks are not looking to relaunch universal offerings, but rather target specific customer groups and services that match their competitive strengths. These include:

- ▶ **Private banking:** This is driven by the rapid growth in the high net wealth individual (HNWI) population (11% CAGR over 2013-17)*.
- ▶ **Transaction banking:** This builds on the growing shift of trade to APAC. Some investment banks are looking to expand beyond their traditional remit into transaction banking (within corporate and commercial banking), to build more ongoing customer relationships.
- ▶ **China-based securities and funds management businesses:** This is due to the accelerated liberalization of China's financial sector that will allow foreign banks to take full control of their operations in China.

*Cap Gemini, World Wealth Report 2018. The markets included are Australia, China (mainland), Hong Kong, India, Singapore, South Korea and Taiwan.

⁷ Hong Kong now allows companies deemed "innovative" to list with dual-class share structures. In a further push to attract tech floats, another significant regulatory change is approval for pre-revenue biotechnology businesses to list on the Hong Kong Stock Exchange.

⁸ "Megadeals and unicorn IPOs characterize 2018 deal landscape; trend to continue in 2019," EY, <https://www.ey.com/sg/en/newsroom/news-releases/news-2018-ey-global-ipo-trends-q4>, 12 December 2018.

⁹ "Debt Capital Markets review: managing underwriters, full year 2018," Thomson Reuters.

¹⁰ Sources: "HK regains IPO destination crown, A-share IPOs set to bloom from the launch of the Science and Technology Innovation Board," EY, <https://www.ey.com/cn/en/newsroom/news-releases/news-2018-ey-hk-regains-ipo-destination-crown>, 27 December 2018. EY, Global IPO trends: Q3 2018, Global IPO trends: Q4 2018; EY, Capital Confidence Barometer, 20th edition

Digital innovation opportunity: front office investment

Front office innovation opportunities are coming on stream for investment banks as advanced analytics and artificial intelligence (AI) help to improve decision-making, enrich insights and reduce costs. For example:

- ▶ **Client onboarding:** Manually intensive onboarding processes could be digitized, end to end. In this regard, technologies, such as blockchain, that address digital identity may be game changers in the longer term.
- ▶ **Client insight and analytics:** Using advanced analytics on position and transaction data can identify patterns and trends for relationship managers. Advanced analytics and unstructured data engineering can be applied to natural language inputs, market news, economic reports, monetary policy changes and political events, to gain richer insights, more quickly than human research teams.
- ▶ **Trading:** Advanced analytics can improve the performance of front-office desks. By analyzing actual trades executed and comparing them with market news and the data available to the trader, algorithms can identify suboptimal trading strategies.

Accelerated liberalization of China's financial sector offers opportunities

As restrictions ease, foreign players are likely to expand their investment in China's financial sector. Changes will take time but are expected to be significant. Among the major changes are:

- ▶ **Institutions:** The foreign ownership caps in banks (individual foreign shareholder: 20% and all foreign shareholders: 25%) are removed, facilitating M&A with Chinese commercial banks. Foreign investors can increase their equity holdings in securities, futures and fund companies, initially to 51% and, after three years, to 100% under proposed changes. Already, there are examples of foreign investors taking control of their securities joint ventures in China and obtaining approval to establish new foreign-funded securities companies.
- ▶ **Businesses:** Newly-established joint venture securities companies can immediately apply for business licenses, the same as domestic institutions. This includes businesses such as securities brokerage, investment consulting and proprietary trading, which were not previously permitted. Under other proposed changes, foreign banks will no longer require approval to conduct Renminbi business, allowing them to conduct both Renminbi and foreign currency business.
- ▶ **Capital markets:** There have been significant capital markets initiatives in recent years. Shanghai-Hong Kong Stock Connect, Shanghai-London Stock Connect, Shenzhen-Hong Kong Stock Connect and the "Northbound" bond connect have been introduced, which diversify the means for overseas financial institutions to participate in China's capital markets. China's A-shares have been officially included in the MSCI index and China's bonds will also be gradually included in the Bloomberg Barclays Bond Index.

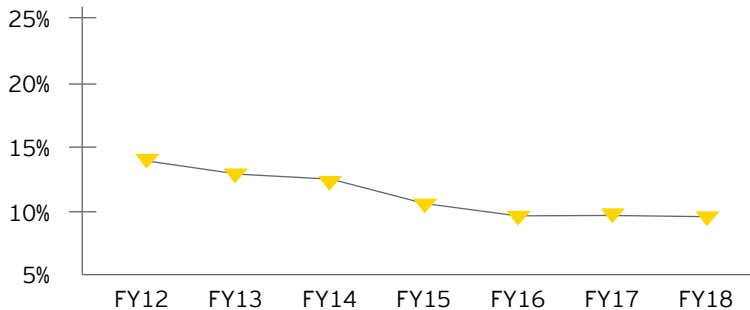
Although China's financial sector reforms have eased restrictions for foreign participants, this does not mean lower regulatory standards. Foreign financial institutions will need to pay attention to business operation capability, quality and efficiency.

Greater foreign ownership will help lay a solid foundation for the globalization of the Renminbi, the development of the bond and capital market, and relaxation of capital inflows and outflows in the future. The initiatives launched so far reflect China's commitment to opening up the financial sector, guided by ongoing improvement in response to market needs.

How can banks maximize the opportunities?

APAC banks have enjoyed strong revenue and asset growth over recent years. However, profitability is under pressure from rising costs, higher capital requirements and for some markets, asset quality challenges. This is driving a need for incumbent banks to accelerate their digital transformation to create efficiencies and new avenues of growth.

APAC banks: average return on equity¹¹



Source: S&P Global Market Intelligence, EY analysis

To optimize and grow their business, banks need to adopt:

- ▶ Intelligent automation to deliver operational efficiencies
- ▶ Open APIs to allow them to participate in the emerging data-sharing ecosystem and realize new growth opportunities

Drive efficiency and agility with intelligent automation

“Combining digital technologies, including RPA and AI, to re-engineer and automate processes creates a leaner, more agile, more intelligent organization.” – Andy Gillard, Asia-Pacific Financial Services Digital Operations Leader

Intelligent automation can help banks improve customer service, streamline operations, and support regulatory change cost effectively. Intelligent automation uses artificial intelligence (AI) and other digital enablers to supercharge robotic process automation (RPA), which drives end to end process transformation, cutting across siloed operating models and breathing new life into legacy applications. By reengineering and automating processes, banks can achieve speed and efficiency, reduce errors and risk, and improve both customer experience and employee engagement.

Realizing the promise of intelligent automation needs the right balance of RPA, digital tools and AI, combined with “human-in-the-loop” processing (i.e., passing work between humans and robots), to maximize return on investment (ROI), while minimizing complexity and risk. Traditional RPA has already made its mark. Now it’s being combined with AI and other digital automation tools – optical character recognition (OCR), digital forms, chatbots – to accelerate ROI. While the potential of AI in RPA and intelligent automation is enormous, it is still early in its adoption and needs to be well targeted and prioritized.

¹¹ Based on 200 largest banks by assets from 13 APAC markets: Australia, Hong Kong, New Zealand, Singapore, South Korea, Taiwan, China (mainland), India, Indonesia, Malaysia, Philippines, Thailand, Vietnam.

Tools in the intelligent automation toolbox

Digital enablers	<i>Go digital-first</i> Digital forms Chatbots Voice recognition
RPA	<i>Automate legacy processes</i> Robots accessing multiple systems
“Human-in-the-loop” and process management	<i>Human intelligence combined with robots</i> Passing work from robot to human and back again to optimize use of human skills and experience
AI enablers	<i>Digitize paper and email</i> Using machine learning and neuro-linguistic programming for OCR and email
“Big AI”	<i>AI or advanced analytics</i> Using AI or advanced analytics to identify patterns and insights to drive decisions and new sources of value

To achieve a rapid and significant ROI from intelligent automation, banks need to understand:

- ▶ How business processes can be transformed
- ▶ The strengths of different automation tools and approaches
- ▶ Whether there are better delivery options, e.g., LEAN, Six Sigma or system changes

We recommend that banks:

1. **Undertake an integrated opportunity assessment to find the optimum portfolio of processes** – Banks can do this by looking at all automation technologies across RPA, digital and AI.
2. **Use cloud technology to support AI tool selection** – This will enable organizations to quickly work out whether a particular tool is fit for purpose without significant upfront costs.
3. **Plan the automation pathway from lab to live carefully** – It will vary for every different tool and use case. Key elements usually involve creating infrastructure, establishing governance and controls, and developing necessary skills.
4. **Consider your preferred operating model** – In our experience, implementations often benefit from an operating model with an integrated, business-led center of excellence.
5. **Prepare a talent plan** – Intelligent automation is transformational, significantly changing roles. With a shortage of skilled talent, the plan should incorporate a combination of strategic hires, external assistance and organic growth.
6. **Set up an operations control room to monitor performance** – Excessive errors or hand-backs to humans indicate potential issues that need to be addressed.

7. **Monitor impact** – Focus on measuring and reporting on benefits.
8. **Engage risk and build controls early** – Does automation concentrate risk? What new regulatory issues are raised by robotics and AI?

How EY can support your intelligent automation

As one of the world's biggest users of RPA within the organization and across multiple functions, and having invested significantly in combining RPA with digital enablers and AI, we believe EY has unparalleled intelligent automation services experience.

We can help:

- ▶ Identify strategies and opportunities
- ▶ Consider operating models and centers of excellence
- ▶ Assess automation risks and controls and the impact on your people
- ▶ Determine your reference architecture and prioritize processes
- ▶ Deliver and implement intelligent automation

Benefits include:

- ▶ A 25% to 40% decrease in operational costs
- ▶ Service completion three to five times faster than manual processing
- ▶ Predictable output and quality, as machines consistently follow the same steps and algorithms
- ▶ Reduced risk of human error – and therefore reduced financial, reputational and regulatory risk
- ▶ Deployment that is measured in weeks, rather than months or years

Take advantage of open APIs

“Open APIs are the first step towards platform-enabled banking. Banks and nonbanks can explore new operating models based around marketplaces that use ecosystems to deliver a new generation of digital financial services.” – James Lloyd, EY Asia-Pacific FinTech & Payments Leader

Open APIs allow banks to participate in the data-sharing ecosystem needed to keep up with FinTechs. As the ecosystem becomes more advanced and adapted to customer needs, banks will find it increasingly difficult to go it alone with nothing more than their own apps. By migrating to more agile architectures and sharing data with a community of external developers via APIs, banks can cocreate solutions to drive customer-centric designs and omni-channel experiences. This will not only enhance the user experience, but also deliver deeper insights to identify cross-and up-sell prospects.

Regulators in a number of APAC markets are starting to define industry guidance on the use of open APIs in banking, using varying approaches. For example, Singapore has developed robust guidelines for open APIs but adoption by financial institutions is voluntary. By contrast, Australia and Hong Kong have followed the lead of the UK's Open Banking initiative and the EU's PSD2 regulation to mandate data sharing.

Increasingly, banks in the region are launching open API initiatives to accelerate innovation, expand distribution channels and boost revenue sources via collaboration with the developer community. Activity is not confined to markets with formal regulatory guidance, with some banks in other markets also investigating open API opportunities.

Open APIs – a necessity not an option

An open API architecture is neither a bolt on to an existing strategy, nor is simply a regulatory requirement, but rather an integral core component of a bank's strategy to drive customer value. New competitors are building lifestyle-driven ecosystems, where underlying financial services are just one of the building blocks. If banks are to remain relevant in this new world, they must embrace a model of partnerships from which they can leverage collaborative solutions and operate in industry verticals beyond banking. Open APIs arm banks with the infrastructure to enable this.

Open APIs are not just about making banks more effective but also about enabling third-party, nonfinancial service providers to leverage bank service seamlessly in the background. This is key to bringing basic banking services, such as payments, into other industry verticals before alternative providers disintermediate banks.

Facilitating collaboration with open API banking

An ecosystem encourages banks to go beyond a proprietary, product-oriented approach and work with partners to deliver comprehensive solutions that can simplify customers' financial lives. For instance, the ASEAN Financial Innovation Network (AFIN) facilitates innovation and collaboration between a network of financial institutions and FinTechs through API Exchange (APIX). This marketplace enables participants to collaborate in a sandbox environment and drive financial inclusion across APAC through FinTech innovation.

The future of open API banking

As regulatory and policy frameworks take shape, more banks will develop individual and shared open API propositions. EY *Global banking outlook survey* found 75% of APAC emerging market respondents planning to begin or increase investment in open platforms and API architectures over the next three years.

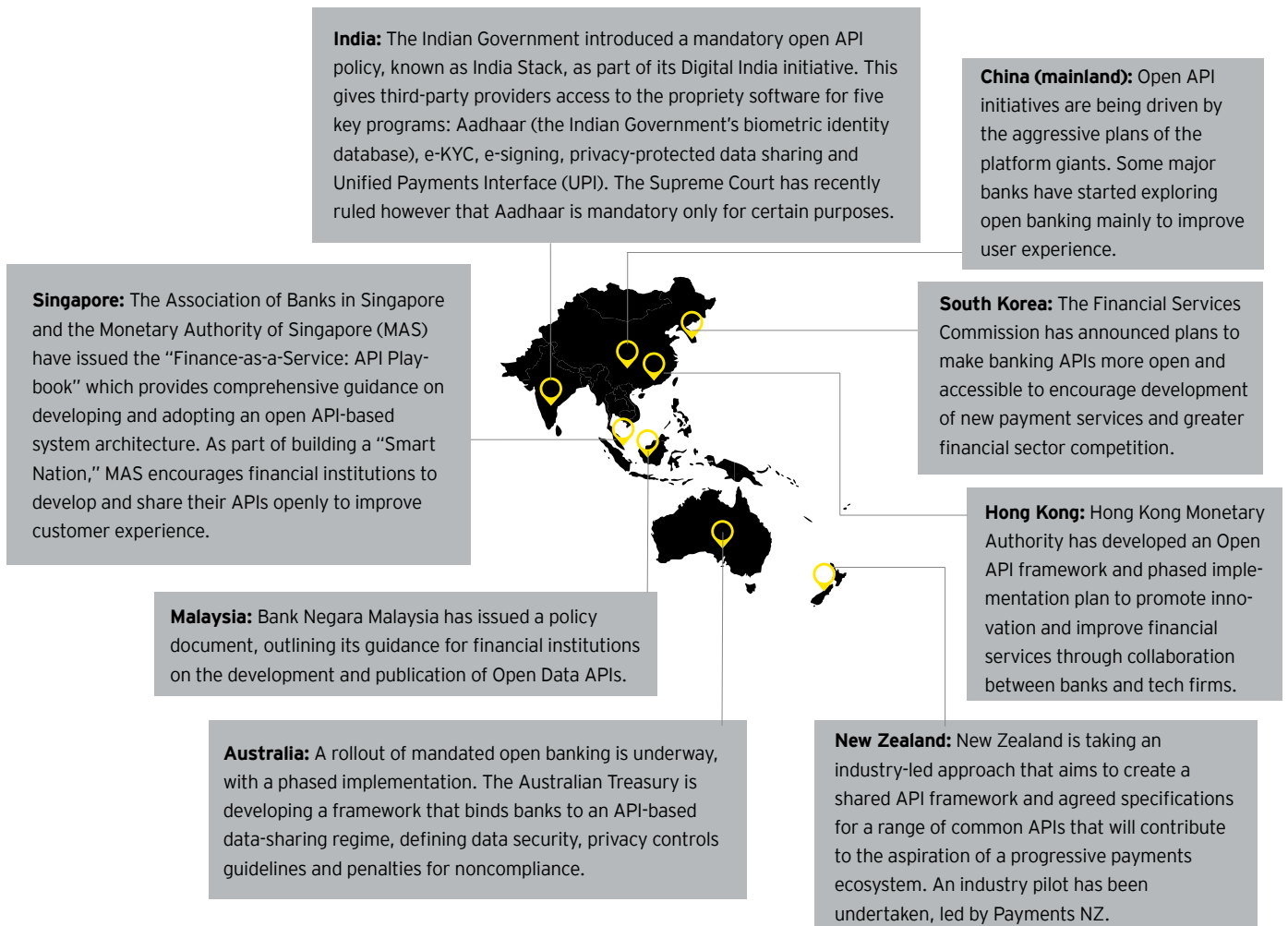
Where regulation permits, we expect to see more banks deploying advanced API management solutions to offer open API banking services and build up an ecosystem of solutions and services. Already, banks are leveraging innovation labs, accelerators and corporate venture funds to develop these ecosystems.

Eventually, consumers will take control of their financial data and share this information with third parties in return for value added propositions. Some banks in APAC have started to develop open API platforms and developer portals that connect with third-party providers to facilitate such services for customers. For example:

- ▶ **Macquarie Bank** in Australia has launched an open banking platform that enables retail customers to securely connect their personal banking data with authorized third-party services.
- ▶ **DBS** in Singapore has an API developer platform with more than 200 APIs across more than 20 categories.¹²

¹² "Reimagining banking, DBS launches world's largest banking API developer platform," *DBS*, 2 November 2017.

Open API initiatives in APAC



China and Singapore ranked in the top three of our *Open Banking Opportunity Index*, which assesses how conducive the environment is to support the success of open banking in ten key markets globally. Both countries share strong consumer adoption potential and innovation environments.

Key areas for banks to address immediately

- ▶ Start assessing the likely impact of open API banking on customer experience and product design, and prepare for the technology integration required to take advantage of the opportunities
- ▶ Develop the enhanced architectural, technical and governance capabilities required to move to open API banking
- ▶ Embed cultural innovation through nontraditional alliances with loyalty programs, supermarkets, schools, utility companies, internet of things (IoT) providers
- ▶ Revisit risk, as open banking relies on a trusted environment and maintaining trust will be more important than ever. This will require a clear view of the strategic risks and controls within the bank, with ecosystem providers and within the industry. Maintaining bank-grade data integrity, system availability and security will be essential. Liability for misuse of customer data once in the hands of a third party will also need to be clearly defined.

How EY can support your open API banking journey

Deep open API knowledge – EY teams are serving on many government and regulatory working groups in relation to open APIs for the banking sector across the globe. We led the UK's Open Banking Working Group and served on the Payment Strategy Forum, which set a precedent for many other governments and regulators around the globe.

Strong connections with global FinTech communities – EY Global FinTech services connects incumbent banks with FinTech collaboration opportunities and partnership programs around the world.

We can assist you with:

1. Strategy
 - ▶ Open banking strategy
 - ▶ Innovation scans and FinTech lifecycle support
 - ▶ Data analytics
 - ▶ M&A and venture capital
2. Compliance
 - ▶ Rules traceability
 - ▶ Target operating model
 - ▶ Solution definition
 - ▶ API strategy and frameworking
3. Security
 - ▶ Security risk framework
 - ▶ Cyber risk analysis
4. Legal advisory services
 - ▶ Regulation
 - ▶ Commercial

How can banks defend against increased risks?

With the enormous potential of digital comes enormous risks, as banks share not only their own but also their customers' data with a diverse range of external parties, elevating the risk of financial crime and cyber attacks.

Use digital innovation to disrupt financial crime

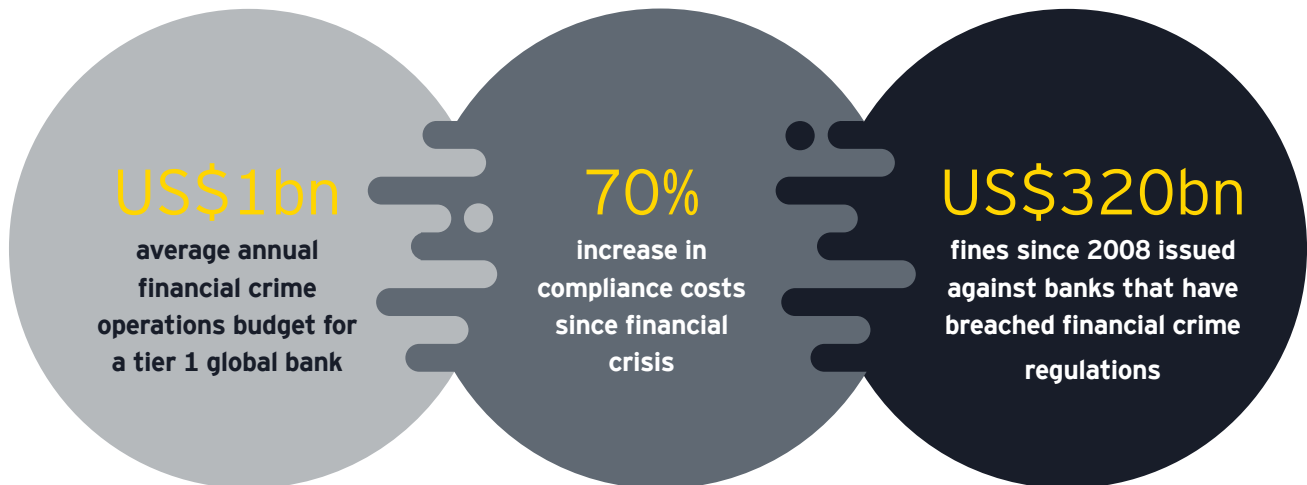
“The framework for identifying financial crime needs to be transformed to a cost effective, tech-enabled model, offering solutions for a new and sustainable approach.” – David Scott, EY Asia-Pacific Financial Crime Compliance Leader

Since the global financial crisis, bank compliance costs for financial crime have risen by 70%.¹³ The impact of financial crime on banks is extraordinarily large, from both a cost and operational perspective. Banks must manage huge data volumes, increasing regulatory requirements, and proliferating sanctions and cross-border risks. Banks with multinational operations also face the complexity of global banking networks.

¹³ “How banks are helping in the fight against financial crime,” EY, https://www.ey.com/en_gl/trust/banker-or-crime-fighter--the-role-of-banks-in-disrupting-crime-i, May 2018.

As new technologies evolve, more digitally sophisticated financial crime threats are emerging, creating new challenges for compliance teams. Cryptocurrencies are a prime example, bringing new ways to facilitate the cross-border movement of illicit funds. Financial institutions need to understand and respond to the risk of financial crime compliance breaches and fraud exposure relating to cryptocurrencies. They need to ensure know your customer (KYC), transaction monitoring and name screening processes and controls identify cryptocurrency risk and flag-up potential cryptocurrency transactions.

The cost of financial crime¹⁴



Areas of risk receiving heightened attention

- ▶ **China's BRI:** Many of the more than 70 countries on the new Silk Road are considered "high risk" by Transparency International's Corruption Perceptions Index.¹⁵ The strength of anti-money laundering (AML) controls also varies widely. This amplifies AML, and anti-bribery and corruption risk for banks.
- ▶ **North Korea trade sanctions:** Trade activity with North Korea is a major concern for regulators in APAC, particularly in jurisdictions with favorable "ease of doing business" that have been used as vehicles to bypass sanctions. Banks must be vigilant against inadvertently engaging in activity that breaches these sanctions.

Banks on the front line in the fight against financial crime

Governments and regulators are raising the bar on banks' compliance requirements, requiring banks to monitor more and more activity, or incur huge penalties. Remediation following a breach can cost banks many times more than the penalty.

Many banks' approach to filing suspicious activity reports with regulators is to focus on quantity over quality to remain compliant – even though more than 90% of banks' alerts of suspicious activity are false alarms. For example, suspicious transaction reports in Hong Kong have increased fourfold since 2012, reaching 92,000 in 2018.¹⁶

This forces banks to continually increase their investment just to manage the increased volume of data. And to date, this has relied heavily on hiring more people and introducing simple rules-based technology.

In such a challenging operating environment, banks need to adopt the latest technology to address financial crime compliance.

¹⁴ "How banks are helping in the fight against financial crime," EY, https://www.ey.com/en_gl/trust/banker-or-crime-fighter--the-role-of-banks-in-disrupting-crime-i, May 2018.

¹⁵ "Corruption Perceptions Index 2018," *Transparency International*, January 2019.

¹⁶ "HK needs to do more to fight money laundering," *China Daily*, 2 August 2018.

As banks try to balance compliance and operational costs with technology investments to enable innovation and disrupt financial crime, they must answer four key questions:

1. How can I use technology to address my financial crime challenges?
2. How can I use digital identify verification tools to transform my customer onboarding?
3. How can I make my financial crime prevention efforts more efficient?
4. How can I implement sustainable solutions to prevent financial crime?

Harnessing technology to combat financial crime and reduce the cost of compliance

EY teams have developed new technologies that help banks reduce cost, improve quality and ultimately transform financial crimes compliance operations, replacing current laborious manual and paper-based methods. They can assist you with:

▶ **Digital Passport: addressing the KYC utility challenge**

Specifically targeted at SMEs, Digital Passport is a collaborative platform-based approach helping the secure and traceable exchange of customer information through digital channels controlled by authorized users.

▶ **Cognitive Investigator: analytics to enhance financial crime investigations**

This solution employs AI and machine learning, advanced analytics, RPA and natural language processing to speed up and reduce the cost of financial crimes investigations.

▶ **Screening Engine Quality Assurance (SEQA): screening performance testing**

SEQA automatically creates test data packs to assess screening performance and performs deep dive analysis on results to allow performance tuning.

Develop an integrated cybersecurity vision

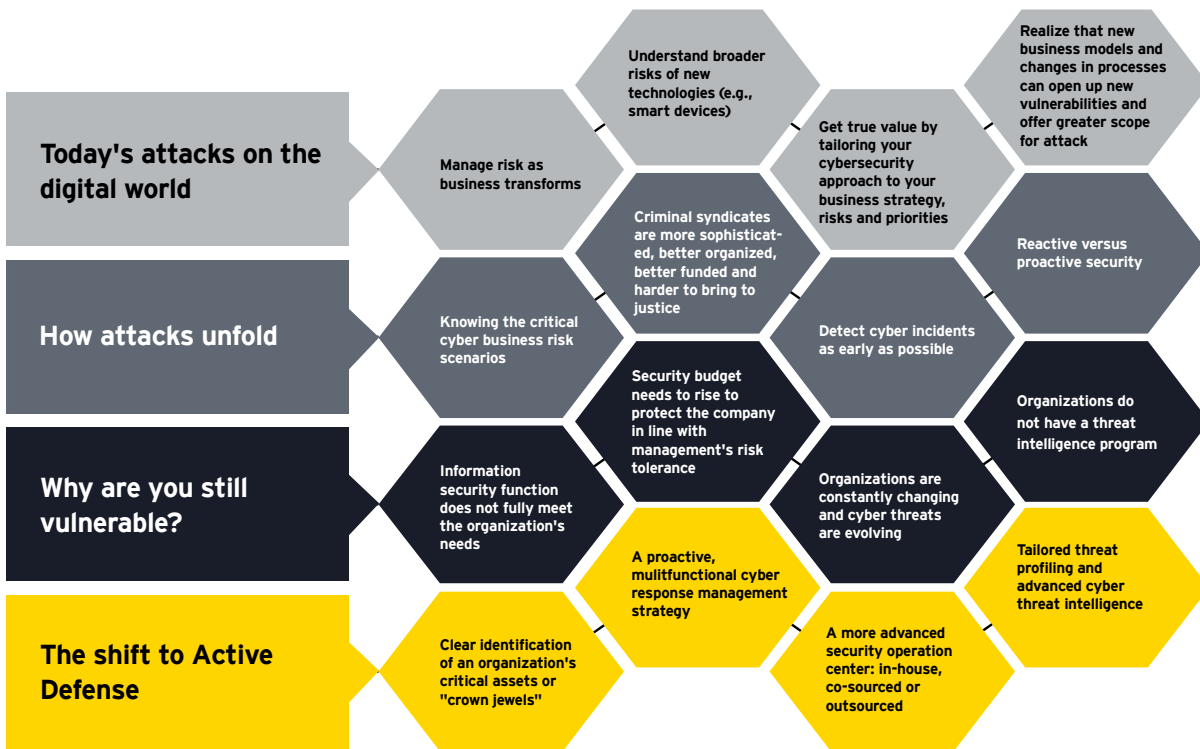
“New technologies are a double-edged sword, so look at innovation through a risk adjusted lens – identify and understand the risks, and have the right risk control frameworks in place.” – Jeremy Pizzala, EY Asia-Pacific and Global Financial Services Cybersecurity Leader

Like financial crime, the threat of cyber attack is growing in both sophistication and frequency as technology evolves at an increasingly rapid pace. A cybersecurity breach can have devastating effects – from service disruption, data breaches and direct financial damage to reputational damage and system risk.

To protect for the future, banks must:

1. **Respond to today's attacks on the digital world** – understand the broader risks of new technologies and how evolving digital related business models and processes open up new vulnerabilities
2. **Understand critical cyber business risk scenarios** – the threats, vulnerabilities and adversary attack methods related to “crown jewel” processes and assets
3. **Reduce vulnerability** – ensure the security function can adapt to changing organizational needs and evolving cyber threats
4. **Shift to Active Defense** – adopt a proactive, multifunctional cyber response management strategy

The shift to Active Defense



But no organization can be completely cyber secure. As well as being focused on preventing cyber attacks, banks also need to craft strategies to respond to and recover from attacks when they occur.

Cybersecurity is now the top risk identified by boards and chief risk officers (CROs) in APAC¹⁷ as banks transform their operations via new digital channels, automation and other advanced technologies. It will become even more important as open banking, which relies on a trusted environment, reshapes the sector's approach to data sharing.

Regulators tighten their focus on cyber resilience

Regulators across the region are pushing to hold financial institutions more accountable for cybersecurity through tougher regulation and enhanced supervisory expectations. They are also pushing banks to improve governance and cultivate cybersecurity experts. At the market level, regulators in Hong Kong, Singapore and Australia have focused on strengthening cyber resilience, while mainland China is centralizing security and emphasizing controlling data and sensitive information.

Banks need a cybersecurity vision and holistic approach

To become resilient against cyber risks, banks need an integrated, corporate vision so both permanent and contract employees actively participate in defending the business from cyber attacks. As banks increase their pace of technology adoption, they must also evolve risk controls taking into account digital trends and new regulations.

¹⁷ "Ninth annual EY/IIF global bank risk management survey – Accelerating digital transformation: Four imperatives for risk management," EY/IIF, https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/banking-and-capital-markets/ey-ninth-annual-iif-bank-risk-survey-accelerating-digital-transformation.pdf, November 2018.

We have identified 10 principles for risk executives to improve cyber resilience:

1. Integrate cybersecurity into the talent strategy
2. Clearly define cybersecurity responsibilities
3. Put cybersecurity at the forefront of business strategy
4. Ensure cybersecurity is at the heart of digital innovation
5. Understand how regulation impacts your global business and work with regulators
6. Risk rate key assets and determine a protection approach with a focus on the most critical ones
7. Develop a dynamic and nimble risk management model so the cybersecurity organization can scale if external risk escalates or the firm's risk appetite changes
8. Integrate compliance into the cybersecurity strategy, so any money invested in compliance will return value to the business by providing proper defense
9. Develop a clear crisis action and communication plan and practice it at all levels
10. Collaborate with peers to seek more intra-sector solutions, as the failure of one key player could damage the reputation of an entire industry

EY Cybersecurity Program Assessment framework

A strong cybersecurity posture will be an important market differentiator, offering customers stability in a disruptive age and helping to win more business. But few organizations have the appropriate skills and resources in-house to effectively secure their information assets while optimizing business performance.

EY Cybersecurity Program Assessment objectively assesses information security programs and structures, so banks can:

- ▶ Understand their risk exposure
- ▶ Assess the maturity of the current cybersecurity program and identify areas for improvement
- ▶ Build a prioritized road map for project investments and organizational change initiatives
- ▶ Collect information to create benchmarks against peers
- ▶ Validate that security investments have improved their security posture

The framework is complemented by EY:

- ▶ Network of Advanced Security Centers across the globe, bringing leading techniques, tools and people to help banks manage cyber threats
- ▶ Global industrial scale managed security services via Global Delivery Services that provide banks with the cost-efficient scale capacity

What can banks learn from new entrants?

As incumbent banks look to maximize opportunities in the evolving digital landscape, there are lessons to be learned from the disruptors.

Traditional banks must follow the lead of new entrants and find ways to better engage customers with a truly customer-centric approach. This includes redesigning the customer value proposition, moving from a product-push strategy to one built around proactive needs-driven solution offerings and merging their services into customers' daily life. Partnering with FinTechs and other providers will underpin customer-centric strategies in an open data world, where customers will increasingly be looking for experiences rather than products.

Case study: Collaborating with disruptors to deliver digital financial services – KASIKORNBANK

KASIKORNBANK (KBank) has partnered with ride-hailing company Grab to roll out a mobile wallet via Grab Financial, Grab's FinTech platform. Customers can use the e-wallet to pay for transportation and online purchases, transfer funds to friends and family and use QR codes to make payments in shops and restaurants. KBank and Grab will also work together to jointly offer products to their customer base, such as business loans. KBank has invested US\$50mn in Grab, as the bank seeks to tap into the rapidly growing digital economy and empower a digital lifestyle ecosystem.

Sources: "KBank – Grab join hands to move Thailand towards a digital future," *KASIKORNBANK*, 8 November 2018.

"KASIKORNBANK partners with Grab to join the largest fintech ecosystem in Southeast Asia," *Grab*, 8 November 2018.

Digital interactions outside banking are shaping customer preferences, creating expectations of real-time engagement. Smartphone and FinTech adoption (particularly by young urban and digitally savvy populations) and APAC's high social network penetration are changing the way customers want to interact with their financial services providers. Nonbanks, such as China's bigtech platform players and Southeast Asia's fast-growing ride-hailing platforms, have been exploiting these delivery channels to raise the bar on customer experience. We can see the disruptive potential of this trend in the rapid growth and reach of these players, which have leveraged e-commerce and social media adoption to offer financial services outside the traditional banking system. Disruptors are seizing the advantage by addressing unmet customer needs and friction points in the customer experience.

How are new entrants changing the banking landscape?

Who?	What?	How?
Platform players	<ul style="list-style-type: none"> Develop ecosystems that augment their own solutions and platforms with financial services, primarily consumer payments, investments, personal wealth management and alternative financing <p>Example:</p> <ul style="list-style-type: none"> China's bigtech companies 	<ul style="list-style-type: none"> Leverage e-commerce, payments and social media adoption to offer financial services outside the traditional banking system Some have been pursuing aggressive expansion across the region and beyond, acquiring stakes in local FinTech start-ups and partnering with foreign payments networks; also shifting to provision of technology services for incumbent financial services institutions
Specialized FinTechs	<ul style="list-style-type: none"> Often aimed at serving unbanked populations and unserved small businesses in emerging markets, e.g., customized consumer finance products, money transfer services, peer-to-peer (P2P) lending with invoice, online trade and e-commerce financing <p>Example:</p> <ul style="list-style-type: none"> ASEAN-based InstaReM offers low-cost, quick and transparent cross-border money transfers for banked and unbanked individuals, and SMEs; its unique payment mesh and extensive network of banks enables individuals and businesses in APAC to remit money to more than 55 countries worldwide 	<ul style="list-style-type: none"> Niche offerings to address gaps in the market, e.g., MSMEs who do not qualify for funding from banks and financial markets Operate in their home market or across multiple markets in APAC; some are expanding beyond APAC More likely to be collaborators with incumbents rather than competitors, offering opportunities for banks to innovate more quickly and cheaply, open up new distribution channels, or address customers' needs more holistically
Digibanks	<ul style="list-style-type: none"> Deliver on customer demand for low-cost, fast and frictionless services <p>Examples:</p> <ul style="list-style-type: none"> MYBank (Ant Financial) offers quick, streamlined lending processes and innovative credit-rating assessments 	<ul style="list-style-type: none"> Leapfrog old technology in favor of straight to mobile services Unhampered by physical branch networks, digibanks' agile platforms and high levels of automation make them fast, agile and able to significantly reduce per customer service costs

Compared with new entrants, incumbents are often encumbered by costly and aging infrastructure that make them slower to react and adapt, limiting their ability meet customers' growing expectations for a fast, frictionless digital banking experience. Modernizing technology systems is expensive and time-consuming, but necessary if banks are to match the digital offerings offered by best-in-class new entrants.

Case study: Kakao Bank – how EY teams helped establish a digibank disrupting the market with low cost, quick and simple banking

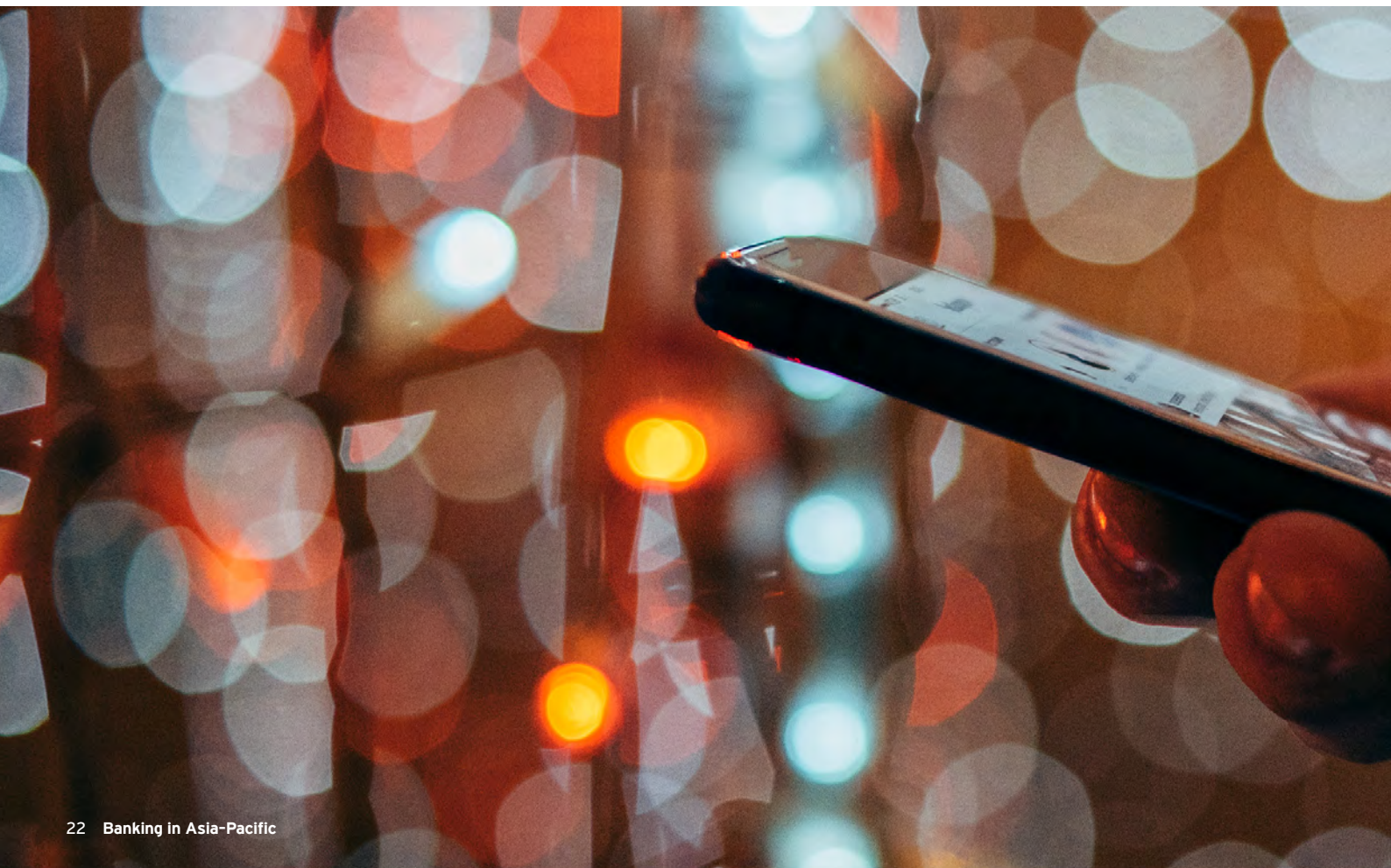
Kakao Bank, one of the new breed of mobile-only banks, has enjoyed remarkable growth since its launch in July 2017. Quite literally an overnight success, Kakao Bank attracted 300,000 accounts on its first day and gained two million customers (5% of Korea's adult population) within two weeks of launch. One year later, it had more than six million customers.*

Kakao Corp engaged EY teams to help it define the why, what and how of digital banking. We worked with Kakao Corp to codesign its customer strategy, product strategy and channel strategy, resulting in a very different approach that radically disrupted the market.

Kakao Bank was built off South Korea's highly popular messaging platform, Kakao Talk. The digibank's success stems from three critical differentiating factors:

- ▶ **Cost:** Market research revealed price was the main driver of Korean banking customers switching providers, so Kakao focused on minimizing costs with its mobile-only banking proposition. With incumbents spending 60% of their costs on branch operation, a branchless bank was the obvious first step. PC-based banking was also rejected as unnecessarily expensive – requiring double the resources. Kakao's mobile-only offering substantially reduced operating costs and Kakao shared the savings with its customers. It was able to launch with aggressively competitive offers, reducing the overseas remittance commission to one tenth of that charged by existing banks and offering much better prices for deposits and loans, with a quick and easy approval process.
- ▶ **Extreme convenience:** Kakao Bank cut in half the number of steps customers need to take to open accounts and access finance, while maintaining compliance with AML and KYC requirements. Opening an online account takes just five to seven minutes on average, using a mobile phone number and an ID card photo.
- ▶ **Different focus:** Kakao looked at its digital bank through a different lens. It adopted a model based on activation first, monetization second – the focus is on active users experiencing the service.

*"Kakao Bank logs rapid growth in the year since its launch," *Yonhap English News*, 23 July 2018.



Case study: digibank DBS – a customer-centric digital platform that goes beyond banking

March 2016 marked a watershed moment for DBS Bank as it launched its innovative full-stack digital banking platform, the digibank, in Singapore. In the first two weeks of its soft launch, the app had seen more than 200,000 downloads. Within a year, DBS Bank had expanded the app across two high growth markets: India and Indonesia. Today, the bank is servicing more than two million online users in both countries and is expecting 8.5 million customers by 2021 – none of whom will ever set foot in a DBS branch.

digibank represents a FinTech-led strategy for growing organically and entering new markets. It marks a move forward in a digital-led economy and becoming more embedded in the customer's lifestyle.

EY teams worked with DBS on building strategic differentiation for digibank in Indonesia. Indonesia is a highly competitive market, featuring tech unicorns, global FinTech conglomerates and local conglomerates with their own digital propositions, all vying for the customer's attention. DBS understood that to grow its business in this environment, the digital bank must address pain points customers most often face to deliver a seamless customer experience.

DBS was advised on how to capitalize on opportunities within the banking and nonbanking journeys of the customer. The starting point was more than 50 different retail payment use-cases in a customer's life. Narrowing them down on criteria such as macro-economic trends, use-case market potential, existence of competition and ability of DBS to create a differentiated proposition, the number of use-cases was eventually narrowed down to three and presented as recommendations. This "growth hack," built upon EY proprietary use-case scoring framework, allows platforms to objectively evaluate use-cases and select the ones that allow them to meet their business objectives.

DBS Bank's internationalization strategy is built on a customer-centric digital platform that goes beyond banking by focusing on the customer's lifestyle and evolving needs. It solves key societal pain points, while allowing for a seamless, integrated and personal digital experience. In emerging countries where there are more internet users than banked customers, this approach can drive significant growth, while managing customer acquisition cost.

Source: "How the biggest bank in Singapore is driving digital innovation in Southeast Asia," EY, <https://www.ey.com/sg/en/industries/financial-services/ey-how-the-biggest-bank-in-singapore-is-driving-digital-innovation-in-southeast-asia>, December 2018.



What advantages do banks' traditional strengths deliver?

The entry of disruptive competitors and platform players is increasingly redefining the financial services landscape, but incumbent players can still stand their ground.

Traditional banks have unique strengths that equip them with significant advantages over new industry participants. Banks have:

- ▶ **Large customer bases:** Banks have well-established customer relationships, giving them access to deep customer data. In the open data environment, these are key assets banks can use to enhance the user experience and deliver deeper insights to identify cross-and up-sell prospects and to constantly enhance offerings.
- ▶ **Scale, underpinned by strong balance sheets:** Lending, funded by a strong balance sheet, is still the major source of growth for financial services entities. Scale is critical to being anything other than a niche offering and delivers banks a massive advantage over new entrant rivals, particularly for corporate clients. Incumbent banks with deep pockets, established histories and trusted client relationships, continue to be the preferred source of funds for corporates.
- ▶ **Compliance expertise:** While FinTechs may be quicker and more agile in testing new ideas, incumbent banks are well practiced in delivering products and services in compliance with stringent regulatory frameworks. Banks' compliance capabilities will prove a strong asset as the open data environment is increasingly regulated.
- ▶ **A trust advantage:** Customers still trust their bank to keep their money safe and, more recently, to protect their data. This a key differentiator for banks as financial services move to an open data environment, an environment that hinges on customer trust to realize its true potential.

Next steps

Digitalization imperatives, platform players encroaching into financial services and empowerment of customers to take ownership of their data through open banking are redefining financial services. This means continuing with business as usual is not an option for incumbent banks.

Incumbents must act now to transform into truly customer-centric, digitally enabled businesses if they are to take their place as successful financial institutions of the future.

To position themselves for the future, incumbent banks need to address three priorities:

- 1. Create a truly digital business for the future:** Don't just digitalize processes to be quicker for the present. Accelerate digital maturity using intelligent automation, open APIs and digital solutions for financial crime and cybersecurity to grow, optimize and protect the business.
- 2. Rethink the customer value proposition:** Use platform thinking and access to deep customer data in the new data sharing environment to engage customers with need-driven offerings. Preserve at all costs customers' traditional trust in banks to keep their money (and data) safe.
- 3. Define your ecosystem strategy:** Use partnerships and collaboration to realize new opportunities and gain new efficiencies.

Appendix: Market overviews

The digital agenda

Across the region, regulators and policymakers are driving digital agendas to encourage innovation in the banking sector, deliver efficiencies and improve customer experience. In the developed markets, Australia, Singapore and Hong Kong all aspire to become FinTech hubs, using regulation to support the evolution of FinTech and an ecosystem of financial services innovation. For emerging markets, digitalization is a means of increasing financial inclusion for unbanked populations and underserved SMEs.

Regulators must find the right balance between regulatory oversight to protect consumers while not inhibiting innovation. They have taken different approaches but common initiatives include:

- ▶ Introduction of regulatory sandboxes
- ▶ Consultation with industry players
- ▶ Provision of guiding principles and frameworks rather than prescriptive rules

Recognizing the need for a coordinated approach to FinTech innovation, regulators (particularly Singapore and Australia) are entering into partnerships globally to share leading practices, experiences and frameworks.

Payments continue to spur innovation as governments seek to reduce reliance on cash in favor of mobile digital payments. The region is seeing widespread adoption of QR code payment schemes, led by China and India. Common QR codes are now being introduced in several countries to facilitate uptake of digital payments.

As competition for tech talent intensifies, some markets (e.g., Singapore, Hong Kong and India) are developing FinTech-focused specialized programs and initiatives to develop the local talent pool. These include FinTech-specific courses and programs, and talent incubator and accelerator schemes.

Other regulatory and policy themes

Improving bank governance and conduct remain priorities. Regulators are seeking to foster a culture of ethical behavior and responsible risk-taking to protect financial system stability. Examples include the Hong Kong Monetary Authority's Bank Culture Reform measures, MAS' proposed guidelines on individual accountability and conduct, and Australia's Banking Executive Accountability Regime.

AML and counter financing of terrorism also remain high on the agenda as evolving technologies bring ever more digitally sophisticated financial crime threats.

Appendix source notes

- ▶ Figures are in US dollars, unless otherwise specified.
- ▶ Bank participant statistics for each market have been sourced from the regulator.
- ▶ Macroeconomic data is sourced from Oxford Economics, unless otherwise specified. Unless otherwise specified, data is for 2018 and includes estimate data where actual data is not available. GDP per capita is on a "real" basis. Foreign direct investment (FDI) inflows, exports and imports are at constant prices and exchange rates.
- ▶ Financial inclusion data is sourced from *The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution* (World Bank): <https://globalfindex.worldbank.org/>.

Financial inclusion denotes the percentage of respondents who report having an account (by themselves or together with someone else) at a bank or another type of financial institution, or who report personally using a mobile money service in the past 12 months.

- ▶ Digital competitiveness ranking is sourced from the *IMD World Digital Competitiveness Ranking 2018*: https://www.imd.org/globalassets/wcc/docs/imd_world_digital_competitiveness_ranking_2018.pdf.

Australia

Developed

Population

25
million

GDP per capita

\$61,996

Digital competitiveness ranking

World

13

APAC (ex-Japan)

3

Financial
inclusion

99.5%

FDI inflows

\$61bn

Trade flows

Exports

\$392.9bn

Imports

\$336.8bn

Digital agenda – selected developments

The Australian Government has introduced a range of measures to increase competition and innovation across the financial services sector. Examples include:

- ▶ **FinTech:** An Innovation Hub has been established within the Australian Securities & Investments Commission to assist FinTech businesses to navigate financial regulation and to obtain licenses. A regulatory sandbox offers a licensing exemption to enable FinTechs to test products and services before they obtain a financial services or credit license. Eligible FinTechs do not need to apply for entry to the sandbox, but must notify the regulator that they intend to test under the exemption.
- ▶ **Open API banking:** A rollout of mandated open banking is underway. A pilot program is planned for release from 2019 to test the performance, reliability and security of the system. Banks must start opening up access to customer and small business data by February 2020 (phased approach), beginning with the major banks. Australia is one of the first markets in the region to mandate banks to provide access to this data (with customer consent) to third parties. The data will subsequently extend to other industries, including telecommunications, energy and superannuation firms.
- ▶ **Digital banks:** A new phased approach for banking licenses allows start-up banks to operate under restricted conditions for a period of time before undertaking the process for a full banking license.
- ▶ **Payments:** Launched in February 2018, Australia's New Payments Platform (NPP) is an open-access infrastructure for close to real-time clearing and settlement of payments, primarily retail payments. It also allows customers to arrange payments using their PayID, such as a mobile phone number, instead of an account number or bank code.

Bank participants

Australia's "big four" domestic banks dominate the sector, accounting for more than 75% of the market by assets. The sector also includes several other domestic banks, more than 40 inbound banks and nearly 80 mutual banks, credit unions and building societies. New digital banks are seeking licenses, and the first of the new restricted licenses have been granted by the regulator, the Australian Prudential Regulation Authority (APRA).

Growth

Housing credit is the major driver of domestic banks' lending. Macro-prudential measures to address house price inflation have seen house prices decline in the major centers and a softening in housing credit growth, particularly for the major banks. Regulator scrutiny of lending standards and a major inquiry into misconduct in the financial services industry have resulted in tighter lending criteria, which has contributed to constrained housing and small business credit growth. Business credit growth has been driven in recent years by lending to large businesses, particularly by foreign banks, as the Australian economy transitions from resources-focused to broader-based growth.

Profitability

Australian banks maintain strong profitability. However, capital requirements, macro-prudential measures and price competition in higher margin portfolios have put downward pressure on profitability. Remediating customer and conduct issues is having a cost impact for some banks. Banks are using cost management as a key lever to improve profitability, as well as simplifying businesses. To improve both capital efficiency and profitability, banks have been divesting noncore assets (including selective divestments of wealth businesses by the major banks) and rationalizing product lines.

Asset quality

Asset quality remains generally sound, providing an earnings tail wind for banks. Risks in the domestic economy continue to point to potential increases in credit losses arising from the banks' concentration in housing lending and increased levels of loans in arrears.

Capital

Capital ratios remain strong, supported by sound organic capital generation. Banks are well-positioned on Common Equity Tier 1 (CET1) ratios to meet the "unquestionably strong" capital targets set by APRA.

Other developments

The 2018 Royal Commission into misconduct in the financial services industry highlighted ongoing problems in complying with laws and regulation, bank culture and governance, and remuneration among the major banks. The final report of the Royal Commission was released on 4 February 2019 and is expected to have a lasting impact on the Australian financial services sector, with ramifications on the way financial institutions operate, the structure of the industry and the overseeing regulatory bodies.

New Zealand

Developed

Population

4.9
million

GDP per capita

\$37,697

Digital competitiveness ranking

World

19

APAC (ex-Japan)

6

Financial
inclusion

99.2%

FDI inflows

\$0.2bn

Trade flows

Exports

\$54.4bn

Imports

\$61.2bn

Digital agenda – selected developments

Enabling market innovation is a key objective of the Financial Markets Authority (FMA), which aims to be flexible and open in response to innovative new businesses, while the Reserve Bank seeks to ensure that its prudential regimes do not impede new digital innovation in financial services. Developments include:

- ▶ **FinTech:** New Zealand has a growing FinTech sector. It was an early mover on equity crowdfunding and P2P lending, introducing a licensing regime under the Financial Markets Conduct Act 2013. The Government, through its innovation agency, also contributed funding for the country's first FinTech accelerator, a three-month industry-run program that provides support to early stage start-ups. For now, the Government and Reserve Bank are monitoring, rather than actively facilitating FinTech development. The Reserve Bank believes New Zealand's current financial market regulatory settings support innovation and industry-based solutions. It is engaging with industry and other agencies to gauge any future need for regulation to support FinTech innovation and also to ensure that prudential regulation does not hinder digital innovation.
- ▶ **Open API banking:** New Zealand has started on an industry-led approach to open APIs. The first API standards for Payment Initiation and Account Information have been released following an industry trial led by Payments NZ, an industry organization formed to govern New Zealand's payment systems. Payments NZ has also been developing an API management framework. Payments NZ has recently launched the API Centre to provide a central coordinating role for New Zealand's nascent API-enabled ecosystem. The Ministry of Business, Innovation and Employment is observing how open banking evolves in other jurisdictions before deciding whether government intervention is required.
- ▶ **Payments:** Payments Direction is Payments NZ's long-term, industry-led strategic initiative to respond to the evolving future of payments. It is focused on six areas, including (among others) the API standards and framework, enabling retail payments to be processed 365 days a year, use of proxy identifiers (e.g., a mobile number or email address) to make payments, and speeding up systems.

Bank participants

New Zealand has 26 registered banks. The largest banks are subsidiaries of the Australian major banks, which account for nearly 90% of the market by assets. Other foreign banks, including some major banks from China, also have subsidiaries and branches. In addition, the sector includes four New Zealand-owned banks, as well as credit unions and mutual building societies.

Growth

Credit growth has moderated on the back of a softening housing market, elevated debt in the dairy sector and tighter lending standards that have impacted the commercial property sector in particular. As in Australia, the balance sheets of most banks are dominated by residential mortgages, which account for approximately 60% of bank lending.¹⁸ A series of macro-prudential measures to address house price inflation in recent years, including stricter loan-to-value ratios and property investor lending measures, have contributed to slowing housing demand and price growth.

Profitability

New Zealand is a profitable market with major banks achieving solid double-digit return on equity (ROE). Despite rising leverage ratios by core industry sectors, profitability remains supported by low levels of nonperforming loans (NPLs).

Asset quality

Asset quality is good across most sectors. Key vulnerabilities are high household debt levels and high dairy sector indebtedness.

Capital

New Zealand banks are well capitalized, supported by early adoption of Basel III capital provisions. The Reserve Bank has been reviewing the capital requirements for locally incorporated banks, which will likely see significantly higher capital requirements introduced.

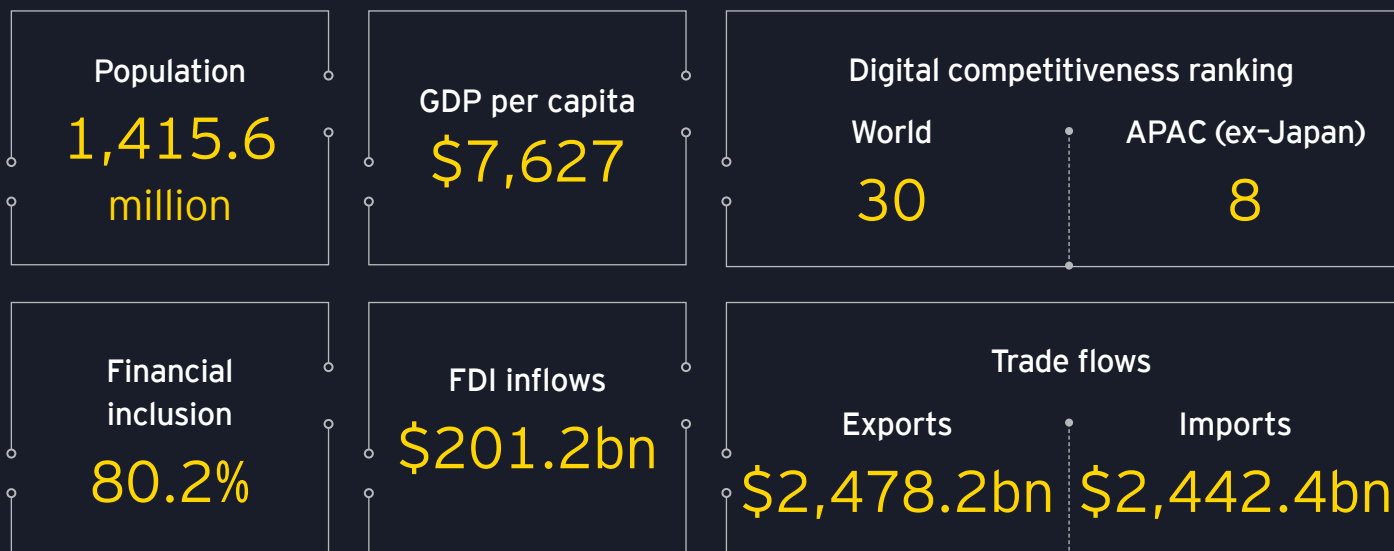
Other developments

After a Royal Commission uncovered widespread culture and conduct issues in the Australian banking sector, the FMA and the Reserve Bank completed a review of conduct and culture of New Zealand's 11 largest retail banks. The review did not find widespread conduct and culture issues, but found weaknesses in the governance and management of conduct risks. The FMA and the Reserve Bank have made recommendations to improve oversight, controls and processes.

¹⁸ "Financial Stability Report," Reserve Bank of New Zealand, November 2018.

China

Emerging



Digital agenda – selected developments

Mainland China's flexible regulatory environment and "Internet Plus" concept of advanced digitalization promotes digital innovation by banks and nonbanks across the spectrum of financial services products. Developments include:

- ▶ **FinTech:** China's FinTech sector has grown rapidly. A wide range of FinTech players, including the internet platform giants, "born digital" financial institutions and ambitious start-ups are expanding their presence in various banking segments, such as payments, P2P lending and online wealth management. The Government and regulators are examining FinTech's impact on investor protection and financial stability. The recent defaults of P2P platforms have highlighted an urgent need for stringent minimum capital and risk management requirements, and customer protection. China reportedly will introduce regulation that mirrors that of Europe's General Data Protection Regulation (GDPR), though timing of any implementation is unclear.
- ▶ **Open API banking:** Open API initiatives have been driven by the internet platform players interested in entering the financial industry, underpinned by a huge consumer base and well-developed e-commerce capabilities. Much of the growth in China's open API banking has occurred in the absence of any mandates or API standards. It is expected that regulation will unfold as the country considers its evolution in other markets.
- ▶ **Digital banks:** China's favorable regulatory environment, and the rapid adoption of the internet and smartphone have driven the growth of digital banking, offered by both traditional banks and new start-ups with no physical branches.
- ▶ **Payments:** Payments have been at the forefront of China's financial services innovation, once again underpinned by an open and supportive regulatory approach. Traditional and nontraditional players have viewed payments as a platform upon which to build additional financial and nonfinancial services. In a market dominated by the platform giants' mobile payments offerings, the total transaction value of digital payments in China is expected to grow at CAGR of 18.5% from 2019-23.*

*"Digital Payments," Statista, <https://www.statista.com/outlook/296/117/digital-payments/china>, 8 May 2019.

Bank participants

China's banking sector comprises of six large commercial banks, 12 national joint stock commercial banks, 134 city commercial banks, nearly 2,000 small rural banking institutions and 39 locally incorporated foreign banks.

Growth

Growing household wealth and an aging population are expected to support banks to develop retail banking, wealth management, private banking and custodian business. National strategies to drive technology innovation, a consumption-driven economy and the BRI offer growth opportunities in SME lending, project financing, trade financing and the offshore Renminbi market. As the financial sector opens up further, bond and capital markets will develop, as will new business opportunities for investment banking and fee services. But trade tensions with the US threaten to dampen these growth prospects, with a potential impact on external and domestic demand on areas such as logistics, wholesale trade and trade finance. Business sentiment and investment may also be negatively affected.

Profitability

Profitability still faces head winds due to large countercyclical provisioning amid likely further moderation of economic growth. However, this will help cushion downside risks to profit growth in 2019.

Asset quality

Asset quality concern remains due to the increased macro uncertainty. Some small and mid-sized banks may report higher NPL ratios due to tighter loan grading, which strictly classifies loans overdue beyond 90 days as NPLs. Banks are also exposed to bad debts in the less regulated, shadow financing sector. However, a new financial stability committee has been established to advance financial de-risking and the assets of the shadow banking sector are declining. But this contraction might moderate as the authorities have to balance priorities between de-risking and ensuring financial and economic stability.

Capital

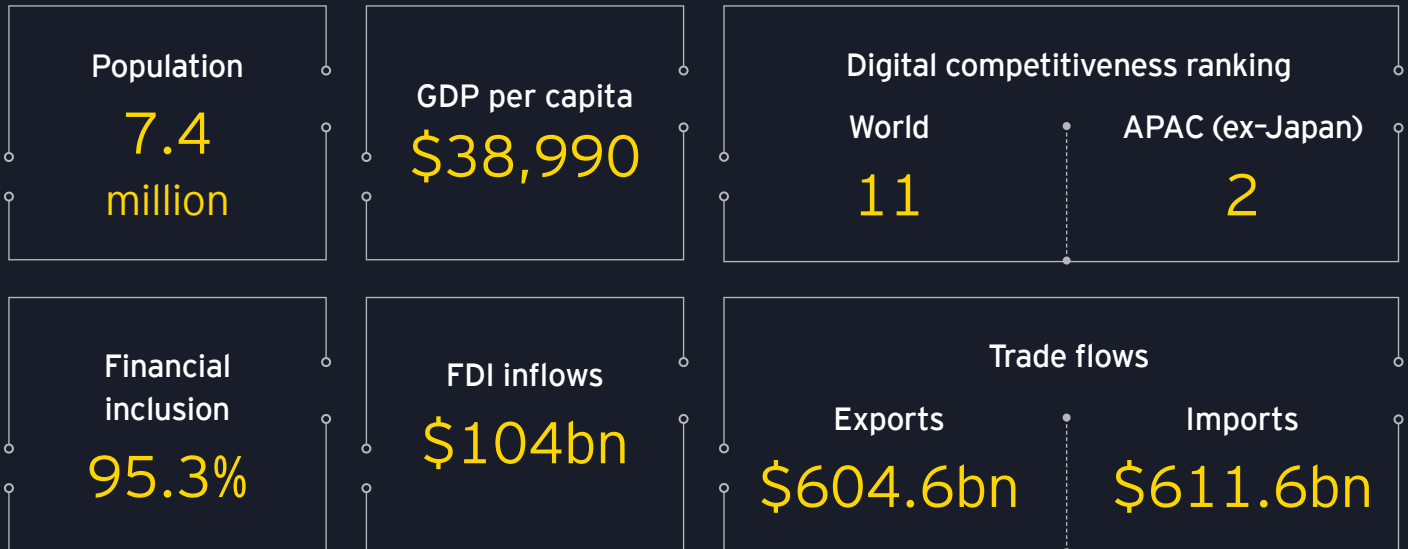
Some banks report a slight decline in capital adequacy ratios, but the overall industry level remains sound and well above minimum regulatory requirements. Nevertheless, capital management is still at the top of the banks' agenda. Banks will continue to develop "capital-light" businesses (e.g., increasing consumer lending, growing noninterest income) and accelerate capital raising via multiple channels to maintain strong capital positions for sustainable growth and to withstand downside risks.

Other developments

A new regulator, the China Banking and Insurance Regulatory Commission, has been established, by merging the former banking and insurance regulators, to help prevent regulatory arbitrage and mitigate financial risks. Since November 2017, China has announced a series of measures to further open up its financial sector, including easing foreign ownership caps. Liberalization will bring greater competition as well as the potential to build a more robust, transparent banking sector. Foreign banks with an existing presence in mainland China may take the opportunity to refine their strategies and make future investments to grow their footprint in strategic regions.

Hong Kong

Developed



Digital agenda – selected developments

In September 2017, the Hong Kong Monetary Authority (HKMA) introduced seven initiatives aimed at preparing Hong Kong to move into a “New Era of Smart Banking” by furthering industry convergence between the banking and technology sectors. Key initiatives include:

- ▶ **FinTech:** An enhanced FinTech supervisory sandbox (FSS) – FSS 2.0, which is open to both new and incumbent financial institutions partnering with FinTechs or technology companies. FSS 2.0 links the sandboxes of the HKMA, the Securities and Futures Commission, and the Insurance Authority to provide a single point of entry for trials of cross-sector FinTech products. FinTech ecosystem development has also been supported by the FinTech Facilitation Office, established by the HKMA in 2016.
- ▶ **Open API banking:** Development and wider adoption of open APIs, with the publication in 2018 of the HKMA’s final API framework and implementation plan for the banking sector. Retail banks are mandated to adopt APIs in a phased approach from January 2019.
- ▶ **Digital banks:** The first batch of virtual bank license applications under the HKMA’s revised guidelines were submitted by August 2018, and several new market entrants are expected by the end of 2019. The first licenses were granted in March 2019. Although these banks will be online-only banks, they must have at least one physical office to manage customer inquiries. Small businesses, which have noted challenges in opening bank accounts in Hong Kong, will likely be a target segment for these new online lenders.
- ▶ **Payments:** The Faster Payment System was launched in September 2018, to support less costly and immediate payment transfers, and facilitate greater payments competition. The HKMA also announced the Common QR Code Standard for Retail Payments, together with a mobile app for converting multiple QR codes from different payment service providers into a single, combined QR code. This enables merchants, particularly SMEs, to use a single QR code to accept payments via different payment service operators.

Bank participants

Hong Kong has a three-tier banking system made up of 156 licensed banks, 18 restricted-license banks and 16 deposit-taking companies. The dominant players are the three note-issuing banks.

Growth

Cross-border financial services activity between Hong Kong and mainland China continues to bring business opportunities for Hong Kong banks, but also competition from mainland banks, particularly in corporate banking. As Asia's prominence in global wealth increases, Hong Kong continues to maintain its status as a private wealth hub for the region, serving clients from mainland China and North Asia.

Credit growth faces headwinds arising from uncertainty over the trade environment, slower economic growth and ongoing property sector risk. The HKMA and the Government have introduced various measures to reduce banks' exposure to risks from property price inflation by slowing the growth in mortgage lending and residential property prices.

Profitability

Banks' profitability has been supported by expanding margin, rising net interest income and strong cost control (particularly by some of the major banks).

Asset quality

Asset quality remains healthy. The property sector remains as a potential risk. Higher-than-expected interest rate rises could negatively affect asset quality, given high household debt levels and elevated property prices. In response, banks have applied conservative loan-to-value ratios to residential mortgage lending. Exposure to mainland lending, which accounted for 16% of the banking sector's total assets as of December 2018,¹⁹ is another potential area of risk, given high corporate debt levels and China's slowing growth.

Capital

The Hong Kong banking sector is well capitalized, with banks' consolidated capital adequacy ratios remaining well above minimum international standards.

¹⁹ "Half-yearly monetary and financial stability report," HKMA, March 2019.

Taiwan

Developed

Population

23.6
million

GDP per capita

\$23,022

Digital competitiveness ranking

World

16

APAC (ex-Japan)

5

Financial
inclusion

94.2%

FDI inflows

\$8bn

Trade flows

Exports

\$409bn

Imports

\$349.8bn

Digital agenda – selected developments

The Financial Supervisory Commission actively promotes measures to support innovation and accelerate digitalization of the domestic banking sector. Developments include:

- ▶ **FinTech:** The Commission established a FinTech office in 2015, focused on research in areas such as digitalization of financial services, payments and financing platforms (e.g., P2P lending). A 2016 whitepaper outlines the Commission's strategy for FinTech development, which identifies the introduction of short-term and long-term measures to support start-ups among its priorities. In late 2017, a bill was passed to introduce a regulatory sandbox. The sandbox currently has the longest potential experimentation period for any similar sandbox, up to 36 months. It is supported by the Financial Technology Development and Innovation Center (responsible for receiving, reviewing and evaluating applications for innovative experimentation) and the FinTech Space (aimed at stimulating and accelerating FinTech innovation).
- ▶ **Open API banking:** While Taiwan is pushing ahead with sector digitalization, it is yet to develop guidelines or regulation on open APIs.
- ▶ **Digital banks:** The Financial Supervisory Commission has issued regulations for the introduction of internet-only banks in 2019, beginning with two licenses in its first round of approvals. Internet-only banks will have the same capital requirements as a traditional commercial bank. Nonfinancial enterprises can own up to 60% of an internet-only bank, and at least one bank or financial holding company must have a shareholding of 25%.
- ▶ **Payments:** The whitepaper on FinTech development identified increased adoption of e-payments as a priority. The Commission has set up a task force to increase the take-up of e-payments in Taiwan, including creating a favorable regulatory environment. The Commission has also encouraged financial institutions to promote mobile payments. Its goal is to double the penetration rate of e-payments from 26% in 2015 to 52% by 2020.

Bank participants

Taiwan's banking sector continues to remain fragmented and overcrowded. It is dominated by 37 domestic players that control most of the market's loans, with the five largest players accounting for less than 40%.²⁰ Taiwan also has 29 foreign and mainland China banks, 23 credit cooperatives and more than 300 credit departments of Farmers' and Fishermen's Associations. The Government has encouraged domestic banks to merge for some years now, but progress in consolidating the market has been slow due to political and labor union opposition to state-owned bank mergers, and legal and regulatory barriers, which are being gradually removed. Recent relaxing of capital requirements for financial holding companies and banks pursuing mergers may boost consolidation activity.

Growth

Taiwanese banks have been supported by the Government's long-term economic development initiatives and accommodative monetary policy environment. They are focusing on fee revenues from wealth management and credit card services, growth in SME credit, and expanding their operations in Southeast Asia to counter domestic constraints. Robust consumer demand boosted housing, construction and automotive lending in 2018.

Profitability

The saturated and competitive nature of the domestic banking industry constrains profitability. Margins are low due to ample domestic liquidity, low rates and intense competition. Many banks struggle to reach double digit ROE.

Asset quality

Asset quality is sound, underpinned by supportive economic conditions.

Capital

Banks have good capital adequacy, and funding and liquidity profiles are sound. To strengthen international competitiveness and banks' capital utilization efficiency, the Financial Supervisory Commission has lowered the risk weighting for mortgage loans and equity stock investments in calculating capital adequacy. This will potentially boost capital adequacy ratios for domestic banks.

²⁰ "Taiwan banking & financial services report Q1 2019," *Fitch Solutions*, January 2019.

South Korea

Developed

Population

51.2
million

GDP per capita

\$26,993

Digital competitiveness ranking

World

14

APAC (ex-Japan)

4

Financial
inclusion

94.9%

FDI inflows

\$12.4bn

Trade flows

Exports

\$755bn

Imports

\$710bn

Digital agenda – selected developments

Banks in Korea have traditionally been subject to strong regulatory controls and supervision, which could have undermined competition and innovation. However, South Korea's Financial Services Commission (FSC) is supporting greater digital and FinTech innovation. Key initiatives include:

- ▶ **FinTech:** The FSC plans to review the regulatory regime in 2019 with a view to remove barriers towards FinTech innovation. This includes removing regulatory uncertainty that restricts financial companies from investing in FinTech companies. It has also recently launched a regulatory sandbox. Previous initiatives include a FinTech Open Platform announced in 2016 to boost FinTech development, and the plan in 2018 to establish a new Financial Innovation Bureau to develop policymaking initiatives for Korea's FinTech industry, with a focus on cryptocurrencies and blockchain technology.
- ▶ **Open API banking:** The FSC has recently announced plans to make banking APIs more open and accessible to facilitate FinTech firms' access to the payment system. The move is part of a three-phase initiative to encourage the development of new payment services and greater competition in the financial sector. This includes banks agreeing to open their payment network to FinTech payment service providers and other banks, lowering the fees paid by FinTech firms to access the network and mandating that banks offer payment service providers standardized APIs for money transfers. In the medium to long term, the FSC will consider allowing FinTech payment service providers direct access to the payment system if they meet financial soundness and digital capability requirements.
- ▶ **Digital banks:** As part of efforts to relax regulation and develop the financial sector, the FSC announced the grant of two new digital-only bank licenses in 2015; the banks subsequently launched in 2017. Recent changes to regulation will allow nonfinancial companies that have at least 50% of their capital in the information and communications technology (ICT) industry to increase their stake in a financial services entity from a maximum of 4% (or 10% without voting rights) to 34%, to help support the growth of digital banks. FSC approval for at least one additional digital-only bank was expected in mid-2019, after the FSC invited more applications for digital-only bank licenses. However, the recent applications were unsuccessful. The FSC has indicated it will accept new applications again later in 2019.

- ▶ **Payments:** In 2018, the FSC introduced an innovation development strategy to encourage expansion of digital transactions and payments and promote the use of new technologies, such as blockchain. It also plans to revise the current regulatory framework on electronic financial transactions to further promote innovation and competition in financial payment services. The central bank plans to roll out a local QR code-based payment system in 2019.

Bank participants

South Korea has eight national commercial banks (including the two new digital-only banks), six regional banks, 38 branches of foreign banks and five specialized state-owned banks. Nonbank lenders include mutual savings banks and credit cooperatives. Domestic financial groups are among the sector leaders.

Growth

Following significant loan losses from shipbuilding and shipping sector exposures, banks have been shifting their focus to retail and SME loan growth. However, the banking sector faces a relatively low growth and competitive environment as prudential measures to address high household debt put pressure on future lending. Banks are looking at offshore expansion in developing APAC markets, targeting more lucrative segments such as affluent Chinese customers and Korean companies operating overseas. The easing of regulation for banks establishing physical offshore units should further encourage this trend.

Profitability

Korean banks have experienced among the lowest ROE and highest cost to income (CTI) ratios in the region due to a high cost base. Significant branch network restructuring and associated personnel expenses, namely early retirement plans for employees, have put ROE and CTI ratios under pressure. The major banks' profitability has firmed more recently, underpinned by interest rate increases that have boosted NIM and contributed to strong interest income for 2018.

Asset quality

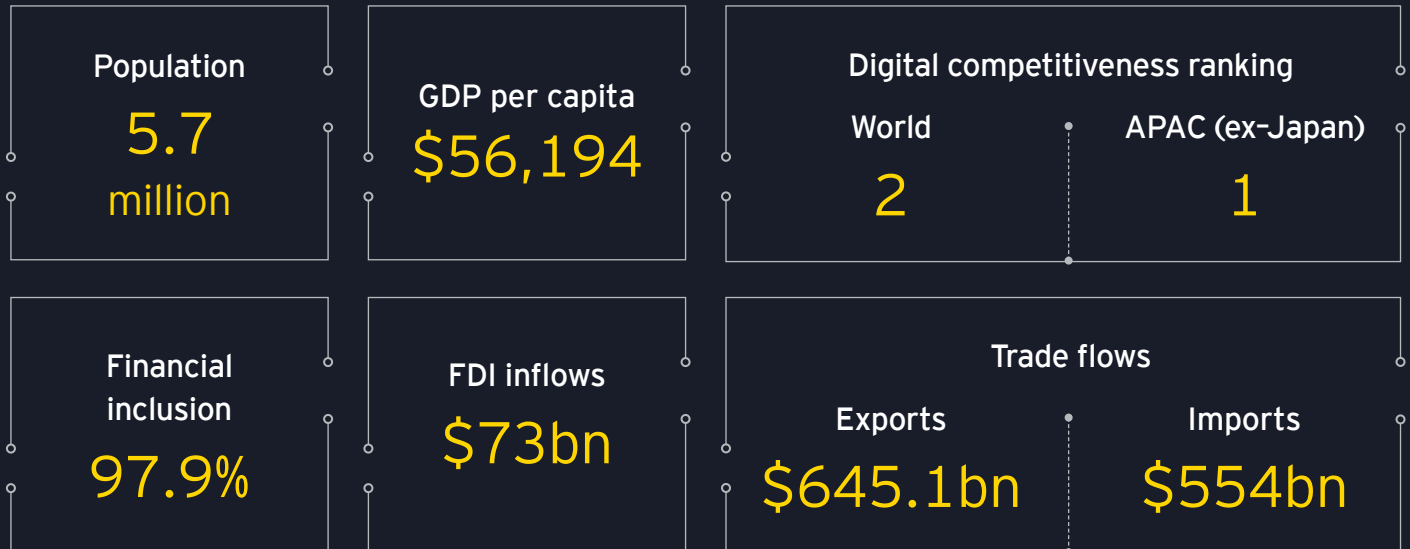
Risk from shipbuilding and shipping sector exposures has abated, thanks to sector restructuring, together with banks' continued sector diversification and loan portfolio shift. Asset quality is stable, but concerns over SoHo (small office, home office) lending risks have attracted attention.

Capital

Korean banks are well capitalized, supported by improving profitability and modest asset growth that is generating continued internal capital accumulation.

Singapore

Developed



Digital agenda – selected developments

MAS has developed a financial services industry transformation map (ITM) to encourage technology adoption and facilitate innovation across the financial sector. Developments include:

- ▶ **FinTech:** MAS considers a vibrant FinTech ecosystem key to Singapore's vision for a "Smart Financial Center," part of the country's "Smart Nation" initiative. The regulatory environment and government policies strongly support the FinTech sector. For example, in 2015, MAS committed S\$225mn to the Financial Sector Technology and Innovation (FSTI) scheme to promote innovation. MAS later launched a S\$27mn Artificial Intelligence and Data Analytics (AIDA) Grant under the scheme. The FinTech Office, a cross-agency body co-led by MAS and SGInnovate, was established in 2016 to enable a whole-of-government approach to develop the FinTech ecosystem. In the same year, Singapore became one of the first countries in the world to launch a regulatory sandbox. MAS has since proposed the introduction of Sandbox Express, pre-defined sandboxes offering fast track approvals.
- ▶ **Open API banking:** MAS has made proactive efforts to progress open APIs in banking. In 2017 MAS and the Association of Banks in Singapore issued what is acknowledged as one of the world's most comprehensive API playbooks, which serves as a voluntary reference guide for the financial services industry. MAS encourages financial institutions to develop and share their APIs openly to improve customer experience.
- ▶ **Digital banks:** Banks incorporated in Singapore are permitted to set up banking subsidiaries with digital-only business models. MAS is studying whether to admit digital-only banks that are not owned by traditional banks, including what value such offerings could add to the market and how potential risks will be managed and contained.
- ▶ **Payments:** Listed below are selected payments initiatives.
 - ▶ PayNow, an enabler that allows customers of participating banks to send and receive funds almost instantly via Singapore's Fast And Secure Transfers (FAST) electronic funds transfer network, using a mobile number or a government identification number
 - ▶ A common QR code that accepts both domestic and international payment schemes, aimed at encouraging adoption of digital payments
 - ▶ The streamlining of payment services regulation

Bank participants

The market is dominated by the three major local banks. Many foreign banks also operate in Singapore.

Growth

Loan growth has remained resilient, supported by domestic and overseas demand on the back of steady economic growth. Increased activity in the later part of 2017 saw a resurgence of new housing loans and property price growth, including investment and speculative purchases. In response, the Government introduced measures to cool the property market, which has dampened home loan growth. This follows a series of property cooling measures since 2009 to ensure a sustainable residential property market and discourage excessive household borrowing.

Banks in Singapore have grown their cross-border loan books in recent years as an increasing number of local and international corporates use Singapore as a funding hub to expand across Asia, especially to emerging Asia. However, US-China trade tensions and China's slowing economy raise concerns about dampening loan growth and trading income declines. Capital markets-related income fell sharply in 2018 on the back of volatility in global capital markets and subdued investor sentiment.

Profitability

Banks' profitability has been strengthening, underpinned by an uplift in interest rates and net interest margin (NIM) expansion, resilient fee revenue business, and lower credit costs. However, trade and economic headwinds pose a risk to future profitability, particularly for banks with a significant Chinese presence.

Asset quality

Oil and gas-related exposures have driven deteriorating asset quality in recent years, but asset quality has stabilized following accelerated NPL recognition in the second half of 2017. Macro-prudential measures on housing loans have limited the risk of mortgage loan losses.

Capital

Thanks to a robust regulatory framework, banks have strong capital and liquidity positions. Capitalization is supported by solid loan growth, sustained profitability and stabilizing credit costs.

Indonesia

Emerging

Population

267.1
million

GDP per capita

\$4,296

Digital competitiveness ranking

World

62

APAC (ex-Japan)

12

Financial
inclusion

48.9%

FDI inflows

\$21bn

Trade flows

Exports

\$252.5bn

Imports

\$241.2bn

Digital agenda – selected developments

A large unbanked population makes Indonesia an attractive market for nonbank innovation. Start-ups offering payment solutions have been supported by strong growth in e-commerce, while P2P microfinanciers have proliferated to provide greater financial inclusion, particularly in rural areas. Developments include:

- ▶ **FinTech:** Authorities have been keen to establish an effective regulatory framework for FinTech to support financial inclusion. The Financial Services Authority (OJK) and Bank Indonesia (BI) have implemented regulations for the FinTech sector, covering P2P lending, technology-based lending and payments, and regulatory sandbox initiatives. BI launched a FinTech center in 2016 to foster digital innovation and development, while OJK established the Fintech Advisory Forum in 2017 as a platform for setting the direction of FinTech development. The aim of the Forum is to facilitate and ensure coordination between agencies, ministries, FinTech start-ups and other relevant parties.
- ▶ **Open API banking:** Indonesia has not yet established guidelines or regulations for API banking. Some banks have been using APIs to connect with FinTechs.
- ▶ **Payments:** The National Payment Gateway, launched in 2017, provides an integrated electronic payment channel for domestic retail payments. As part of the Gateway program, BI is promoting harmonization of QR code payment systems. Total transaction value of digital payments is expected to grow at CAGR of 11.4% from 2019-23.*

*"Digital Payments," Statista, <https://www.statista.com/outlook/296/120/digital-payments/indonesia>, 8 May 2019.

Bank participants

The banking sector includes 114 commercial banks and approximately 1,600 rural banks. The four state-owned banks are among the largest in the region. The commercial banking sector also includes joint venture, regional development, sharia and branches of foreign banks. Under the “single presence policy,” an investor cannot have a majority stake in more than one Indonesia-based bank. Investment in an Indonesian bank by foreign financial institutions is capped at 40%; although, authorities can permit a larger stake in certain circumstances.

Growth

Indonesia’s banking sector is set to expand on the back of government investment initiatives and steady economic growth, particularly as market participants drive greater banking penetration among consumers and SMEs. Loan growth has been recovering as the economy has improved, and as ambitious government plans for infrastructure development enhance loan demand. Removing a 15% down payment on mortgage loans for first homes should further support loan expansion.

Profitability

Indonesian banks deliver some of the highest profitability ratios in the APAC region, underpinned by solid credit growth and high NIM.

Asset quality

Asset quality remains stable due to steady economic performance, easing conditions in the commodity sector and macroeconomic policies geared towards maintaining stability. Banks have been exercising greater caution when lending to companies in higher risk segments, such as mining, but potential areas of risk remain. For instance, the recent removal of minimum mortgage down payments may tempt smaller banks to relax lending standards to gain market share. Meanwhile, the cost of foreign currency debt servicing is vulnerable to currency volatility, with the Indonesian Rupiah among the more volatile currencies in the region. Recent increases in domestic interest rates to stabilize the currency may also put pressure on borrowers.

Capital

Indonesian banks are generally well capitalized and have among the highest capital ratios in Asia’s emerging markets, supported by strong profitability and internal capital generation.

Malaysia

Emerging

Population

32.1
million

GDP per capita

\$11,899

Digital competitiveness ranking

World

27

APAC (ex-Japan)

7

Financial
inclusion

85.3%

FDI inflows

\$6.6bn

Trade flows

Exports

\$270.7bn

Imports

\$239.2bn

Digital agenda – selected developments

The Malaysia Digital Economy Corporation (MDEC), Malaysia's lead agency in driving the digital economy, introduced the Malaysia Digital Hub™ in 2017. This initiative aims to provide start-ups with support to accelerate their growth and connect them to the ASEAN and global digital ecosystems. It follows the introduction of the Digital Free Trade Zone in 2016 to facilitate international e-commerce and internet-based innovation. Other developments include:

- ▶ **FinTech:** The central bank, Bank Negara Malaysia (BNM), launched a FinTech Regulatory Sandbox Framework in 2016. It also established the Financial Technology Enabler Group, responsible for formulating and enhancing regulatory policies to facilitate the adoption of technology innovation in the Malaysian financial services sector.
- ▶ **Open API banking:** BNM established the open API implementation groups in 2018 to consider developing standards on open data, security, access rights and oversight arrangements for third-party providers, and to review existing customer information regulations. BNM has since issued a policy document, outlining its guidance for financial institutions on development and publication of Open Data APIs. The policy document also encourages financial institutions to adopt the Open Data API specifications on selected product information developed by the implementation groups.
- ▶ **Digital banks:** BNM has indicated it aims to release requirements for virtual bank licensing by the end of 2019.
- ▶ **Payments:** In March 2018, BNM finalized the Interoperable Credit Transfer Framework, a move to encourage operators of shared payment infrastructure and issuers of payment instruments to publish open APIs to facilitate convenient credit transfers, as part of plans to transition Malaysia to a cashless society. BNM's support for e-payment platforms has seen mobile wallet and digital payment usage increase, with the total transaction value of mobile digital payments doubling to RM100bn in 2018 from RM50bn in 2017. In addition, a new electronic payment service (DuitNow) was introduced that allows bank customers to transfer money instantly and securely using the recipient's mobile phone number.

Bank participants

Malaysia manages a dual system of conventional and Islamic banking with 26 commercial banks and 16 Islamic banks. Domestic banking groups command 80% of banking assets as well as market share. Malaysia has eight local banking groups. In addition, Malaysia has a diversified base of 18 foreign banks aside from 2 international Islamic banks, 11 investment banks (divisions of large commercial banks), 2 specialist financial institutions and 13 Development Financial Institutions.

Growth

The banking sector in Malaysia has grown significantly, supported by strong macroeconomic conditions and the efforts of BNM to develop an efficient financial system. Lending is anticipated to grow at a robust pace, supported by recovering credit demand and regional expansion by major domestic banking groups. Growth of the Islamic banking sector will be driven by government initiatives to encourage financing public infrastructure with Islamic bonds.

Profitability

Malaysian banks have maintained modest profitability underpinned by robust governance and risk management. Stronger loan growth is supporting profitability although deposit competition and the additional costs of Basel liquidity compliance are constraining NIM improvement. Increased automation and improved process efficiencies continue to support higher productivity. For FY2018, a majority of Malaysia banks posted improved earnings, but external headwinds are expected to moderate earnings in the medium term.

Asset quality

Continued improvements in banks' risk management practices have kept delinquencies and impairment at low levels, sustaining asset quality. Banks' asset quality is expected to remain stable as growth in household debt slows, and commercial property and oil and gas exposure risks remain contained.

Capital

Malaysia-based banks continue to maintain a strong level of capitalization, which is expected to improve as capital generation exceeds asset growth. Healthy earnings coupled with conservative earnings retention policies, have enabled the banking sector to build strong buffers above regulatory minimums. In 2018, all banks reported capital ratios well above the minimum requirements.

Philippines

Emerging

Population

106.7
million

GDP per capita

\$3,019

Digital competitiveness ranking

World

56

APAC (ex-Japan)

11

Financial
inclusion

34.5%

FDI inflows

\$11.8bn

Trade flows

Exports

\$132.7bn

Imports

\$164.3bn

Digital agenda – selected developments

The central bank, Bangko Sentral ng Pilipinas (BSP), aims for a flexible and collaborative approach to create a safe, efficient and reliable digital environment. Promoting greater financial inclusion is a key objective. Developments include:

- ▶ **FinTech:** The BSP is encouraging the development of the nascent FinTech sector. It is committed to providing an enabling regulatory environment and favors a pragmatic “test-and-learn” approach to financial innovation, which it describes as a regulatory sandbox to test new business models. BSP has recently set up a new Financial Technology Sub-sector (FTSS) unit under the financial supervision sector to oversee FinTech and blockchain-based entities.
- ▶ **Open API banking:** The Philippines has no guidelines or regulations on open API banking. Some banks have embarked on API initiatives.
- ▶ **Payments:** BSP is promoting greater digitalization of retail payments to help drive financial inclusion. The National Retail Payment System was introduced in December 2015, and defines high-level policies, standards and governance principles covering retail payment operations and infrastructures. PESONet (same-day bulk electronic fund transfer scheme) and InstaPay (real-time low-value electronic fund transfer scheme) were launched in 2017 and 2018 respectively to promote a cash-light economy. The Government wants to increase digital payments to 20% of payments by 2020.* Total transaction value of digital payments is expected to grow at CAGR of 12.6% from 2019-23.**

*“Asian Banking Monitor: Who’s next to emerge in digital payments in South East Asia?,” *RFI Media*, August 2018.

**“Digital Payments,” *Statista*, <https://www.statista.com/outlook/296/123/digital-payments/philippines>, 8 May 2019.

Bank participants

The banking sector is largely fragmented comprising of 46 universal and commercial banks (UKBs, including foreign banks), 52 thrift banks and approximately 470 rural and cooperative banks. Opening up the sector to foreign players over the past few years has seen additional players enter the market, with well-established business models that pose a challenge to local banks struggling to develop sufficient scale to compete both domestically and regionally.

Growth

Banks are investing more in SME and consumer lending in response to broadening economic growth and rising incomes. The large unbanked population coupled with rising personal incomes present significant opportunities in retail banking and fee income. Credit growth is strong on the back of the Philippine's fast-growing economy and high public investment, including the ambitious \$180bn "Build, Build, Build" public infrastructure initiative to drive construction and transportation infrastructure, and create new jobs. Local elections in 2019 will further boost domestic activities, which should benefit the banks.

Profitability

Interest margins should remain robust as banks increasingly pivot towards high-growth segments such as SMEs and the mid-market. However, Philippines' banks have been consistently less cost-efficient than peers in other markets due to lack of scale, coupled with investment in building branch networks and increasing competition, hampering profitability. Some larger banks are better positioned, in part due to their scale, but also because of their efforts to leverage digital channels to improve cross-selling and branch productivity.

Asset quality

Asset quality and NPLs are stable but may come under pressure due to slowing economic growth momentum and tightening monetary conditions. A rising interest rate environment coupled with a still-high concentration of real estate loans leaves banks vulnerable to declining property prices. Major banks' exposure to a large shipbuilding company in financial difficulties also poses a risk to asset quality.

Capital

UKBs have been building up their capital bases in anticipation of the full implementation of Basel III capital and liquidity standards. The banking sector is well capitalized, supported by sustained core earnings.

Thailand

Emerging

Population

69.2
million

GDP per capita

\$6,369

Digital competitiveness ranking

World

39

APAC (ex-Japan)

9

Financial
inclusion

81.6%

FDI inflows

\$13.2bn

Trade flows

Exports

\$306bn

Imports

\$270.1bn

Digital agenda – selected developments

The Government has invested substantial resources in developing Thailand into a digital economy under its “Thailand 4.0” initiative, with initiatives around digitalization, e-commerce and e-payments. Initiatives include:

- ▶ **FinTech:** Bank of Thailand (BOT) launched a regulatory sandbox in late 2016 for eligible FinTechs to test certain specified services (loans, payments and fund transfers) for up to 12 months without a license. It has also formed forums to promote sharing, discussions and consultations.
- ▶ **Open API banking:** Thailand is yet to develop guidelines or regulation on API banking, but BOT is supporting the development of API standards and frameworks. In early 2018, the Securities and Exchange Commission (SEC) launched an API portal for financial product information, such as exchange rates.
- ▶ **Payments:** The Government’s National E-payment initiative aims to shift Thailand from a cash to a digital economy. As part of this initiative, the Government launched a new interbank real-time mobile payments system in 2017, PromptPay, allowing customers to transfer funds using a mobile phone with lower fees than traditional bank services. BOT has introduced standardized QR codes in collaboration with major global payment card network providers, enabling e-payment on any platform, including for cross-border payments. It also permits banks to operate e-marketplace platforms that link mobile customers with retailers. Total transaction value of digital payments is expected to grow at CAGR of 13.1% from 2019-23.*

*“Digital Payments,” Statista, <https://www.statista.com/outlook/296/126/digital-payments/thailand>, 8 May 2019.

Bank participants

The banking sector includes 19 locally registered commercial banks and 11 foreign bank branches. Domestic banks dominate the market with the five largest accounting for three-quarters of the industry by total assets. However, participation from special financial institutions, nonbanks and saving cooperatives promoting financial access for unbanked areas is increasing.

Growth

The major banks are developing their digital banking services and are focused on expanding the digital customer base, improving operating efficiency and using data analytics to more effectively serve customers and enhance cross-selling. Increasing cross-border activities and investment by Thai companies offer an opportunity for banks to expand across the region, and bring potential demand for investment banking and advisory services.

Recent credit growth has been driven by consumer lending, particularly housing and auto. Mortgage lending accelerated ahead of tighter loan-to-value requirements coming into effect in 2019.

Profitability

Profitability has come under pressure on the back of lower noninterest income. This has been driven in part by declining transaction fee revenue as banks offer fee waivers on digital transactions in response to PromptPay and other nonbank online payment and e-wallet options. Competition for customers and higher operating expenses due to digital transformation investment is also hampering profitability.

Asset quality

Stronger macroeconomic conditions and tightened credit standards saw asset quality stabilizing. However, slowing economic momentum and higher interest rates are putting renewed pressure on asset quality, with SME and mortgage loans highlighted as areas of risk. BOT has introduced stringent regulations on credit cards and personal loans and a "debt clinic" scheme has been established to assist over-extended borrowers to restructure debts. BOT has also recently tightened loan-to-value ratio requirements to rein in speculation in the residential real estate market, which may dampen credit growth.

Capital

Capital ratios remain strong despite pressures on profitability and capital buffers are solid.

Vietnam

Emerging

Population

96.4
million

GDP per capita

\$1,893

Digital competitiveness ranking

Not available

Financial
inclusion

30.8%

FDI inflows

\$15.6bn

Trade flows

Exports

\$231.5bn

Imports

\$253.7bn

Digital agenda – selected developments

The State Bank of Vietnam (SBV) supports new forms of online and mobile banking services, to improve financial inclusion. Banks are working to upgrade their digital banking services, including mobile banking apps, with more sophisticated payments functions to meet a range of customer needs (e.g., utility bill payments, P2P transfers, consumer loan repayments). Other developments include:

- ▶ **FinTech:** FinTech policy and regulation remains relatively limited. To support the development of Vietnam's FinTech ecosystem, the SBV established a FinTech Steering Committee in 2017 to facilitate innovation and build a legal framework to assist the development of start-ups. SBV also plans to introduce a regulatory sandbox.
- ▶ **Open API banking:** Vietnam has not yet developed guidelines or regulation on API banking but open APIs are a focus area of the FinTech Steering Committee. Some banks are already using APIs to connect with external partners and services.
- ▶ **Payments:** The Government is promoting e-payments and e-commerce development. It has approved a scheme to develop cashless payments, with an ambitious plan to dramatically reduce cash usage by 2020. Measures under the plan include: ensuring utility providers accept e-payments; and supermarkets, retail outlets and distributors accept credit card payments. Increased internet penetration and POS terminals in rural areas will further support the transition to noncash payment options. The Government has also agreed to pilot the use of mobile phone accounts by customers to transfer money and make purchases.

Bank participants

The Vietnamese banking sector is relatively small and fragmented, with more than 90 banks and foreign bank branches. Banks fall into four main categories: state-owned commercial banks (seven), joint stock commercial banks (28), foreign-owned banks (nine) and joint venture banks (two). There are also 48 foreign bank branches. Four state-owned banks dominate the market. State-owned banks are being slowly privatized and listed on stock exchanges to help improve efficiency and reduce risks. As part of phase 2 of a restructuring scheme for weak credit institutions, and to strengthen the financial system, the Government has restricted the issuance of new licenses to credit institutions.

Growth

A robust economy is driving strong credit growth. Banks have expanded into retail and SME lending in recent years, a change from their historical reliance on commercial lending. The development of digital banking will help to further grow retail banking and consumer finance revenues. Low banking penetration offers opportunities to develop microfinance offerings and increase financial inclusion via mobile banking solutions.

Profitability

Profitability is improving on the back of strong credit growth and the banks' shift to higher margin retail and SME lending. However, profitability remains under pressure from the large stock of problem loans and low capital buffers. Stricter regulation on credit activities and risk provision has also put downward pressure on profitability.

Asset quality

Resolving legacy NPLs remains a priority. In 2013, the Vietnam Asset Management Company (VAMC) was created to buy NPLs from banks and issue interest-free bonds in return (amortized over five years), to enable banks to strengthen their balance sheets. Resolution 42, effective August 2017, aims to accelerate the debt restructuring and NPL recovery process to reduce the banking sector's level of NPLs to below 3% by 2020. However, continued rapid lending growth risks an increase in new NPL creation. SBV has urged banks to restrict lending to the real estate and construction sectors in a bid to control bad debt growth.

Capital

Capital adequacy is a challenge for the country's banks. Capital buffers remain thin due to asset quality issues and loan growth in excess of capital generation. Vietnam still operates under Basel I, which requires banks to maintain a CAR of 9%. In 2018, 10 large banks were piloting the implementation of Basel II capital and risk management standards. Other banks are expected to comply by 2020, which is likely to further increase pressure on the sector to recapitalize.

India

Emerging

Population

1,356
million

GDP per capita

\$1,994

Digital competitiveness ranking

World

48

APAC (ex-Japan)

10

Financial
inclusion

79.9%

FDI inflows

\$65.5bn

Trade flows

Exports

\$570.2bn

Imports

\$643.5bn

Digital agenda – selected developments

The Government, through its Digital India initiative, is taking steps to drive digital penetration and transform India into a cashless digital economy. Financial inclusion and enablement is a key focus. The Start-Up India initiative, launched in 2016, aims to build a strong ecosystem to support innovation and start-ups. Developments include:

- ▶ **FinTech:** In the wake of strong government and regulator support for a robust FinTech ecosystem, digital start-ups are attracted to India, with payment providers, wallet operators and online lenders entering the market. The Reserve Bank of India (RBI) recently released draft guidelines for a regulatory sandbox.
- ▶ **Open API banking:** The RBI has been investigating open data and APIs, but has not yet issued any guidelines or regulations. As part of the Digital India initiative, the Government mandated an open API policy, known as India Stack, giving third-party providers access to the proprietary software for five key programs: Aadhaar (the Government's biometric identity database), e-KYC, e-signing, privacy-protected data sharing and the UPI. However, India's Supreme Court has recently ruled that Aadhaar is mandatory only for income tax returns (ITR) and allotment of permanent account number (PAN). Commercial banks, payments banks, FinTechs and e-wallet companies can no longer seek Aadhaar data for KYC. This has created significant uncertainty for FinTech companies, banks and other financial institutions in relation to customer verification in particular.
- ▶ **Payments:** As part of its ambition to make India a digital payments society, the Government is aggressively promoting digital transactions through its:
 - ▶ UPI – facilitates electronic transfers between bank accounts
 - ▶ Bharat Interface for Money – payment app that enables fast cashless payments via mobile phone using UPI
 - ▶ Bharat BillPay – interoperable payment platform that allows bill payments across multiple channels and payment modes
 - ▶ BharatQR – interoperable QR code for digital payments

Digital payments have seen strong growth, particularly post the Government's 2016 demonetization initiative that saw the withdrawal of selected cash denominations from the market. Total transaction value of digital payments is expected to grow strongly at CAGR of 20.2% from 2019–23.* However, demonetization has not been as effective as intended, with the population proving reluctant to give up cash in what has traditionally been a largely cash-based economy and where digital banking infrastructure is not always readily available.

*"Digital Payments," Statista, <https://www.statista.com/outlook/296/119/digital-payments/india>, 8 May 2019.

Bank participants

The banking sector consists of 20 public sector banks (PSBs), 22 private sector banks, 10 small finance banks, 44 foreign banks, 56 regional rural banks, 1,500 urban cooperative banks and 94,000 rural cooperative banks, in addition to cooperative credit institutions. PSBs dominate the banking market with around 65% market share.

Growth

India's banking sector has seen deposits and lending surge on the back of strong economic growth, rising disposable income, increasing consumerism, easier access to credit and increasing household savings. Retail loans are expected to grow further, supported by demand for housing and personal finance. The Government has also launched several initiatives, such as the Jan Dhan Yojna, to improve access to banking for unbanked and nonmetropolitan regions. However, stresses to the banking system with balance sheet weakness stemming from high levels of nonperforming assets (NPAs) have hindered faster sector growth.

Profitability

Banks face low profitability due to significant provisioning and deleveraging to compensate for higher impairments. Interest income has also been subdued due to the increase in NPAs. Bank profitability will likely remain under pressure over the near term due to the sector's significant asset quality challenges.

Asset quality

The banking sector is under strain from high levels of NPAs, mainly within PSBs. Contributing factors include: problems related to infrastructure projects, the fall in commodity prices, poor risk management and corporate governance, and excessive credit growth. The Government has introduced Sashakt, a scheme that includes establishing asset management companies to tackle NPAs through a market-led approach. In the near term, these corrective measures to clean up banks' balance sheets, to ensure long-term financial stability, have resulted in mounting losses for the banking sector. Concerns remain over how quickly the sector can rein in NPAs. However, PSBs are showing early signs of a possible turnaround, supported by capital infusions and NPA resolution efforts under India's Insolvency and Bankruptcy Code.

Capital

Despite NPA challenges, all categories of banks have maintained their capital adequacy ratios well above the minimum requirement. Banks have intensified efforts to strengthen their capital positions by raising capital from the market, while the Government is providing capital infusions for PSBs via a recapitalization program to ensure all PSBs meet minimum regulatory capital requirements.

Other developments

The RBI and the Government have introduced various additional measures to address banking sector weaknesses. For example, the RBI has introduced a revised "prompt corrective action" framework, which allows the regulator to impose corrective action on banks when certain risk thresholds are breached in areas such as asset quality, profitability and capital. The RBI has also issued lists of large defaulters where it wants creditor banks to pursue early debt resolution. Meanwhile, the Government has directed small PSBs to reduce their corporate loan exposure to 25% of risk-weighted assets over the medium term and focus more on retail lending, aiming to reduce the number of weaker banks over the next two years.

EY Contacts

Andrew Gilder

EY Asia-Pacific Banking & Capital Markets Leader
Singapore
+65 6309 8281
andrew.gilder@sg.ey.com

Jan Bellens

EY Global Sector Leader Banking & Capital Markets
Singapore
+65 6309 6888
jan.bellens@sg.ey.com

Gary Hwa

EY Global Financial Services Markets Executive
Chair and Asia-Pacific Financial Services Regional
Managing Partner
+852 2629 3368
gary.hwa@hk.ey.com

Aaron Perryman

EY Asia-Pacific Financial Services Advisory Leader
Singapore
+65 6309 8700
aaron.perryman@sg.ey.com

James Lloyd

EY Asia-Pacific FinTech & Payments Leader
Hong Kong
+852 2849 9340
james.lloyd@hk.ey.com

Andy Gillard

EY Asia-Pacific Financial Services Digital
Operations Leader
Sydney
+612 9248 4096
andy.gillard@au.ey.com

David Scott

EY Asia-Pacific Financial Crime
Compliance Leader
Hong Kong
+852 2629 3070
david.scott@hk.ey.com

Jeremy Pizzala

EY Asia-Pacific and Global Financial Services
Cybersecurity Leader
Hong Kong
+852 2846 9085
jeremy.pizzala@hk.ey.com



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