2023: Three themes to get right for investment banks across Asia-Pacific

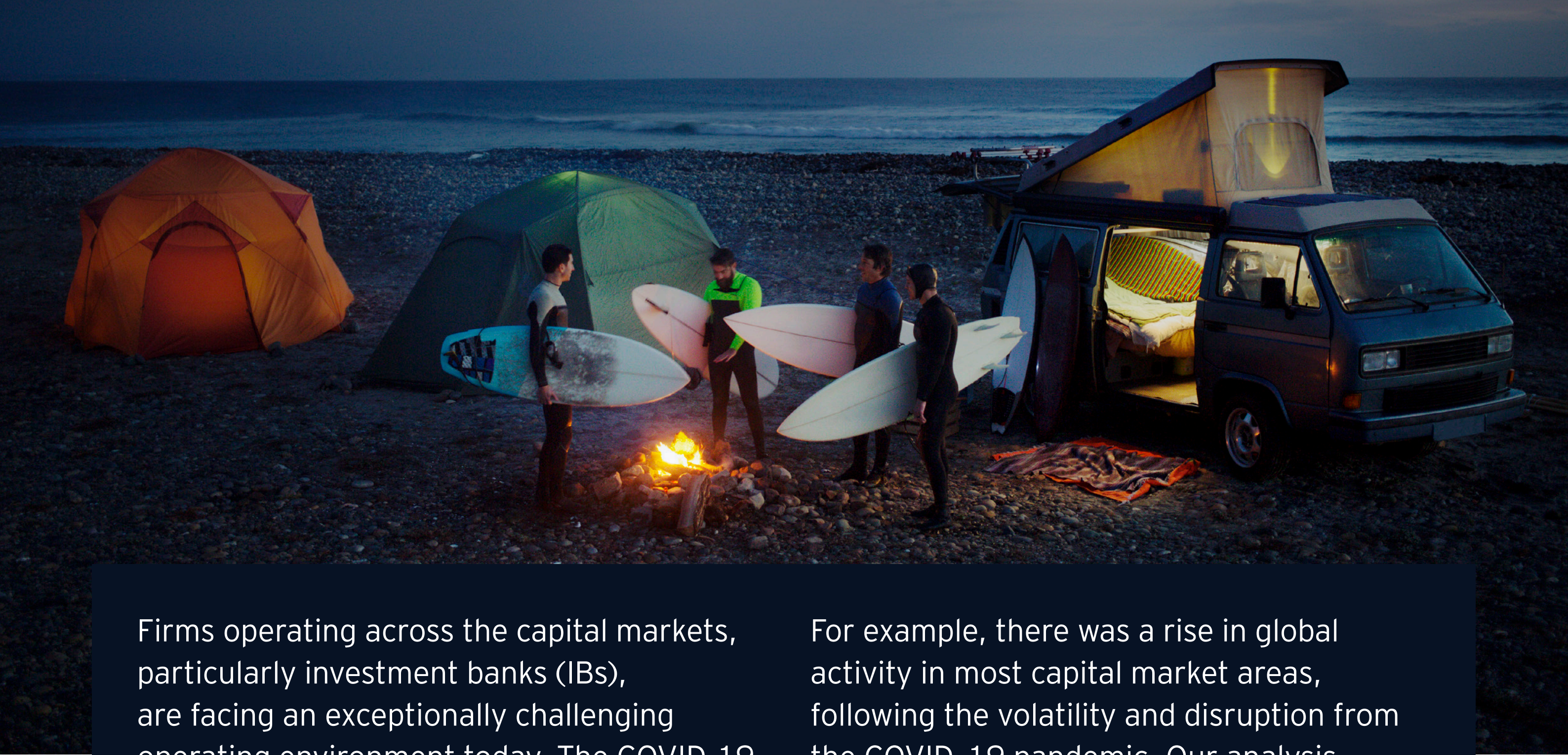
Strategy realized

EY Parthenon

Building a better working world

Contents

1 Executive summary



Firms operating across the capital markets, particularly investment banks (IBs), are facing an exceptionally challenging operating environment today. The COVID-19 pandemic, rising consumer expectations and high inflation rates are all generational challenges that have converged in 2022, and are likely to shape the environment for some time. Such volatility can also bring opportunities, as an increase in affected businesses could lead to more ideas and dynamic transactions. It can also accelerate operational, cultural and technological transformation across sectors.

For example, there was a rise in global activity in most capital market areas, following the volatility and disruption from the COVID-19 pandemic. Our analysis of global IBs' revenues showed a rise to US$1.02t in 2021, an increase of 21.8% from 2020. This reflected sharp increases in M&As, initial public offerings (IPOs) and venture capital (VC) funding.

However, it is clear that IBs across Asia Pacific (APAC) will have to manage a likely stall in economic growth, at a time of higher inflation and interest rates.

A diverse, but vibrant base

As ever, the impact across the APAC region will be as diverse as the economies it covers. Recovery from the COVID-19 pandemic will be highly dependent on each country's ability to reopen their economy and encourage sufficient accessibility, which is largely reliant on vaccination rates and government policies.

However, there are some positive future signs for the region. The establishment of the world's largest free trade agreement, the Regional Comprehensive Economic Partnership (RCEP), is a significant boost to future trade. It compromises about 30% of global gross domestic product (GDP) and about a third of the world's population.[1]

[1] "Global, Outlook," *World Bank website*, openknowledge.worldbank.org/bitstream/handle/10986/36519/9781464817601-ch01.pdf.

APAC also saw M&A transaction volume and value hit an all-time high in 2021. IPO activity also increased across the region last year, with a 28% increase in deal numbers and a 22% increase in deal values.[2] Investments were also high — with VC deals in APAC reaching US$165.1b[3] in 2021 — a 50% increase from the previous year (US$110.2b in 2020).

While these are positive signs, for a region that thrives on consumer demand and experience, the need to make certain that operational and financial supply chains to those consumers can continue without disruption is extremely critical for business survival. Consumers also demand innovation at great speeds in the APAC region. The ability for IBs to satisfy such market needs, felt by their own institutional, government or investor clients, must be a priority for the next 12 months and beyond.

Three key themes have emerged

We see three themes strongly emerging across the IB sector in the APAC region that should be addressed. While this paper focuses on IBs, these themes are also prevalent across other financial service firm sectors and should be used as a guidance.

1. The operating model must be customized and experience-led

It is very clear that IBs will need to reassess their operating models to remain competitive and maintain operational resilience. The bigger takeaway, however, is that IBs will need to have far greater appreciation of what their end consumers, colleagues and serving communities will need. Operating models must no longer just be defined to satisfy cost targets, re-engineered processes or regulatory obligations. The purpose must also emerge out of an IB's operating model to create brand identity and awareness, and thus gain greater client loyalty. This has never been more relevant for an IB as they continue to come under public and investor relations scrutiny and seek to enhance their image. We suggest three core recommendations.

1.a Enhancing the client experience

IBs will need to continue taking on the lessons from COVID-19 in which digital-led transactions reduced the need for face-to-face client interactions. They will need to create that same seamless and humanized experience for clients via their online platforms, infrastructure and supply chains. This is not a new phenomenon. However, the urgency to get this right has never been greater than now. Clients also wish to feel that they are adding value. They will likely prioritize their investments with firms who can create the more compelling story for showcasing how they add value to real lives. The key for IBs will be in immersing in their everyday client journeys, and establishing credible and effective KPIs to capture client satisfaction.

1.b Enhancing the colleague experience

While the impacts of the so-called "Great Resignation" are felt globally, the challenge in APAC is a harder one as there is greater disparity across countries. Accessibility to services and economies remains a huge challenge in several APAC countries. And, thus, this results in people movement across the region and skills gaps, typically higher in some countries than in others. Given the global nature of IBs, and their need to have regional coverage models and operations in different locations, this can present a big burden on costs, efficiency and resiliency. All this, taking away effort and "think-time" over other key aspects of the operating model that are important to get right.

1.c Re-evaluating the future of work

IBs will need to re-evaluate working normalities and cultures that have been so deeply ingrained for decades. These can be, for example, working in siloed teams, following set processes or procedures, developing technical skills and being in the office, particularly for key services — such as trading or evaluating employee performance — on an annual outcome basis.

Colleagues along with clients and end consumers are demanding better experiences as well as the ability to have more impact on environmental and social causes. COVID-19 continues to demand that all firms offer flexible and safe working parameters, while still encouraging engagement and collaboration.

[2] "Global IPO market has record-breaking 2021, prepare for headwinds in 2022," *EY website*, ey.com/en_sg/news/2021/12/global-ipo-market-has-record-breaking-2021-prepare-for-headwinds-in-2022.
[3] "Venture Funding in Asia Shatters Record For Year And Quarter – Thanks In Large Part To China," *crunchbase news website*, crunchbase.com/venture/asia-china-2021-vc-startup-funding.

So, how does a traditional IB take its legacy culture and thrust itself into a competitive landscape where newbie service providers are popping up at pace, willing to capitalize on these new market needs? The future of work must be carefully considered and analyzed across all businesses and functions within an IB. Experiences, innovation, exploration, creativity and soft skills must also be considered against the financial book along with the need to manage risk and satisfy global regulators.

Underpinning the future of work will be the talent and engagement parameters, as well as risk control. We are seeing a fundamental shift in how organizations manage talent. Increasingly, we see more processes being automated, and a skills gap in the technological and soft skills of the current talent pool versus those required to support the transformation needed. IBs will need to recognize HR as a strategic partner, while also considering external partners to leverage skills needed.

2. Adopting and committing to secure technology enhancements must happen, and with pace

As the speed of technology and digitization continues to transform business, there are five key areas that IBs need to address. There is also the need to prioritize talent, with companies having to go beyond just attracting new talent, but also thinking about how to upskill and reskill their existing employees to adapt to the digital age.

2.a FinTechs and partnerships

IBs cannot ignore client demands for the type of products and services FinTech's typically deliver. We are increasingly seeing smart use of partnerships to help incumbents compete in this space.

2.b Embedded finance and banking as a service (BaaS)

Financial institutions (FIs) and IBs need to meet the rising demand for embedded finance by increasing BaaS-bundled offerings, (often in white-labelled or co-branded services) that nonbanks can use to serve their customers.

BaaS is expected to become a US$7t market by 2030.[4] It could reduce the banks' distribution and acquisition expenses, creating a scalable and agile strategy. IBs can then access new client segments, gather deeper data insights as well as access new revenue streams by selling products and services through partners.

2.c Technology engineering (cloud, artificial intelligence (AI), data analytics and machine learning (ML))

With rapid technological advancements, it is key for IBs to match up to the speed of new developments. Ensuring they have a coherent and holistic strategy for utilizing these powerful technologies is essential. At the same time, any deployment needs to make certain that the institution remains operationally resilient.

[4] "Embedded Finance: a game-changing opportunity for incumbents," *fintech futures website*, fintechfutures.com/2020/08/embedded-finance-a-game-changing-opportunity-for-incumbents.

2.d Data privacy and cybersecurity

Cybersecurity risk continues to be a main concern of firms, with 89% of APAC Chief Risk Officers (CROs) seeing it as a leading resiliency challenge.[5] IBs are especially susceptible to cyber attacks, following the shift to remote working. As IBs increasingly turn to external IT providers, they will also need to perform detailed vendor assessments and regular due diligence checks on cybersecurity controls.

2.e Blockchain

The blockchain technology still represents a high potential area for IBs. Smart contracts can help to automate and streamline processes, which will help middle- and back-office activities to be more efficient. While tokenization can help increase liquidity via fractional ownership, promoting transparent and secure data and enabling 24/7 trading are vital.

3. Gaining headway in sustainability

The journey to becoming a sustainable IB is somewhat complex. Can a socially driven concept of doing good across the environment, social causes and communities become a real priority for an IB? Particularly, if there is only a light-touch regulation in play?

The short answer is yes, it should be a priority.

IBs serve global markets and clients. These clients can be governments, corporations and institutions; all of whom may serve huge consumer bases and investors. Those end consumers and investors exist as part of communities, where environmental necessitates and social injustices are becoming far more "in focus" and can simply no longer go ignored. The social, environmental and pandemic-related issues of 2020, alone, have only thrust the sustainability topic into the spotlight. This is leading to IB clients and end consumers scrutinizing banking sector operations and its role, over decades, in potentially contributing toward systemic issues and imbalances.

As such, consumers and investors have demanded more transparency and visibility in understanding the services and products in their markets. This means that there is now more demand for mandatory reporting by the largest corporations and institutions to provide understandable clarity on exactly how their services and products really contribute toward environmental, social and governance (ESG) matters.

As regulations move from lightweight to heavyweight, reputational factors of corporations and institutions drive investor decisions, and IBs are well-placed to help both sides. The winners will likely be those IBs that move first and assist clients in their journeys as well as make noticeable tractions in their own internal sustainability journey.

[5] "How resiliency in risk management is the new top priority for banks," *EY website*, ey.com/en gl/banking-capital-markets-risk-regulatory-transformation/how-resiliency-in-risk-management-is-the-new-top-priority-for-banks.

Three aspects are essential for IBs to get it right:

3.a Having a systematic and transparent approach to sustainability

The volume of accessible information on sustainability or ESG can be daunting. This often makes it confusing to understand how to succeed and where to start. Having clarity and focus on sustainability objectives for clients, across global markets is a must, which should be overlaid with a clear approach to becoming more sustainable. The ability to tell a story and communicate this approach, as well as progress, with investors and consumers will be essential.

3.b Getting sustainability right internally

IBs must also get sustainability right themselves and not just for their investors or consumers. A typical IB is global in nature, requires countless processes to operate, uses a mixture of legacy infrastructure, offers long-dated legally complex transactions and frequently develops new products. Hence, the sustainability journey across so many services, products and operations must start early.

3.c Helping clients make traction on sustainability

The big attraction for IBs can be on how they also support investors and consumers to become sustainable. The above topics can be addressed by ensuring there is a strong and coherent strategy that will address sustainability targets, goals and regulations — both for the individual firm and its clients.

In closing, APAC IBs had an exceptional 2021, as economies rebounded from COVID-19-led downturns. Though the road ahead is not clear, what is evident is that IBs that can adapt and embrace the challenges in their operating models, and use technology and ESG strategy to emerge stronger and more profitable.

2 The external environment – an unprecedented challenge

To better appreciate the themes and challenges that IBs across APAC will face, it is first important to consider the external factors that hold strong influence on the APAC economy and the capital markets they serve. Navigating through predicaments, such as the drawn-out COVID-19 pandemic, with an implementable strategic approach will determine the winners of tomorrow.

2.1 COVID-19 recovery

The economic impact of COVID-19 continues to be uneven. With the economic growth linked closely to vaccination and government policies, there still remains much uncertainty.

When it comes to vaccination, the total number of doses administered exceeded 12.5b[6] (as of August 2022) across the globe, though there are disparities among different economies. Close to 75% of people in advanced economies have received one or more doses of vaccine as compared with 55% for those in emerging markets and developing economies (EMDEs).[7] Against this backdrop, there were multiple surges in cases from the Delta and Omicron COVID-19 variants. Though most countries avoided a total lockdown, there were still additional restrictions imposed to curb the spread of the variants.

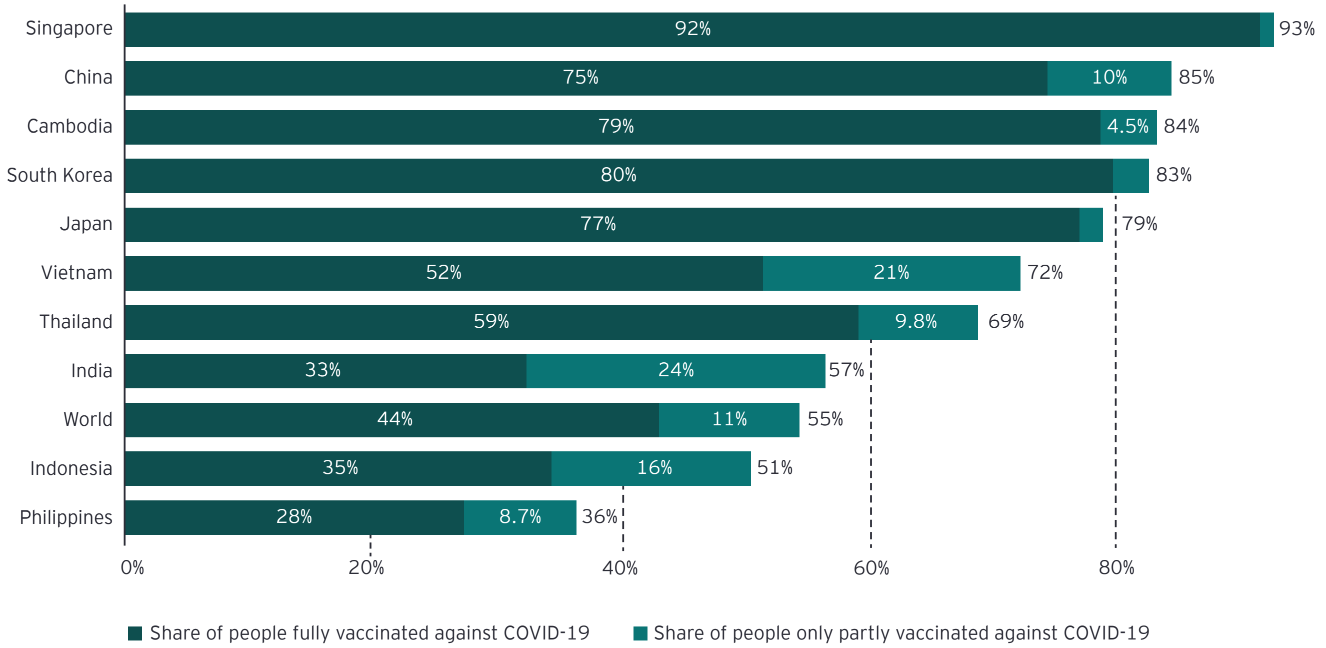
Given APAC's wide spectrum of economies, uneven recovery is expected across the region. Economies will rebound, based on a country's ability to reopen its economy, which is largely reliant on vaccination rates and government policies. Countries such as Singapore and South Korea have managed to vaccinate a large proportion of its population, whereas Philippines, Indonesia and Thailand are lagging behind.

This will remain an ongoing challenge as new virus variants sweep through the region, with markets like Indonesia, Malaysia, Vietnam and Japan being the most hard-hit with a resurgence in infections in Q3 2021.

[6] "More Than 12.5 Billion Shots Given: Covid-19 Tracker," *Bloomberg website*, bloomberg.com/graphics/covid-vaccine-tracker-global-distribution.
[7] "Global Oulook," *World Bank website*, openknowledge.worldbank.org/bitstream/handle/10986/36519/9781464817601-ch01.pdf.

Share of people vaccinated against COVID–19 as of 1 December 2021

Alternative definitions of a full vaccination, e.g., having been infected with COVID-19 and having one-dose of a two-dose protocol, are ignored to maximize comparability between countries.



Source: Official data collated by Our World in Data. This data is only available for countries which report the breakdown of doses administrated by first and second doses in absolute numbers.

As for growth, global growth is estimated to have surged to 5.5% in 2021[8] with relaxation in pandemic-related measures being the main reason for this number. The World Bank saw global growth reducing to 3.8% in 2022 as "pent-up" demand unwinds. There is also a trend of banks downsizing underperforming portfolios and managing exposures to pivot away from hard-hit markets and customer segments. In the wake of the COVID-19 pandemic, banks will need to reassess their competitive advantages, revaluate their portfolios, invest in digitalization and rightsize to better meet their strategic objectives.

2.2 Global monetary policies

There is a clear global trend of an increased inflation. Post the lockdown, as pent-up demand saw an increase in global spending, the price of goods and services rose. Combined with global supply chain issues, leading to a climate of scarcity, we are now seeing much higher rates of inflation. The US saw consumer price index (CPI) reach 7.9% in February 2022.[9]

To combat inflation, interest rates across the globe are rising. The US Federal Reserve expects up to three interest rate hikes in 2022.[10] The Bank of England raised the country's interest rates three times across the first three months of 2022.[11] Authorities will have to navigate bringing down inflation, without stalling economic growth, through lower consumer spending and business investment.

In APAC, there remains a disparity between developed and developing economies as wealthier countries raise interest rates to battle inflation. South Korea and Singapore raised their interest rates, whereas other countries in ASEAN, such as Malaysia, Thailand and the Philippines, kept their interest rates low.

The higher interest rates mean equity capital markets are likely to see lower revenues for companies as consumers spend less. As for debit capital markets, a hike in interest rates will increase the cost of capital and damper profitability, resulting in a drawn-out road to a "new normal" economy recovery.

[8] "Global Outlook," *World Bank website*, openknowledge.worldbank.org/bitstream/handle/10986/36519/9781464817601-ch01.pdf.

[9] "Surging U.S. Inflation Raises Stakes as War Pushes Up Prices," *The New York Times website*, nytimes.com/2022/03/10/business/economy/cpi-inflation-february-2022.html.

[10] "Six trends shaping Asia's financial services landscape in 2022," *Refinitiv website*, refinitiv.com/perspectives/market-insights/six-trends-shaping-asias-financial-services-landscape-in-2022.

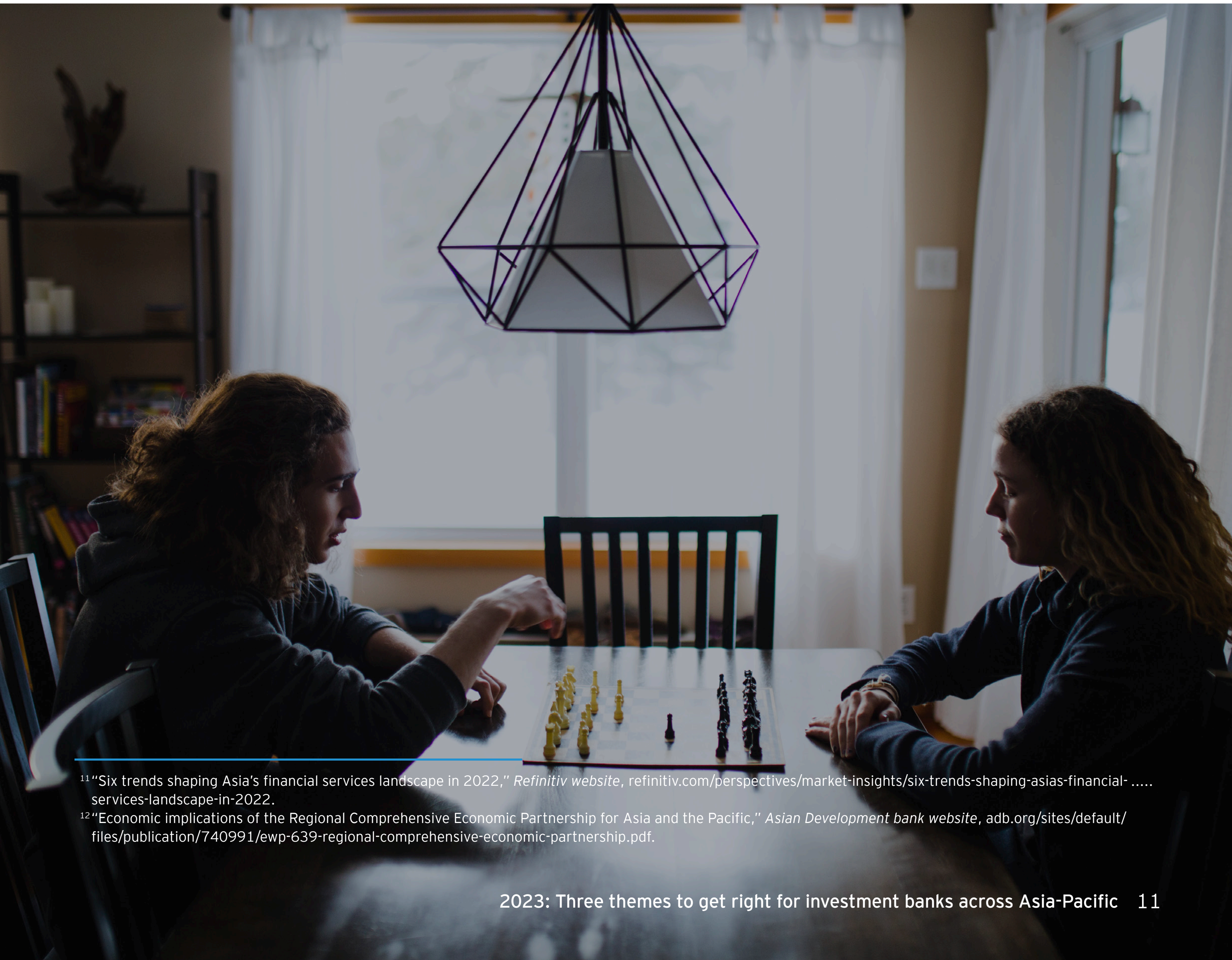
2.3 Regional Comprehensive Economic Partnership (RCEP)

The RCEP covers large parts of APAC and is the world's largest free trade agreement (FTA), compromising about 30% of the global GDP and about a third of the world's population. The RCEP also contains provisions targeted toward small and medium enterprises (SMEs), by providing a more level playing field for SMEs and facilitating their access to the larger, regional market. The agreement is expected to boost trade and business ties among participating countries.

About 90%[12] of import tariffs will be progressively phased out between members. It is possible the RCEP may further drive North Asian investment into the Association of Southeast Asian Nations (ASEAN). From 2015 to 2019, Mainland China, Japan and South Korea registered some of the largest FDIs into the ASEAN region.

The facilitation of trade flow will also promote economic growth and capital flow in the ASEAN region. Investments are therefore expected to rise in this region due to increased attractiveness and viability, generating higher revenue for the capital markets in the region.

In summary, the theme of disparity across the APAC capital market continues when we consider the COVID-19 and inflation, as APAC's wide spectrum of economies show an uneven recovery across the region.



[11] "Six trends shaping Asia's financial services landscape in 2022," *Refinitiv website*, refinitiv.com/perspectives/market-insights/six-trends-shaping-asias-financial- ..... services-landscape-in-2022.

[12] "Economic implications of the Regional Comprehensive Economic Partnership for Asia and the Pacific," *Asian Development bank website*, adb.org/sites/default/files/publication/740991/ewp-639-regional-comprehensive-economic-partnership.pdf.

3 Current capital markets' landscape — global and APAC

With an uneven recovery path from COVID-19 and inflation across APAC, it's imperative to also look at the specific internal environments each of the major IB players across APAC are operating in, on top of external factors.

As such, to gain some insight into the key trends impacting global capital markets, we analyzed the top 10 IBs in North America, Europe and APAC.

Our key findings indicated that IBs displayed outstanding financial performance in 2021, with revenues and net incomes reaching an all-time high globally, including in APAC ex-China. These increases were largely due to economies recovering from COVID-19. We expect revenues to be impacted by how banks respond to operating model challenges and the use of technology. We will explore this in more depth in the "Themes" section.

Global M&A deal volumes and values rose significantly from 2020 to 2021, with an increase of 23.7% and 58.9% respectively, with 13% of global transaction value being contributed by APAC. According to the *EY Global Capital Confidence Barometer*, APAC has the brightest outlook, with 90% of respondents voicing optimism in the region, of which 33% of respondents being concentrated in Southeast Asia specifically.[13]

Given the focus on sustainability, we expect more activity to be influenced by ESG, going forward. This could include enhanced due diligence around ESG factors as well as firms looking to acquire greener businesses. We explore the possible impact of ESG in more detail in the "Themes" section later.

We have detailed these findings in the Appendix.

[13] "Optimistic Asia-Pacific executives rev up 2021 M&A and transformation," *EY website*, ey.com/en_sg/ccb/asia-pacific-mergers-acquisitions.

4 Three key themes for investment banks

4.1 The operating model must be customized and experience-led

With many external factors that threaten the existence and profitability of capital markets and IBs, there is a greater need for these firms to reassess their business models and support operating models to continuously adapt, transform and be a step ahead of these external forces. This would allow them to remain competitive and allow for operational resilience.

4.1.1 Enhancing the client experience

Prioritizing client experience transformation will help IBs strengthen their brands, target new market segments and accelerate growth. With this in focus, IBs can see more innovation across the business, discover new value sources and inculcate a culture within the IB that continuously emphasizes and improves client experiences.

To truly understand the client experience journey, IBs need to start getting obsessed with them, placing empathy, purpose and sustainable value creation at the heart of the journey, instead of solely focusing on growth. A human-centered mindset and culture needs to be cultivated, where clients are placed as the priority. IBs should identify client pain points and understand needs and behaviours, and implement and iterate on new experiences. Knowing and immersing in the journey will help IBs create better experiences and strengthen brand loyalty.

Due to the COVID-19 pandemic, face-to-face interactions between IBs and clients were minimized, and digital banking services became more prevalent. About 40% of clients said they were expecting to bank online more, over the next 24 months.[14] There is a need for IBs to adapt, in order to create that same seamless and humanized experience for clients via digital platforms or personalized services.

[14] "Why real-time customer journey curation is the future of banking," *EY website*, ey.com/en_sg/banking-capital-markets/why-real-time-customer-journey-curation-is-the-future-of-banking.

Firms will need to look through their businesses and front-to-back functional services, and focus on opportunities to offer some form of value to their clients. This could be by making services faster, more intuitive, personalized or financially rewarding. We have seen some firms focusing on partnering with creative, data, technology and analytical providers to help unlock such value, while other firms try to build such capabilities themselves. Either way, feasible KPIs should be used to assess real value, measure progress and take the next step. These are some examples:

1. **Data:** Given the vast amounts of low-level data (transactional, personal and enterprise) IBs collate, a data-driven approach that captures and uses high-quality data to understand client pain points would be critical to success. Additionally, they should also aim to have future-proof skills such as user experience (UX), service design and data science that will help to create easy, effective and memorable experiences.

2. **Client profiling:** IBs should take client segmentation to the next level by understanding clients as individuals instead of homogenized groups. While categorizing clients based on common demographics, industry, sector and investor appetite makes sense, it still lacks nuances that can help IBs deeply appreciate the challenges these groups face and what they actually need. For example, the EY organization has helped a wealth management client in their growth ambition by using the EY psychographic profiling methodology that helps measure individuals or groups, according to more than 30 different attributes, which results in rich and complex archetypes. From there, the EY team mapped the wealth management's client needs to formulate the best value proposition for each archetype, helping our client attend to differentiated service levels.

   Moreover, it is not simply about collecting such granular and comprehensive client data. Data needs to become valuable information and must be leveraged successfully to seize relevant opportunities.[15] In the above case study, it was essential to establish that our client could provide a seamless customer experience directly by leveraging the data gathered. The EY methodology and knowledge helped our client "convert" and thus exceed its annual growth target by 10% in the 12 months since the completion of the project. Other use cases for customer profiling include IBs identifying which products are underperforming because of lack of reach, expertise or resources, and then redirecting any saved resources to products that generate more profitability.

   Finally, IBs can also use profiling to increase transparency of the transaction and liquidity positions they provide to customers. This empowers customers to manage their liquidity and cash flow positions and, thus, would lead to increased certainty of business decisions.

3. **Storytelling:** The client experience is a challenge to solve across all functions — front and back. Clients should be able to quickly understand how the services offered can provide them with real value. Clients need to be at the top of an IB's priority list. Not just from a sales and front office perspective, but from a middle- and back-office perspective also. The need to better understand clients beyond compliance regulations, and better understand the markets and consumers they serve will be key to obtaining client loyalty in a marketplace, which now offers for more investment choices. Part of the success for an IB will be how they tell the story of why their products and services can really address their client's needs. Thus the need to have better communications and stronger branding becomes more essential.

4. **Collaboration:** Coworking and co-solutioning with colleagues across front- to back-departments will be important and IBs should consider the use of "client-focused" teams within their operating models. We continue to meet and work with our clients on their innovation journeys to develop client-focused products and services. Collaboration with partners outside of the IB may also be required. We are also seeing more clients starting to work with bespoke FinTechs or even creating spin-off innovation hubs internally to better-develop innovative services and create more valuable experiences.

5. **Talent:** Successful IBs are those who commit to having a dedicated and multi-skilled team and engage in regular brainstorming sessions and workshops, applying design-thinking approaches and methodologies.

[15] "A Data-Based Approach to Customer Segmentation in Banking," *Hitachi Solutions website*, global.hitachi-solutions.com/blog/customer-segmentation-in-banking."

4.1.2 Enhancing the colleague experience

Many countries across APAC are finding it increasingly difficult to respond to the skills needs of their market workforce in a time of increasing globalization, emerging technology and changing work patterns. They are facing severe shortages of skilled labor due to the out-migration of skilled workers, an aging workforce or simply, the lack of capacity to provide training.[16] As such, IBs are also feeling this skills shortage challenge, despite them having a significant amount of transformation work to do. In addition, IBs must look for ways to enhance their brands as an attractive destination for developing or scaling a career. This is something far more challenging now as Generation Z and millennials look for different ways to create an impact in their careers or rush toward technology and innovation-led careers in the big tech houses or FinTech start-ups.

The employee value proposition is becoming clearer: the ability to have a balanced work and social life, while having real impact. IBs, therefore, need to be more competitive in their offers and re-evaluate what makes an employee get attracted to and remain at an organization. We are seeing firms explore this and engage in real dialogue with their employees and conduct lengthy exit interviews in a bid to gather feedback. Ultimately, offering a flexible working arrangement that also considers the employee abilities, soft skills and impact, as well as outcomes, will be key to attracting interesting talent and sought-after skills.

4.1.3 Re-evaluating the future of work

Global events over the last few years have expedited the need to evaluate the future of work. For IBs, this presents a unique invitation to challenge historic and normalized working practices that have typically required siloed working within businesses or functional teams, confined to working within the organization or working from the office in proximity to appropriate infrastructure (or exchange houses). The need to consider life without such parameters and consider "off-the wall" ideas that promote agility and pace, such as the metaverse, daring collaborations and partnerships or remote working, is now a must in any operating model.

Reimagination

IBs have a unique opportunity to think unilaterally, without boundaries, about how they can operate to unlock greater value. We see unparallel creative thinking in consumer-led industries, where disruption of the value proposition or client segment occurs. IBs can be seen as traditional financial institution types that are making this "creative thinking" process a new, but possible one.

We have seen a number of the US IBs challenge the notion of sales and trading. They do this by trying to reimagine what a front office could look like or how to work together with competitors to create a market utility that benefits everyone.

The ability to reimagine and think about the "what-if" scenarios will be crucial for the present and future IB operating models.

[16] "Skills and employability in Asia and the Pacific", *International Labour Organization*, ilo.org/asia/areas/skills-and-employability/lang--en/index.htm

It is important to have dedicated design thinking teams who can run exploration sessions to develop business ideas by leveraging front-office staff as well as have functional teams, such as tech, who can help enable them.

For example, operations within an IB, typically, deals with servicing hundreds of very important downstream processes that ultimately helps ascertain that client transactions happen. However, what if these functions were focused on delivering seamless client experiences, as well as ensuring that transactions happen. This means moving away from "audit taking" and reconciliations to thinking through how these much-needed operations could be more efficient and seamless to ultimately enhance the client experience. This requires the firm to ultimately see the client experience as a firm challenge, rather than solely a front office or relationship manager challenge. This would then require stronger working behaviors and collaborations with the front- and back-office teams.

Capabilities

IBs, typically, have legacy infrastructure and applications that have been in place for several decades, which may not be easy to service, maintain or upgrade, thus making innovations or implementing enhancements tricky and slow. This model is not viable. As such, providing an investment stream of innovative capabilities to address such challenges will be the key. This may include investing in new or differentiated assets, partnerships and technologies.

Talent

Being equipped with skills of the future, rebranding certain skills and remaining agile are key necessities today. IBs need to work strategically with the HR and see them more as talent and skill functions, rather than administrative functions that deal with people administration.

Location

Work from home has become a norm globally, as employees still want to be given the flexibility to choose where they can work, spend more time with loved ones and also protect loved ones who may be vulnerable.

The hybrid working model seems to be the most favorable among employees based on the range of industries and sectors we serve.

According to International Data Corporation (IDC), more than 56% of the employees in APAC prefer flexible work, with options to work both in the office and remotely, even beyond COVID-19.[17] Furthermore, IDC data shows that more than 70% of the employees said their productivity was higher or at least at the same level compared to pre-pandemic.[18]

However, we are starting to see more employers calling for a return to the office. This pendulum swing is shown in the fact that 50% of leaders have indicated that their company is "currently or planning to focus on requiring full-time in-person work in the year ahead."[19] The reasons for wanting to incentivize employees to return include "connectivity" and "collaboration" — factors which are missing from remote working. As such, there is a disconnect between what employers and employees want.

For companies to make return to office work, employers need to understand the underlying reasons as to why their employees are hesitating to return to the physical office. Some reasons could include saving time on commute, taking care of children and pets, as well as avoiding COVID-19 exposure.

According to the IDC, health and safety are among the top concerns for APAC employees when returning to the office. While most companies, across all industries, are mandating vaccination for their employees, this alone is not enough for a safe return to office. Companies need to rethink and replan their office spaces to ensure they meet employee needs for health and wellbeing.[20]

[17] "The EY 2022 Work Reimagined Survey," *EY website*, ey.com/en_sg/workforce/work-reimagined-survey.
[18] "New IDC Report Reveals 56% of Asia/Pacific* Employees Want Flexible Work Even Beyond the Pandemic," *IDC website*, idc.com/getdoc.jsp?containerId=prAP48993022.
[19] "Great Expectations: Making Hybrid Work Work," *Microsoft website*, microsoft.com/en-us/worklab/work-trend-index.

Inclusivity

Aside from having inclusive workplace practices, such as flexible working, employers also need to be mindful that the physical office design plays an important role in employees' productivity levels and mental wellbeing. Additionally, a modern workspace should focus on inclusivity of all users and benefit everyone, including those with mental health issues or pregnant women.

When revamping an office space, there are various factors (non-exhaustive) to bear in mind while designing an inclusive working space.[21] These include:

1. **Lighting –** Natural lighting to create bright and open spaces are proven to have positive results in productivity gains.
2. **Technology –** Smart office technologies, such as temperature sensors, upgraded ventilation, contactless sensors, touchless fixtures, robotic cleaning and smart meeting room management, are some examples that can facilitate a safer office environment.
3. **Layout and space –** While some companies have started to shift to open office spaces to encourage more social interaction, some employees may still prefer to have designated seating, which may help them to focus more. When designing office spaces, employers need to keep in mind that such employees still exist, and to include them in the decision-making.
4. **Furniture –** The quality of furniture and adjustability of equipment can potentially have the benefit to minimize workplace injuries.
5. **Inclusive seating –** We are seeing a rise of hot-desking again as firms grapple with hybrid working models and space optimization. "Hot-offices" are also a feature, where we see certain executives give up their offices to create more inclusive and accessible working environments. For example, if an employee chooses to come into the office and wants to have an interaction with others, will they still have such interactions if executives are enclosed in their offices? This is a question that can be considered.

It is clear that creating an operating environment and culture that is customized to the IB, but one adding value to clients and colleagues, will shape the winners in this new era.

[20] "New IDC Report Reveals 56% of Asia/Pacific* Employees Want Flexible Work Even Beyond the Pandemic," *IDC website*, idc.com/getdoc.jsp?containerId=prAP48993022.

[21] "How the physical office environment can impact mental health," *Clover HR website*, cloverhr.co.uk/how-the-physical-office-environment-can-impact-mental-health.

4.2 Technology adoption

Technology has transformed the financial industry, not limited to IBs, and will continue to be prevalent. Besides automation and operational efficiency gains, technology has redefined business models, changing how and where we interact with our clients and employees alike. COVID-19 has accelerated digital transformation, in particular cloud technology, and the positive impacts of adopting technology into an IB's business can vary according to which domain is looked at. Overall, we have seen an overwhelming need for IBs to adopt new technologies at speed, while innovating at speed. The EY organization has mapped opportunity areas to technology trends, present throughout the front-to-end business capabilities of an IB, as shown in the following table:

Mapping of opportunity areas to technology trends

Domain	Function	Cloud technology	Process and service externalization	Robotic process automation	Advanced analytics	Digital transformation	Blockchain	Smart contracts	Artificial intelligence	Internet of Things
Client servicing	Client onboarding	●	●	●		●	●		●	
	Client insights and analytics	●			●	●			●	
	Research	●			●				●	●
	Client relationship management	●			●	●			●	
	Issuance and M&A's	●	●	●	●	●	●		●	
Trading	Pre-trade analytics	●			●	●			●	
	Trade execution	●	●		●	●			●	●
	Post-trade analytics	●	●		●	●			●	
Business management	Cost transparency	●			●	●			●	
	Business continuity management	●	●			●			●	
Data management	Market news and data	●	●		●	●			●	
	Reference data	●	●	●	●		●		●	
Post-trade operations	Clearing and settlement	●	●	●			●	●	●	
	Collateral and margin management	●	●	●			●		●	
	Custody and asset servicing	●	●	●			●		●	
	Treasury operations	●	●	●	●				●	
	Reconciliations	●	●	●	●		●		●	
	Transaction reporting	●	●	●	●				●	
	Fees and invoicing	●	●	●	●				●	
	Tax operations	●	●	●	●		●	●	●	
Risk control and management	Credit, market and liquidity risk	●	●	●	●				●	
	Enterprise risk management	●			●	●			●	
Financial control	Capital management	●	●	●	●				●	
	Independent price verification	●		●	●				●	
	Product control	●		●	●				●	
	Financial and regulatory reporting	●		●	●				●	
Compliance	Regulatory horizon scanning and compliance	●	●		●				●	
	Anti-money laundering and surveillance	●	●		●				●	
	Know Your Customer (KYC)	●	●	●	●				●	
	Anti-bribery and corruption	●	●		●				●	
	Employee surveillance, market abuse and conduct	●			●				●	
	Policy setting, monitoring and testing	●		●	●	●			●	
IT	Cybersecurity	●	●		●				●	
	Identity and access management	●	●				●	●	●	
	IT service operations	●	●	●		●			●	
Legal		●	●	●	●	●	●	●	●	
HR		●	●	●					●	

We have synthesized the above technology trends and translated them into five key topics of interest namely: FinTech and partnerships; embedded finance and BaaS; technology engineering; data security and cybersecurity risks; and blockchain.

4.2.1 Embedded finance and BaaS

IBs are more focused on the "how" of building open banking solutions and leveraging application programming interface (APIs) to connect with the outside world. The why — improving the value proposition for end users by leveraging customer data — is often absent from the thought process. To bridge this gap, IBs must adopt new technology stacks to meet the rising demand for embedded finance by increasing BaaS.

The growing preference for a convenient and integrated platform has raised consumers' demands as they expect financial experiences to address their wants and needs seamlessly, no matter the channel or point of interaction. This process has long been in the pipeline, but the COVID-19 pandemic has accelerated the shift and urgency for institutions to adapt.

Although embedded finance and BaaS tie in closely with an IB's offerings, they could easily lose out to nimbler FinTechs or big tech firms. Investments and commitment toward targeted digital strategies must be the way ahead for IBs as they look to improve their understanding of customers and create value for them. The *EY 2021 NextWave Global Consumer Banking Survey* highlights the evolving consumer expectations around financial firms and ecosystems. In the survey, 78% of APAC consumers said they would "highly value" open banking and embedded finance solutions that connect and personalize their experiences across third-party ecosystems.[22] Besides producing personalized experiences, customers are seeking functional benefits, such as maximizing rewards programs, customizing products or providing relevant content and advice. Integrated service offerings can help corporates monetize their customer base, resulting in an increase in revenue, customer lifetime value and product offerings. There are many ways for IBs to leverage the power of integrated ecosystems to help drive growth.

Embedded finance and open banking business models

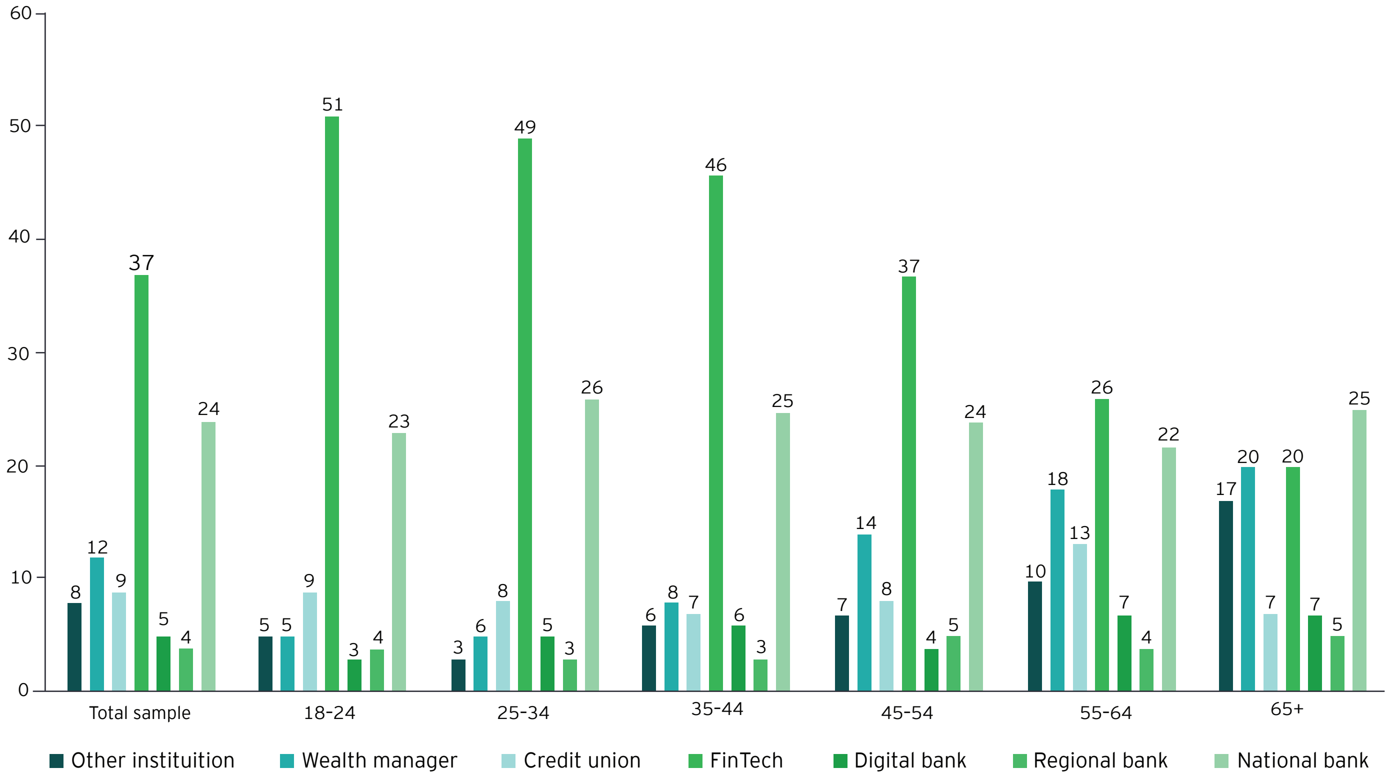
Business model	Strategy	Willingness to pay	Scale	Cost	Partner value	Risk
Ecosystem aggregator	Aggregates products and service providers in a marketplace ecosystem	Greater relevance by providing many connected offerings across a client's life	Increases scale through wider distribution and a larger set of products and services	Requires a limited asset base to operate	Increases scale in the market through wider distribution	Partnership ecosystem can be difficult and time-consuming to replicate
Product producer	Creates best-in-class financialproducts, leaving the customer relationship and experience to others	Limited end consumer connectivity and brand development	Wide set of products	Limited distribution and maintenance costs	Limits R&D spend on new products, while still offering a comprehensive product set	High risk of "featurization" from incumbents
Financial utility	Becomes the invisble back-end or data custodian for intelligent commerce experiences	Utility with limited end-consumer connectivity	Collects data and monetizes BAU invetment in the tech stack	High cost to develop and maintain required infrastructure offset by lower acquisition costs	Reduces buyer purchase costs by seamlessly embedding into others, limiting their development costs	Low-end consumer awareness and limited pricing power, given the fungible product profile
Digital native	Ability to build stand-alone strategic model on greenfield, digital-native platform to target aspecific segment or value propositions	High fidelity, targeted offerings built for purpose and to attract net-new clients	Limited scope of services	Lower cost model, given targeted focus and greenfield build	Bespoke offerings that can be bundled or used as point solutions	Limited barriers to entry, given low cost model
Vertical Integration	Owns the entire value chain across consumer, producer, distributor and servicer	Owns the end-to-end experience and maximize control	Offers a large suite of products and services	High cost to build and maintain the full value chain	Fully developed tech stack with robust client relationships	Expensive and time-consuming to build and maintain

[22] "How can banks transform for a new generation of customers?" *EY website*, ey.com/en_gl/banking-capital-markets/how-can-banks-transform-for-a-new-generation-of-customers.

In addition, certain banking services could also reduce an IB's distribution and acquisition expenses. IBs could also be able to access new customer segments, gather deeper data insights as well as create new revenue streams by selling products and services through its partners. The *NextWave Consumer Financial Services research*, our census-weighted survey of 5,368 consumers from across age groups, wealth tiers, geographies and genders, highlights how quickly the landscape is changing. Around 37% of consumers now say a FinTech firm is their most trusted financial services brand, compared with 33% who name a bank as their most trusted brand and 12% who say they trust a wealth management firm the most.

Most trusted financial brands by age group

Percentage of respondents who trust each company type most in financial services



This further emphasizes the point that there is no escaping the integration of FinTech into traditional FIs and IBs, as consumer preferences are significantly moving toward FinTechs.

As an example, an e-wallet company partnered with a ride-hailing service firm, providing access to millions of customers that the ride-hailing app had. Customers could open an e-wallet account instantly and better manage their finances via the ride-hailing app. This partnership also acts as a model for the ride-hailing service firm to partner with other FIs. In 2021, the e-wallet company attributed the growth of its loan disbursement, which grew 695% year-on-year, to its digital partnerships and ecosystems.[23]

Furthermore, real-time IT architecture, enabled by the likes of Kafka and Confluent is continuing to help IBs shift from batch processing to real-time processing, driving new opportunities for an enhanced customer experience.

[23] "Bank Jago Holds Public Expose," *Jago website*, jago.com/en/media-center/press/bank-jago-holds-public-expose.

4.2.2 FinTech and partnerships

IBs should optimize their omnichannel experiences to maximize revenue and minimize costs. With the COVID-19 pandemic reducing face-to-face (F2F) interactions, digitization of platforms has been accelerated, with the EY studies finding approximately 80% of customer touchpoints occurring digitally.[24] However, we see only approximately 25% of sales end up through these digital channels.

We know an increasing number of consumers are willing to consider financial products offered by a nonfinancial sector firm, underlining the competition from nontraditional market entrants to incumbent banks. Traditional financial services (FS) players will need to explore partnerships and build an ecosystem to rise above these threats and succeed.

Capital markets face larger barriers to entry, whereas FinTech often has a greater opportunity to disintermediate, disrupt and gain market share from traditional players. With a better ecosystem, IBs can expect reductions in structural costs, improved and effective compliance with regulations, and eventually provide improved capital market services to their clients.

Partnerships are designed to bring about benefits, but inherently comes with its unique set of risks. It is crucial for capital market firms to set the right tone when it comes to collaboration. Innovation is a necessity, but it is important to abide by guidelines and parameters that nurture intelligent innovation.

To achieve this, we have defined three conditions for a successful partnership:

- **Fail-fast mentality:** Initiatives to innovate quickly and "fail fast" and quickly derive lessons learned needs to be built into future cycles along with a governance framework that supports efficient innovation, with clear accountabilities, decision-making frameworks, tollgates and success criteria.
- **Incentive and performance measurement frameworks:** It is important to recognize that not all innovation initiatives will be successful. A leader that risks innovation and operates within the defined parameters should not be penalized for failure. Consider taking a portfolio-led view of investment and risk decisions that measures value derived from technology innovation at a portfolio level, rather than for individual initiatives.
- **Collaborative trust:** It is necessary to develop partnerships with FinTechs that are built on collaboration and trust.

4.2.3 Technology engineering (cloud technology, advanced analytics, AI and ML)

IBs are using more sophisticated technologies and the three key areas of increased focus are cloud technology, advanced analytics, artificial intelligence (AI) and machine learning (ML).

In APAC, 85% of firms voiced that, with the rapid changes in the IT environment over the past few years, it has become challenging to maintain client service-level agreements (SLAs) or service level objectives (SLOs).[25] IBs may also face a great number of outages and data security issues too. With technology advancing so quickly, it is key for IBs to match up to the speed of new developments by integrating new technologies.

[24] "Seven ways for Asia-Pacific banks to reconfigure their strategies," *EY website*, find.ey.net/discover/sitepages/home.aspx?detailPath=QK4UKKJJR4MN-392059165-5135#detailPath=QK4UKKJJR4MN-392059165-5135.

[25] "APAC racing ahead of Europe and US on digital transformation," *International Investment website*, internationalinvestment.net/news/4045098/apac-racing-ahead-europe-us-digital-transformation.

Cloud services

Cloud services has a growing importance within an IB, especially with COVID-19 requiring a quick adjustment to remote working. Cloud computing has allowed companies to rapidly adapt to the changing environment, yet maintain business continuity.[26] However, the majority of IBs have yet to deploy core systems to the cloud due to significant complexity and concerns over security, risk, governance and control. According to a *2020 IBM banking on open hybrid multicloud report*,[27] while approximately 91% of FIs are actively using cloud services today or plan to in the next nine months, on average, only 9% of mission-critical regulated banking workloads have shifted to a public cloud environment — this is lower than the average of other industries. FIs recognize the pace and scale of cloud transformation required to keep up with evolving business needs. Expectations have been accelerated by the COVID-19 pandemic, and successful implementation of cloud is imperative for banks to thrive in the new normal.

There is the need to depend on cloud computing to remain agile and efficient in times of uncertainty and to increase preparedness, while also managing risks and securing competitiveness. For example, over 80% of Singaporean capital market companies plan to increase reliance on managed cloud services soon, for areas such as risk management, regulatory reporting and client reporting.[28]

The uptake of cloud technology has traditionally been slow, however, it has now spurred due to the COVID-19 pandemic.[29] When it comes to storing data on cloud, FIs are generally concerned over risk management, regulatory considerations and governance over data privacy. Although these are valid concerns, they will still benefit from the implementation of cloud systems all together. The obvious benefits of cloud are widely understood, namely lower costs, reduced capital expenditure, scalability, flexibility and the speed of setup. FIs should not underestimate the scale of these benefits as it would compound into significant cost savings.

In 2021, the EY organization and a multinational technology corporation launched a Center of Excellence[30] to help FIs accelerate digital transformation with hybrid cloud solutions. The Center of Excellence is a centralized virtual hub with offerings in areas like regulatory compliance, digital trust and security to help clients leverage the cloud at scale. The hybrid cloud solution leverages the corporation's technology and the EY teams' knowledge in working with FIs, executing business transformation, cloud migration, risk management and compliance, to drive digital transformation and accelerate cloud adoption through the EY Cloud Enablement Center.

Advanced analytics, big data, AI and ML

Advanced analytics will allow IBs to gain more precise insights and make better decisions using sophisticated tools and extensive data sets. Analytics can come in various forms such as behavioral, predictive, sentiments and data visualization. These analytical tools form the bedrock behind data-driven decisions, which improves business performances in the long run. In the case of IB clients, the use of advanced analytics can improve product offerings through a better understanding of client trends, in turn increasing client acquisition and retention.

Historically, structured data has been the focus of most enterprise analytics and has been handled using a relational data model. Recently, the quantity of unstructured data, such as micro-texts, web pages, relationship data, images and videos, has exploded. This trend indicates an increase in the incorporation of unstructured data to generate value. Big data analytics is the use of advanced analytic techniques against very large, diverse data sets that include structured, semi-structured and unstructured data from different sources, and in different sizes from terabytes to zettabytes. AI, mobile, social and the Internet of Things (IoT) are driving data complexity through new forms and sources of data. For example, big data comes from sensors, devices, video or audio, networks, log files, transactional applications, web and social media.

[26] "Singaporean capital market firms more reliant on MSPs," *Techwire Asia website*, techwireasia.com/2021/07/singaporean-capital-market-firms-more-reliant-on-msps.

[27] "Banking on open hybrid multicloud," *IBM website*, ibm.com/thought-leadership/institute-business-value/report/banking-hybrid-multicloud.

[28] "Singaporean capital market firms more reliant on MSPs," *Techwire Asia website*, techwireasia.com/2021/07/singaporean-capital-market-firms-more-reliant-on-msps.

[29] "How The Pandemic Has Accelerated Cloud Adoption," *Forbes website*, forbes.com/sites/forbestechcouncil/2021/01/15/how-the-pandemic-has-accelerated-cloud-adoption/?sh=52de4e6a6621.

[30] "EY and IBM announce the creation of Center of Excellence to help accelerate digital transformation for financial services institutions," *EY website*, ey.com/en_gl/news/2021/05/ey-and-ibm-announce-the-creation-of-center-of-excellence-to-help-accelerate-digital-transformation-for-financial-services-institutions.

Analysis of big data allows analysts, researchers and business users to make better and faster decisions using data that was previously inaccessible or unusable. IBs can use advanced analytics techniques, such as text analytics, ML, predictive analytics, data mining, statistics and natural language processing, to gain new insights from previously untapped data sources independently or together with existing enterprise data.[31]

AI and ML have the potential to create between US$167.2b and US$344.9b in value annually across a range of business functions in the entire banking industry.[32]

In the case of APAC, more than two-thirds of APAC firms have ML as a key part of their business strategy and 78% of APAC firms are investing heavily in related technologies.[33]

AI applications are increasingly feasible now, given a confluence of forces that enable these to reach new heights. Within banking, adoption of AI is accentuated by the following drivers.

Technological advances and data improvements	‣ Initiatives to modernize data infrastructures ‣ Faster, cheaper processing power, data storage and cloud computing
Behavioral and expectation shifts	‣ Demands for greater personalization and relevance ‣ Clients increasingly open to AI interactions ‣ Change in minset among tech-savvy employees
Competitive pressures	‣ Bigtechs disintermediating banking ‣ Specialist FinTechs setting a high bar on AI applications

Studies show that 71% of FS firms that leverage big data analytics for real-time insights and predictive personalization have a competitive advantage against their peers.[34]

There has, therefore, never been more urgency than in a COVID-19-impacted, evolving marketplace for IBs to harvest new external data streams, combine these with internal data sets and then apply advanced analytics for faster decisions and better customer insights.

AI applications support quicker digitization of key client and IB workflows, ranging from the front, to middle and back offices. At the client-facing front office, AI is powering straight-through processing for accounts receivables. It is also expediting manual processes, such as client onboarding, credit applications and underwriting, and making them more transparent for clients. This technology further enables relationship managers (RMs) to engage with business clients through the most natural medium of interaction – i.e., conversation. With conversational AI capabilities, Intelligent Virtual Assistants (IVAs) can help RMs move beyond basic reactive transactions to gather deeper client insights, support their trust-building dialogues, and deliver on engaging interactions. Some crucial elements for AI successes include:

1. Having data-driven leadership
2. Driving collaborative engagement teams
3. Fostering a data-centric culture
4. Building up from discrete AI implementations
5. Ensuring strong data and model governance

[31] "Big data analytics," *IBM website*, ibm.com/analytics/big-data-analytics.
[32] "Visualizing the uses and potential impact of AI and other analytics," *McKinsey & Company website*, mckinsey.com/featured-insights/artificial-intelligence/visualizing-the-uses-and-potential-impact-of-ai-and-other-analytics.
[33] "Financial services in APAC: A look ahead to 2021," *Refinitiv website*, refinitiv.com/perspectives/market-insights/financial-services-in-apac-a-look-ahead-to-2021.
[34] "Analytics: The real-world use of big data in financial services," *IBM website*, ibm.com/downloads/cas/E4BWZ1PY.

It is the dawn of AI-enabled decision-making, and corporate banks need to get on track with the big data evolution. The saying that "data and analytics is the new oil" may be cliched, but it certainly seems to apply to the future of finance. IBs that effectively leverage their data assets and successfully navigate AI development complexities will reap multiple benefits. These future-forward institutions are the ones increasing agility, elevating services and clients' customer experiences, reshaping the competitive ecosystem and improving their financial outcomes.

4.2.4 Data privacy and cybersecurity risk

Cybersecurity risk continues to be a main concern for IBs, with 89% of APAC respondents of the EY annual risk management survey, voicing it to be a key resiliency challenge.[35] Especially with the shift to remote working because of the COVID-19 pandemic, FIs have become more susceptible to cyber attacks. This remains a significant barrier for capital market firms to utilize non-private cloud deployments.

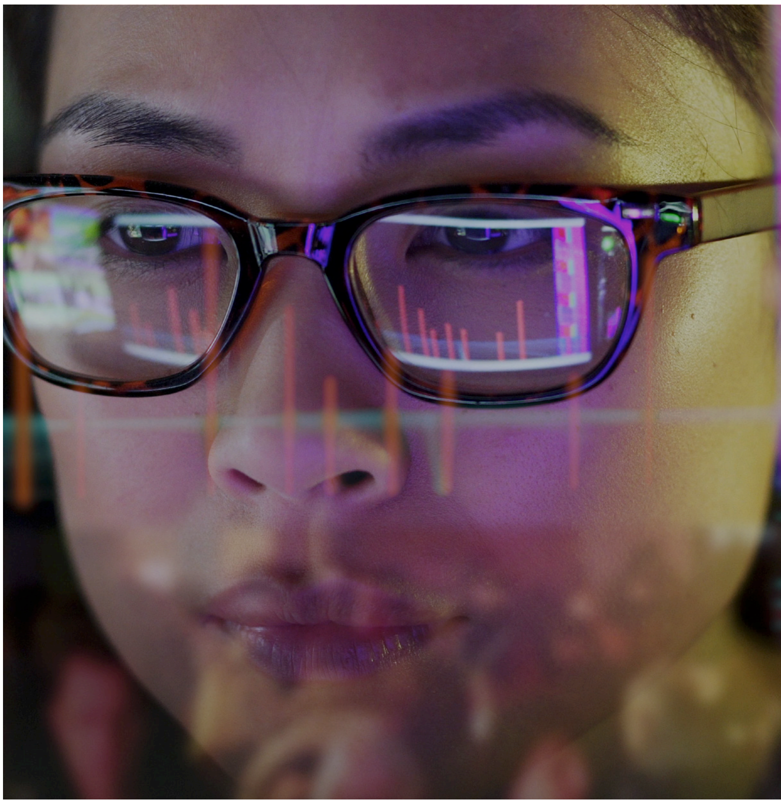
With an increase in the number of cyber attacks in the recent years, IBs are facing stricter regulations in terms of data breach penalties. In Singapore, the maximum fine under the Personal Data Protection Act (PDPA) will be raised to S$1m or 10% of the local annual turnover for firms whose turnover exceeds S$10m; whichever is higher. Singapore also requires firms to report data breaches if it is likely to result in significant harm to the affected individuals or is likely to affect 500 or more individuals.[36] Thus, the tightening of regulations makes it imperative for IBs to be more stringent in this regard.

We do see IBs turning to external IT providers for cloud-based setups. Detailed vendor assessments and regular due diligence checks on cybersecurity controls should be conducted. New vendors and FinTechs may not have robust risk models, so IBs will also need to properly manage such third-party risks, to minimize cyber attacks. As such zero-trust security architecture is on the rise to ensure appropriate measures are in place to "never trust, always verify." Stringent security encryption as well as authentication mechanisms, firewalls and malwares are also vital to safeguard cloud services.

Having board-level oversight, by establishing cyber resilience strategies and governance frameworks, is key to ensuring business continuity should a cyber incident occur. Such strategies and frameworks should be enterprise-wide, such that all business units across the firm are aligned.

After establishing risk management frameworks, IBs also need to develop their detailed cybersecurity incident response plan based on the frameworks established. An IB cannot expect to be fully secure even with a well-crafted framework, thus it is crucial that emergency response plans are detailed out as well. The plan should identify roles and responsibilities in responding to cyber incidents, and regular, realistic simulation exercises should be conducted to equip the company with the necessary experience to handle a cyberattack.

Inculcating a risk-aware culture in the workplace is also crucial to supporting risk management frameworks and cybersecurity incident response plans. IBs should invest in trainings and learning frameworks to constantly keep employees updated on cyber policies and processes.



[35] "Where are Southeast Asian banks focusing their risk attention," *EY website*, ey.com/en_id/financial-services-asia-pacific/where-are-southeast-asian-banks-focusing-their-risk-attention.

[36] "Big firms could face data breach fines of up to 10% of turnover from Oct 1," *The Business Times website*, businesstimes.com.sg/government-economy/higher-financial-penalty-cap-for-data-breaches-to-take-effect-on-oct-1.

4.2.5 Blockchain

Blockchain solutions also provide clear benefits to IBs, one of which is decreased settlement time. Assets are now being traded at faster speeds, and transactions are settled almost immediately, improving the customer experience.

Capturing operational efficiencies in front, middle and back offices

Front office	Middle and back office	Other
High impact Fund distribution **Smart assets:** **Low impact** Trading liquid securities **Medium impact** Trading illiquid securities	**High impact** Post-trade custody and settlement	**Medium impact** Client onboarding (KYC) **Low impact** Reference data management

Source: How investment management CIOs can identify practical blockchain use cases, Gartner, Invesco (2018).

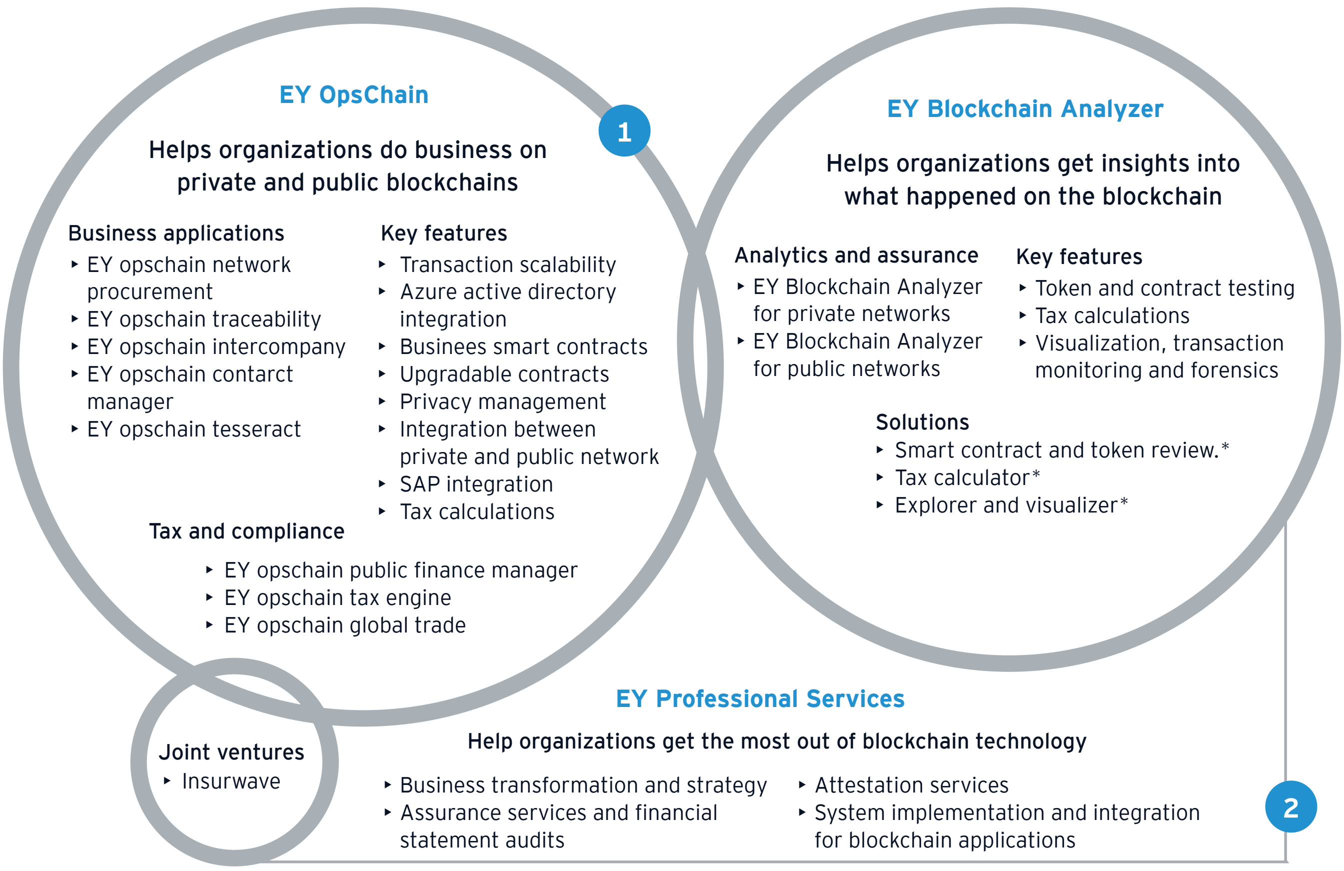
Out of any other industry, the FS industry has invested the most in blockchain technology, representing around 30%[37] of all investments to date. Tokenization can help to automate and streamline processes for IBs, as well as in increasing liquidity via fractional ownership, promoting transparent and secure data and allowing 24/7 trading. In addition, blockchain can improve middle- and back-office efficiency, and free up more resources to be reallocated toward front-office activities. What was once a time-consuming process in an IB can now be made more efficient through smart contract automation, and improving businesses by providing more customizable products to customers, thus strengthening client relationships.

For example, an APAC bank has piloted a bond offering, using a distributed ledger platform. This platform uses distributed ledger technology to connect the various parties involved in the transaction and tokenize security, forming the basis for smart contracts that enable greater efficiency.

Another example is that of a leading global tech firm, owning a console gaming platform, that found it difficult to reconcile data from various sources for calculating royalties. The console gaming platform is an ecosystem comprising of thousands of developers, publishers, authors, designers, production houses and distributors. Much time and resources were inadequately spent validating and tracing transactions, and recalculating royalties to verify its accuracy. To help solve the complexity and increase trust in the data, the tech firm and the EY organization partnered to codevelop a blockchain-based financial system of records for processing end-to-end royalty transactions as a solution – from contract creation to integration with SAP payments.[38] The blockchain solution allows near real-time access to authentic trusted transactions data from source systems to game publishers, who can access transaction details to source contract terms agreed with the firm. Publishers can now access detailed information on royalties earned in just 4 minutes instead of 45 days, after the month end. As for the firm, the royalties administration costs have been slashed, which results in lower operating costs. But above all, the gain in the speed and trust of royalty intelligence has given the ecosystem greater data transparency and accountability.

The EY organization is also working on Nightfall 3 – a zero-knowledge proof (ZK or ZKP) layer 2 protocol – to help address the increased transaction cost and to privately manage transactions on the Ethereum blockchain. We aim to transform business lifecycles with our flagship blockchain platforms[39] – the EY OpsChain and EY Blockchain Analyzer.

[37] "Tokenisation of Alternative Investments," *CAIA website*, caia.org/sites/default/files/2021-02/CAIA_Tokenisation_of_Alternatives.pdf.
[38] "How trust accelerates transformation," *EY website*, ey.com/en_sg/trusted-intelligence/how-trust-accelerates-transformation.
[39] "Blockchain platforms," *EY website*, ey.com/en_sg/blockchain/blockchain-platforms.



*Available as-a-service on blockchain.ey.com

At the EY organization, we combine our FS experience and domain knowledge with our technological knowledge to help FIs navigate ways to implement blockchain solutions. We are constantly evaluating various blockchain-enabled business ecosystems, and can support you in identifying product opportunities, regulatory concerns and difficulties in identifying or assessing risks and corresponding controls. The EY teams can help facilitate new product development – designing new financial infrastructures and instruments or innovating incumbent solutions – and assist you with integration into the blockchain network.

4.3 Gaining headway in sustainability

A growing business phenomenon, one main challenge

The IB sector holds enormous power in the sustainability journey to net zero, across the environment, social and community (ESG) themes. These themes are engrained in everyday consumer and investor activities as they have a direct or indirect reliance on banking, financing and lending activities. Contributions by the IB sector are now being further encouraged by public sentiment on the importance in promoting responsible investing and financing across communities.

However, public sentiment is not enough to ensure real action is taken by IBs. While each firm will face a unique challenge along their journey, there are common challenges that plague this entire sub-sector. One of the most pressing challenges for IBs is in understanding how to strategically tackle this topic near-term to long-term. For example, what should versus. must they be doing, how and when? What are the legal, regulatory, financial, market, reputational and operational considerations and critical priorities? The myriad of considerations is evolving continuously, particularly when new regulations are also planned (see table below).

Regulation	Country	Date	Description
Securities and Exchange Commission (SEC) Sustainability Reporting Guidelines for Publicly-Listed Companies	Philippines	2019	The guidelines aim to promote sustainability reporting, intending to help publicly-listed companies assess and manage nonfinancial performance across economic, environmental and social aspects of their organization and enable them to measure and monitor their contributions toward achieving universal targets of sustainability as well as national policies and programs.
Monetary Authority of Singapore (MAS) Guidelines on Environmental Risk Management	Singapore	2020	The guidelines aim to enhance the FS sector's resilience and management of environmental risk through setting out sound risk management practices, including establishing proper roles and responsibilities of directors and senior management, and environmental risk identification and assessment.
EU's Sustainable Finance Disclosure Regulation (SFDR)	EU	March 2021	A European regulation introduced to improve transparency in the market for sustainable investment products to prevent greenwashing and to increase transparency around sustainability claims made by financial market participants.
Australian Prudential Regulation Authority (APRA) Prudential Practice Guide CPG 229 Climate Change Financial Risks	Australia	2021	The guide aims to assist APRA-regulated entities manage climate-related risks and opportunities within their existing risk management and governance practices, covering APRA's view of sound practices in various aspects including governance and scenario analysis.
TCFD	G7 and G20 countries	2021	Task Force on Climate-related Financial Disclosures was created to develop recommendations on the types of information that companies should disclose to support investors, lenders, and insurance underwriters in appropriately assessing and pricing a specific set of risks – risks related to climate change.
Mandatory packaging reporting in Singapore	Singapore	2022	Mandatory packaging reporting aims to raise companies' awareness of the benefits of packaging reduction and to spur companies to reduce the amount of packaging used. It will lay the foundation for an Extended Producer Responsibility (EPR) scheme for packaging waste management, which will be implemented no later than 2025.
US climate reporting framework	USA	2022	The SEC proposed framework requires companies to include certain climate-related disclosures in their registration statements and periodic reports, including information about climate-related risks that are reasonably likely to have a material impact on their business, results of operations or financial condition, and certain climate-related financial statement metrics in a note to their audited financial statements.
ISSB Sustainability disclosure	Global	2022 end	ISSB aims to provide a baseline for corporate sustainability disclosures that are compatible with jurisdiction-specific requirements, giving investors access to consistent and comparable decision-making and useful information globally.
EU's Corporate Sustainability Reporting Directive	EEU	2022	EU law requires certain large companies to disclose information on the way they operate and manage social and environmental challenges. This helps investors, civil society organizations, consumers, policy makers and other stakeholders to evaluate the nonfinancial performance of large companies and encourages these companies to develop a responsible approach to business.
EU Taxonomy's Climate Delegated Act	EU	2023/2024	EU Taxonomy aims to help improve the flow of money toward sustainable activities across the European Union by enabling investors to reorient investments toward more sustainable technologies and businesses that will be key in making Europe climate neutral by 2050.

Sources: SEC (Philippines), MAS, SFDR, APRA, TFCD official websites, IFRS, Eurpsif, European Commission, National Environment Agency (Singapore) and SEC (USA).

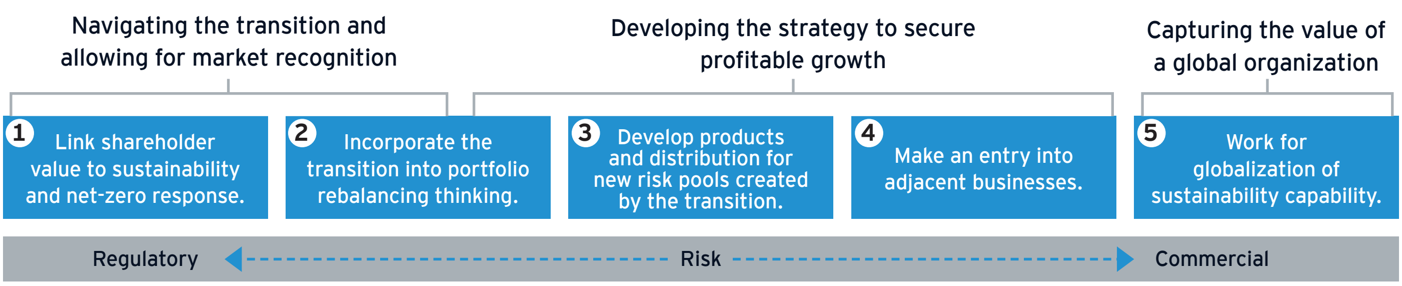
In addition, 94% of companies[40] are expected to shift away from environmental and socially challenged business models within the next five years. There is also an increase in investors having firm-wide policies on responsible investing or ESG issues (from 52% of respondents to 59% respondents).

Furthermore, IBs must not only consider their own sustainability journeys, but also the journeys of their clients, to whom they are providing banking, financing and lending services, given that they themselves will also need to adhere to sustainability targets and rules. For IBs, such clients will include institutions, investors and corporations that will likely be extremely large; thus, they will likely have greater regulations and scrutiny placed on them than smaller firms. As such, IBs must be able to support their clients along their journeys with clear guidance and a structure in place.

So, where should an IB begin and how can they best devise an attainable and considerate strategy? This section aims to provide an approach for IBs to address this very question.

Defining an effective forward-looking sustainability strategy

An effective strategy must be linked to the overall goals of the IB and be centred around clients and investors while factoring key regulatory, risk and commercial drivers. Based on our work with various financial services institutions, we recommend a five-tiered strategic approach, as further shown in figure below.



1. **Recognition: Link shareholder value to sustainability and net-zero response**

   Ensure that investors recognize, and that capital markets value the approach to sustainability across business divisions and product lines. This must involve engaging with clients to identify their needs and preferences with regard to particular products, transactions and services. It is important to consider this alongside the business model of the IB so that all stakeholder and shareholder needs are considered and can be satisfied as part of the strategy.

2. **Rebalance: Incorporate the transition into portfolio rebalancing thinking**

   Determine how the sustainability journey is impacting IB portfolio balancing and capital allocation decisions. Rigorous current state assessments and scenario analysis should be conducted to assist with the transition that can guide portfolio decisions across sectors, business lines and geographies.

3. **Develop products and distribution for new risk pools created by the transition**

   Identify the potential for new risk pools that are yet to be commoditized. Develop new product strategies while considering how peer IBs are responding to create a more memorable ESG experience for clients and investors.

4. **Make an entry into adjacent businesses**

   Reconsider the boundaries of the sustainable business model over the life of the transition. It is important to seek out value-accretive adjacent businesses and business initiatives.

5. **Work for globalization of sustainability capability**

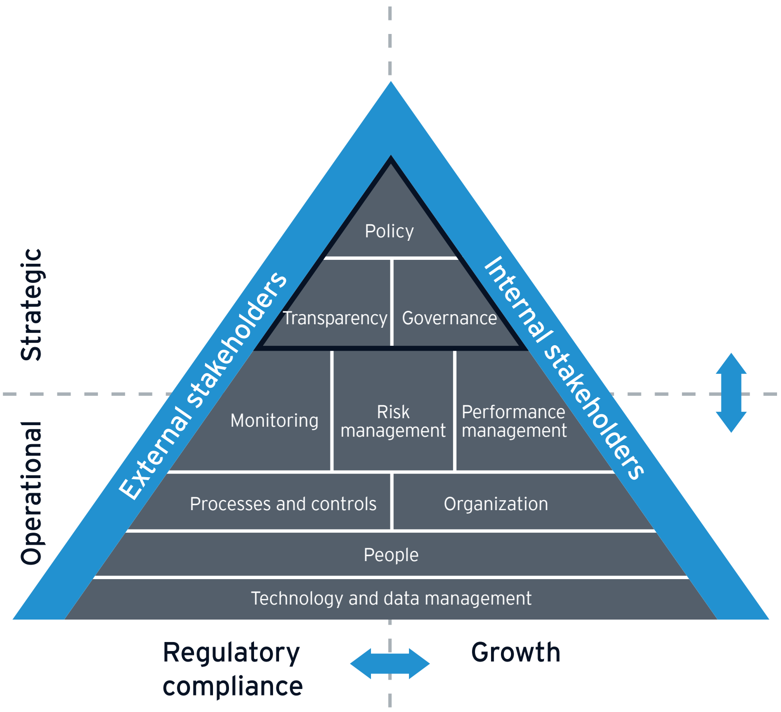
   Identify and acquire distinctive capabilities that can be leveraged across the portfolio (e.g., modeling of climate-related scenarios and associated risks). It is important to actively transfer capability skill and insight across markets (e.g., new product development).

[40] "Sustainable Financing and Investing Survey – Global Report," *HSBC website*, gbm.hsbc.com/en-gb/feed/sustainability/sfi-survey-global-report.

Establishing a concrete business and operating model to deliver the strategy

Devising the strategy only one part of the journey. The IB must also see that there is commitment to executing the strategy. We have seen a strong correlation amongst IBs being able to deliver on a sustainability strategy when they have an established governance and operating model in place.

Such governance and operating models must be incorporated into existing frameworks, processes, controls and risk management systems already in place for relevant investment banking activity, from sustainable debt underwriting to carbon credit trading. Having these models in place should help to allow for sustainability progress to be assessed, quantified and controlled. The figure below provides a framework and considerations, that can be used to help develop the governance and operating model specific to any IB.



Strategy

- Create value for your shareholders through ESG strategy to best serve customers and other stakeholders.
- Translate your purpose into authentic strategic actions.
- Folow an ESG approach across the different segments and markets in which you operate.
- Transition your assets to be more ESG-oriented, while maintaining yields.

Strategic initiatives

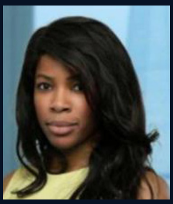
- Set strategic initiatives, generating the right balance of financial and social impact, to deliver on shareholder and stakeholder expectations.
- Allow a smooth transition from current portfolio to a balanced one (e.g., divestments and transition for in-flight activities).
- Identify interlocks between ESG and other ongoing programs, and priorities and impact on the investment allocation.

Governance and operating model considerations

- Is the transition of the organization and resources meeting your ESG ambition?
  - Are ESG leads and sponsors available?
  - What are the skills needed to be able to tap into new risk pools?
  - How can engaging with regulators and other bodies shape the future of sustainability?
  - What capabilities, trainings and incentives are required to achieve desired?
  - How can you ensure there is no duplication in processes and data collection?
- What are the key data sets required to drive ESG differenciation?
- What business insights need to be leveraged from your reporting to generate value for your business?
- What is the communication strategy needed to allow for transparency and to achieve maximum benefit from the actions taken, specifically related with disclosure to shareholders, regulators, rating agencies and clients?
- What is the scale of funding required to finance my response?
- What risks and opportunities does ESG create for my enterprise?

As the EY organization continues to work with leading financial services institutions on their sustainability journeys, we are helping our clients to both define and execute against their sustainability goals.

5 Authors



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6 Appendix – Findings and analysis of capital markets' landscape

6.1 Investment banks' revenue

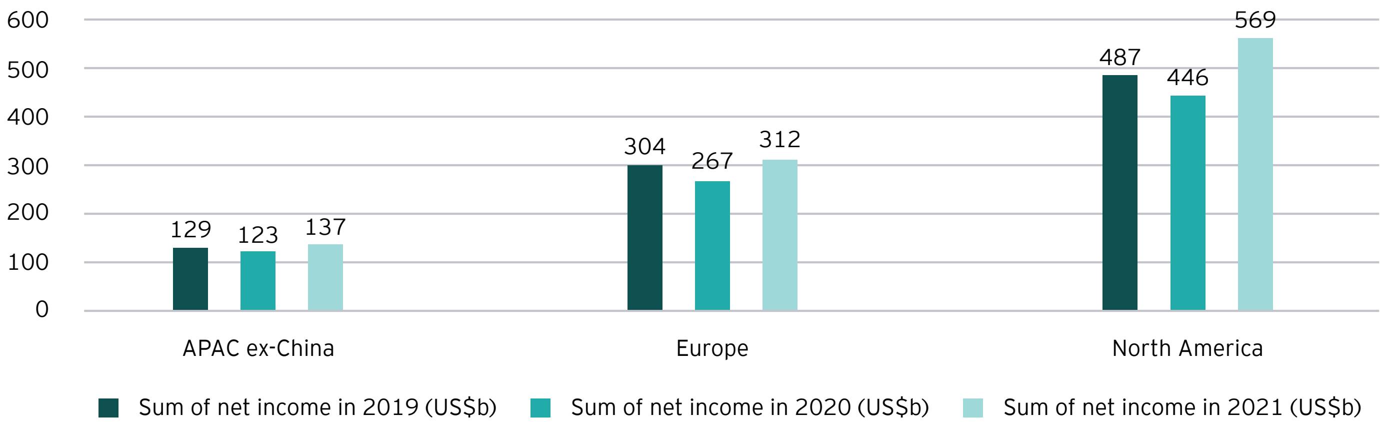
The total global revenue for 2021 amounted to US$1.02t, a year-over-year (YOY) increase of 21.8% from 2020. This significant increase was largely a result of the "pent-up" demand in 2020, as economies regained their strength in 2021.

North America recorded the highest revenue with US$569b in 2021, followed by Europe with US$312b and APAC ex-China with US$137b.

The top-performing IB in 2021 recorded an almost 40% growth in revenue of USD$131b than the second performing bank.

The Japanese banks also saw a recovery or an improvement in revenue from 2020 to 2021.

Revenue of capital market banks from 2019 to 2021 by region



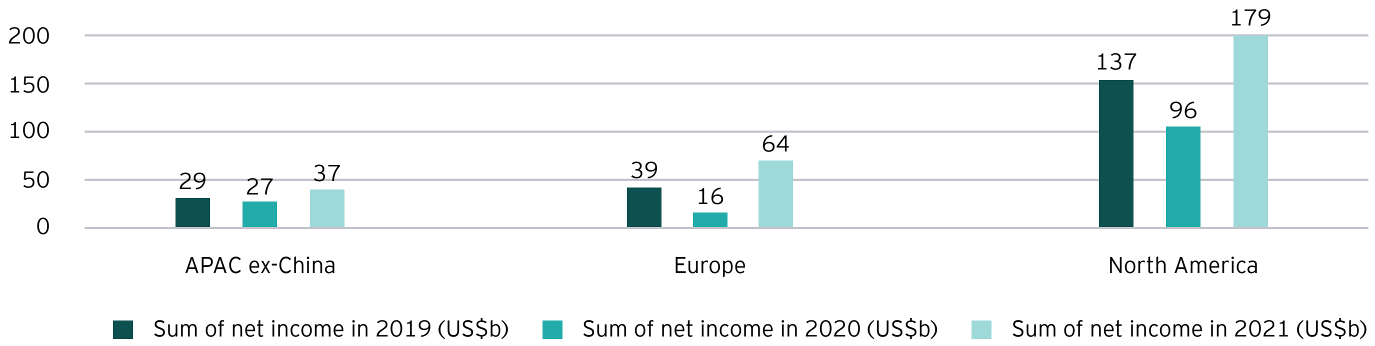
6.2 Investment banks' net income

The net income for 2021 amounted to US$280b, more than double the net income in 2020 at US$136b. Although all regions suffered a dip in 2020 due to the COVID-19 pandemic, Europe was affected the most as its net income dipped by almost 60%, as compared to APAC ex-China with a 7.4% decrease.

In 2020, Europe recorded the lowest net income among all three regions, a feat not observed before. They recorded the least net income with US$16b in revenue, followed by APAC ex-China with US$27b and North America with US$96b.

The top-performing IB recorded approximately US$48b in net income, almost 34% better than the IB in the second place with US$32b in revenue.

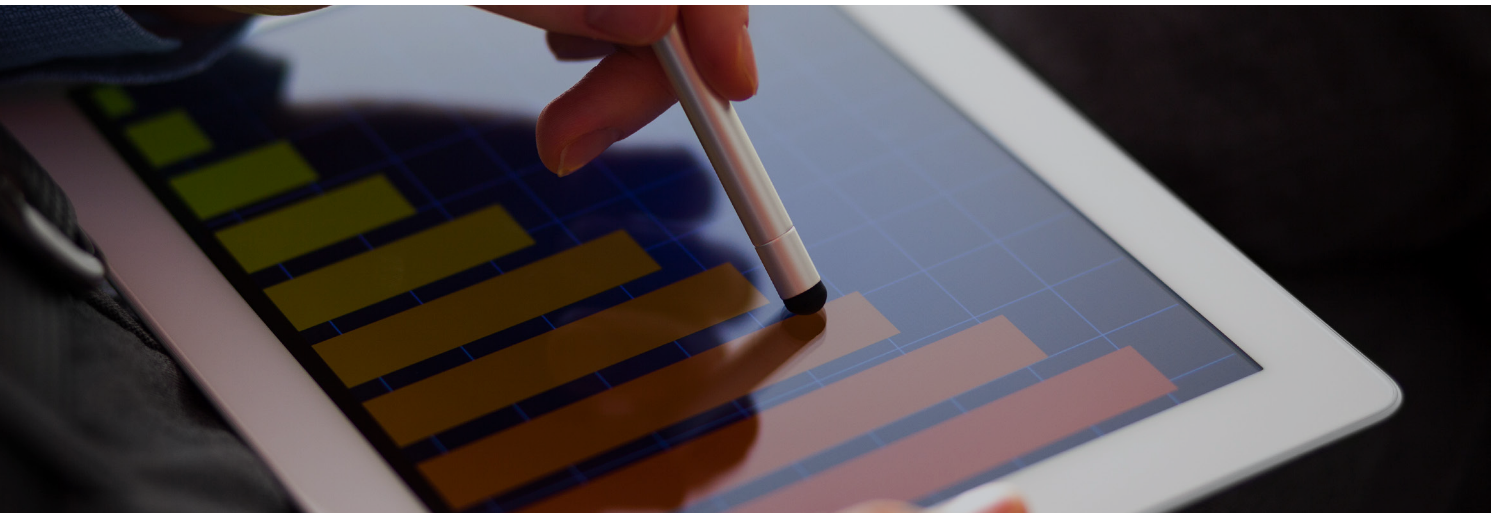
Net income of capital market banks from 2019 to 2021



6.3 Investment banks' deal performance

The top 15 IBs' (by deal value) in 2021 saw an increase of at least 27.4% YOY increase in deal value, with the top three IBs, by deal value, having increases of +95.7%, +96.1% and +47.7% YOY respectively. These top three IBs had a combined total deal value greater than US$4.5t. The top IB recorded circa US$5.6t in net revenues from their financial advisory vertical (+84% YOY), the second highest contributor to their investment banking net revenue, trailing underwriting (circa US$8.5t).

While APAC IB fees have increased to overtake Europe in Q3 2020, the performance was mainly attributed to China's fee growth. Other APAC countries either saw negligible increases (e.g., Japan) as well as some significant declines (e.g., India, Singapore and the rest of Southeast Asia).

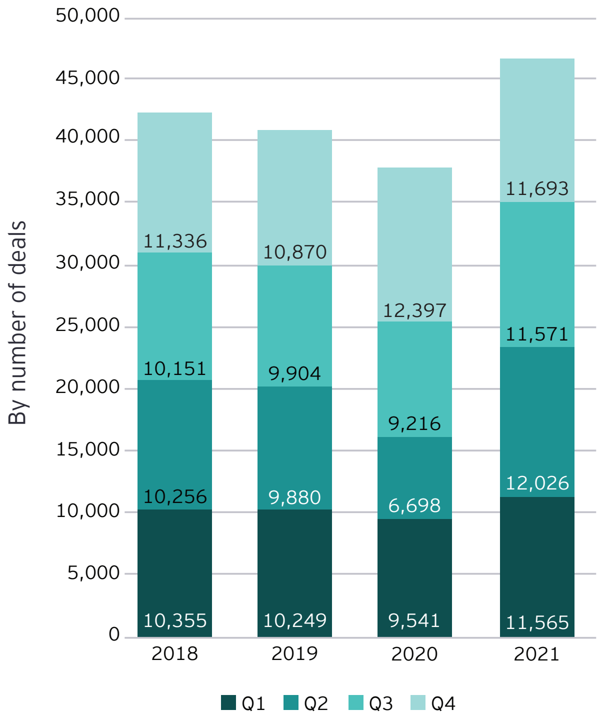


6.4 M&A landscape

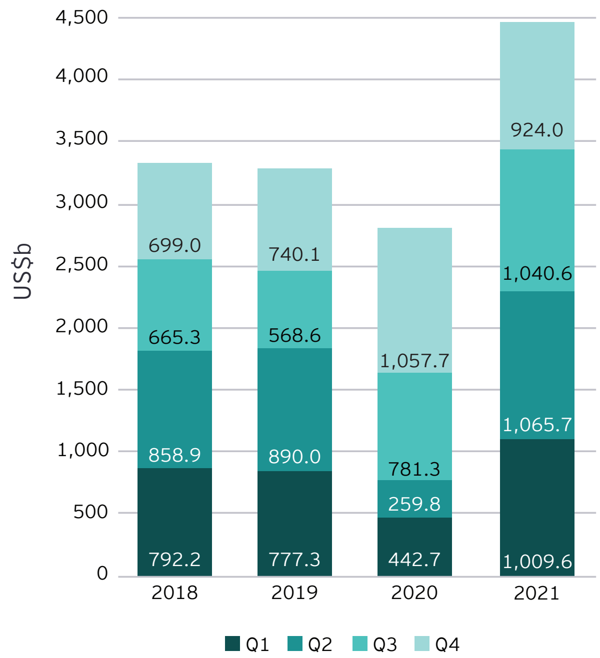
2021 saw over 45,000 transactions happening globally, with the global deal value crossing US$4t globally.[41] This resulted in a YOY increase of 23.7% and 58.9% for deal volume and value respectively.

Global M&A Activity

By number of deals

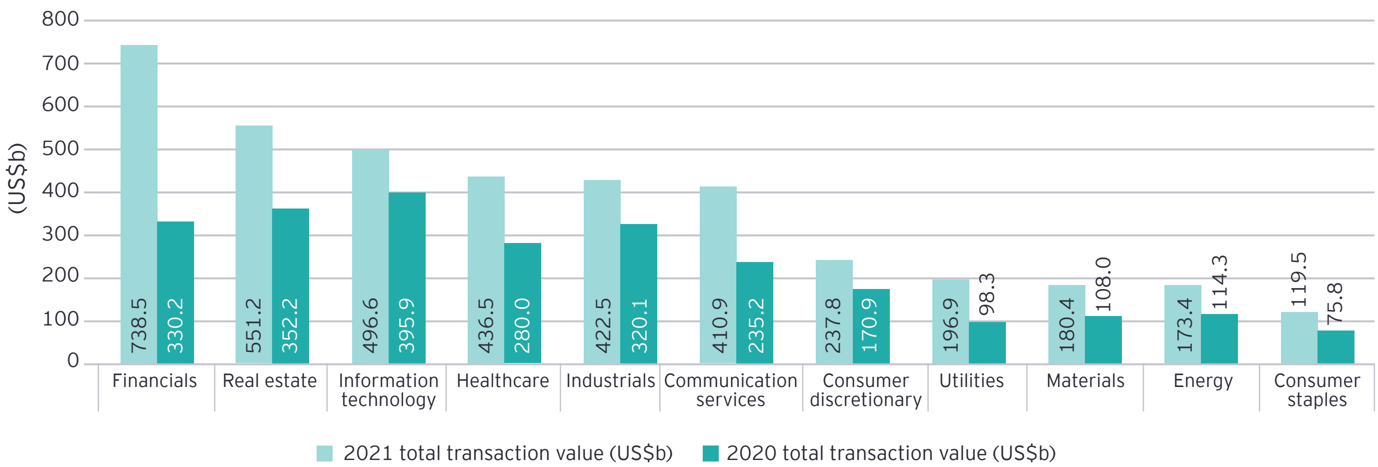


By transaction value (US$b)



Data as of 6 January 2022. Transactions include announced or completed deals between 1 January 2018 and 31 December 2021. Source: S&P Globl Market Intelligence.

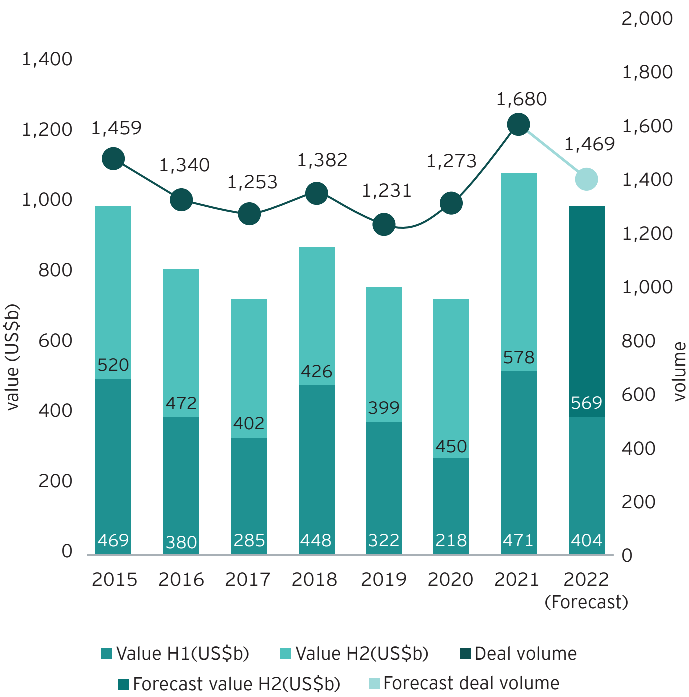
Globally, the financial sector accounted for the biggest transaction value with US%738.5b in 2021, a 123.6% YOY increase. The other top two included real estate in second place with US$ 511.2b, and IT with US$ 496.6b.



[41] "Global M&A By the Numbers: 2021 Recap," *SP global website*, spglobal.com/marketintelligence/en/news-insights/blog/global-ma-by-the-numbers-2021-recap.

The APAC region accounted for almost 7,000 transactions and 13% of the global transaction value, hitting an all-time high in 2021, with deal activity continuing strongly in 2022.[42]

In terms of actual M&A transaction value by country breakdown, Australia's M&A dominated the APAC region with US$107.9b in Q3 2021 and US$28,675.6b in Q2 2021.

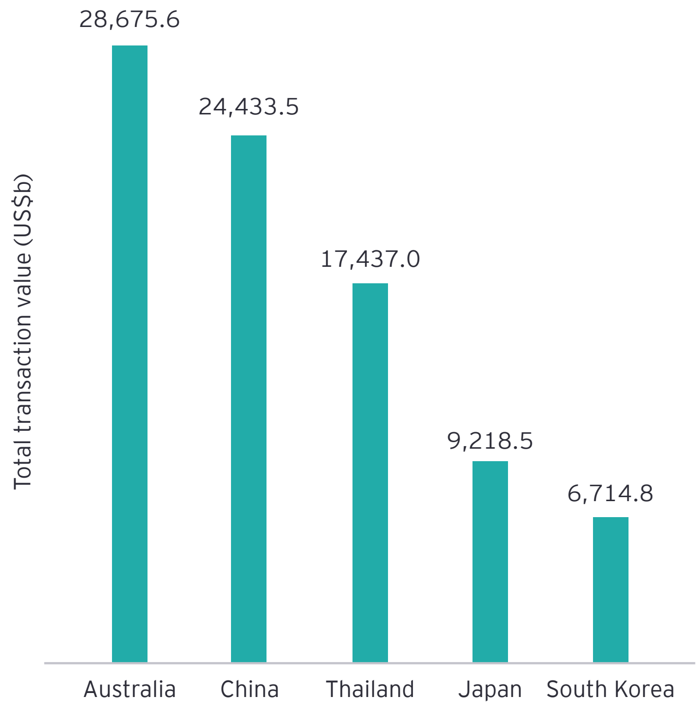


Note: Deal values above US$100m are considered for analysis.

Source: How APAC CEOs are transforming their companies through M&A," *EY website*, ey.com/en_gl/strategy/how-apac-ceos-are-transforming-their-companies-through-m-and-a.

Countries with most M&A Activity in Q2 2021

By transaction value (US$b)



Source: S&P Global Market Intelligence. Data as of 19 July 2021. Transactions include announced or completed deals in Q2 2021 with the target's geographic location disclosed.

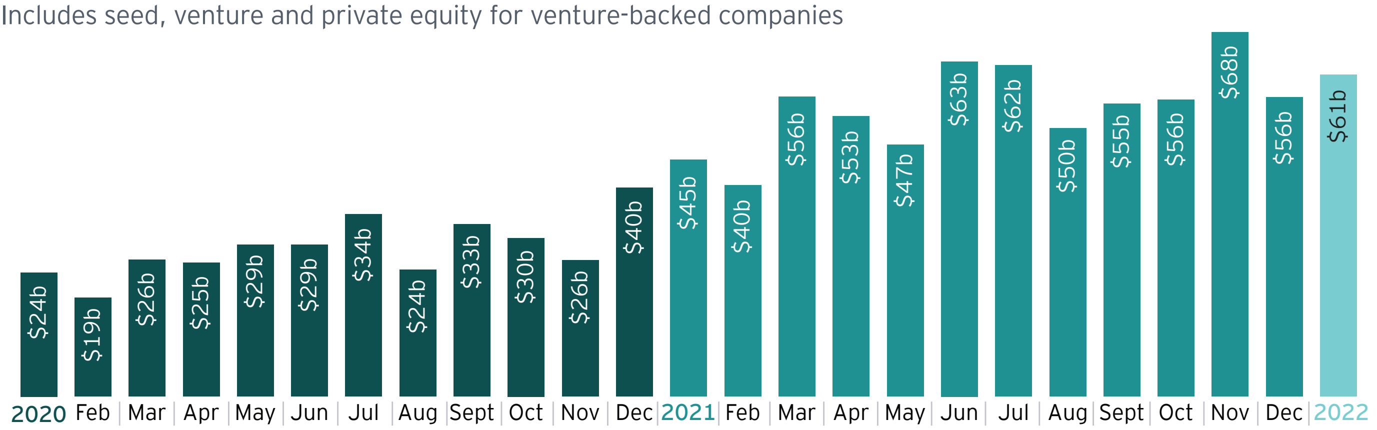
[42] "Asia-Pacific M&A hit highest value on record fueled by technological innovation and ESG agendas," *EY website*, ey.com/en_lu/news/2021/08/asia-pacific-m-a-hit-highest-value-on-record-fueled-by-technological-innovation-and-esg-agendas.

6.4.1 VC landscape

VC global funding in 2021 surpassed 2020 by more than 75%, with a total of US$598b in funding as compared to US$339b. The overall trend shows a steady increase in VC funding per month as the YOY increase from Jan 2019 to 2020 was 87.5% and 35.5% from Jan 2020 to 2021.

Global funding by month through January 2022

Includes seed, venture and private equity for venture-backed companies



Source: What Slowdown? Strong Private-Company Funding Pace Continues Into 2022 Despite Market Turmoil, Crunchbase news website.

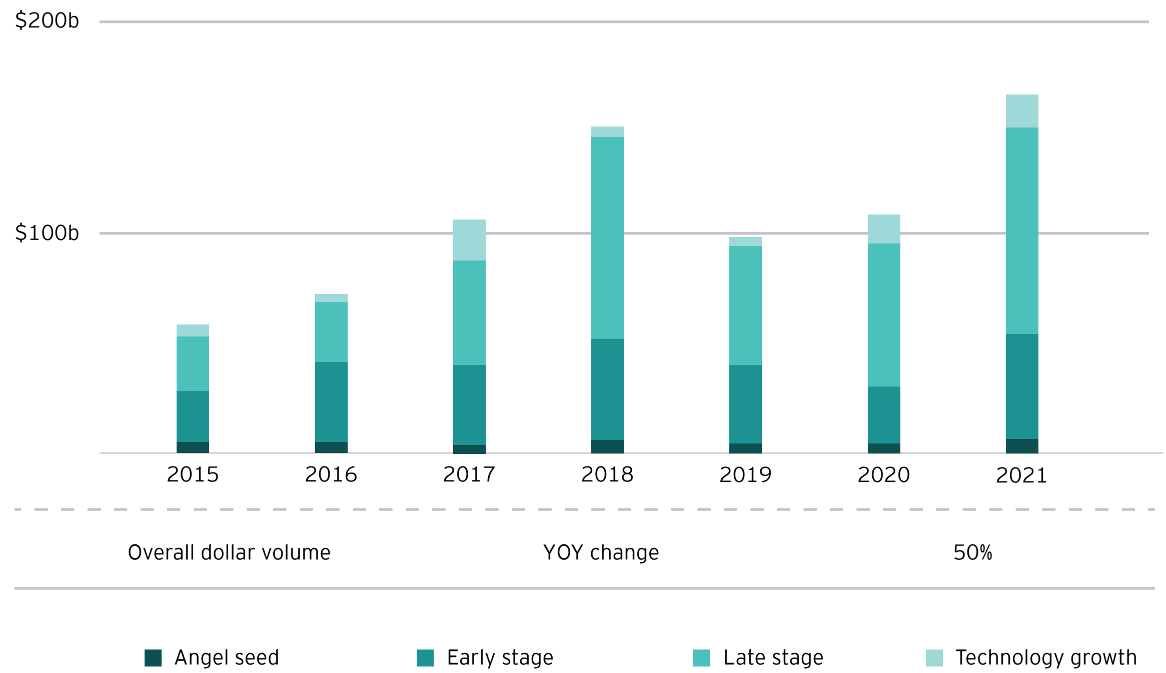
VC deals in the APAC region reached US$165.1b in 2021, a 50% increase from the previous year (US$110.2b in 2020).[43]

We are seeing increased capital around Series B and D[44] rounds as fund managers grow more risk-averse due to macroeconomic headwinds. Thus, injecting capital into later-stage companies is seen as a safer choice.

In the Southeast Asia region, the logistics tech sector attracted the most in 2020 with US$3b raised, followed by e-commerce (US$1.7b) and payments (US$1.4b).

Close to US$3b[45] was invested globally at the seed stage in January 2022. Start-up investors spent another US$18b at the early stage and just over US$40b at the later and technology-growth stage.

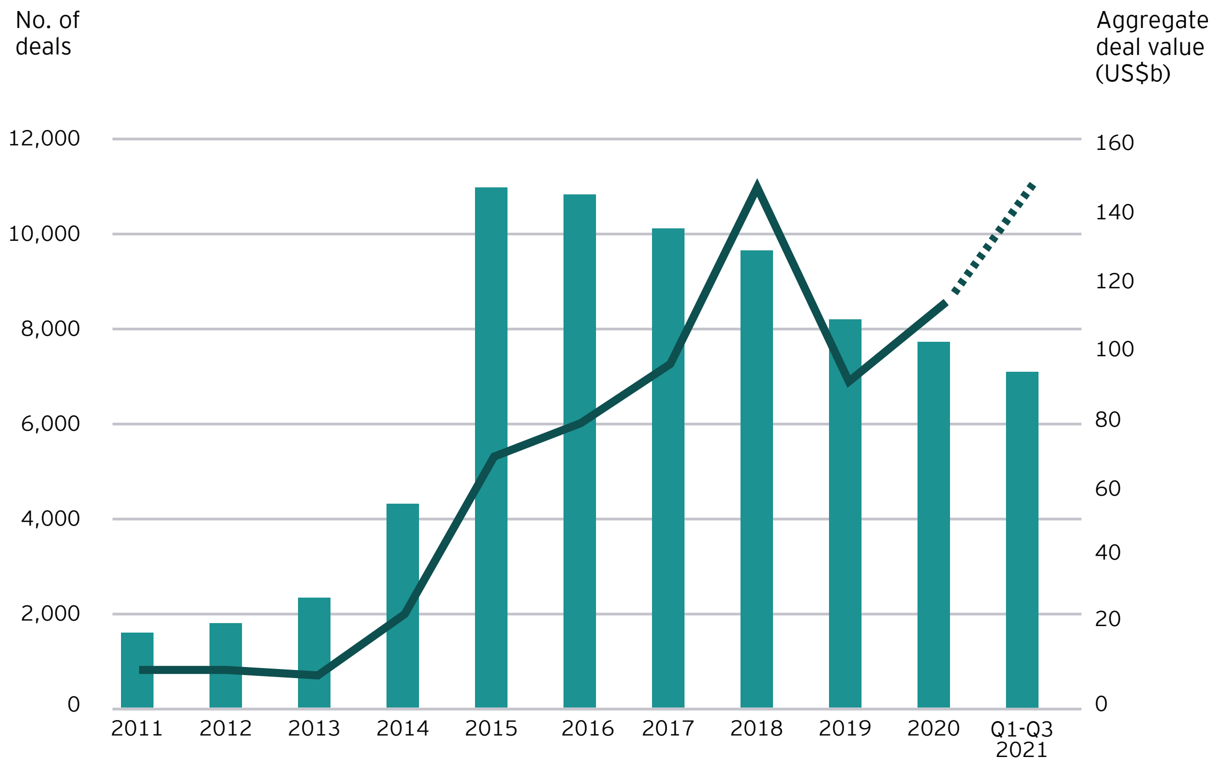
Asia venture dollar volume 2012-2021



Source: What Slowdown? Strong Private-Company Funding Pace Continues Into 2022 Despite Market Turmoil, Crunchbase news.

Scaling new heights

VC deals hit US$152b in the first nine months of 2021, having exceeded 2018's record.



Figures exclude add-ones, grants, mergers, secondary stock purchases and venture debt.
Source: Preqin.

[43] "Venture Funding In Asia Shatters Record For Year And Quarter—Thanks In Large Part To China," *crunchbase news website*, news.crunchbase.com/venture/asia-china-2021-vc-startup-funding.

[44] "Series B funding refers to the second round of funding for a business by private equity investors or venture capitalists, while Series D funding refers to the fourth stage of financing that a business completes after the seed stage.

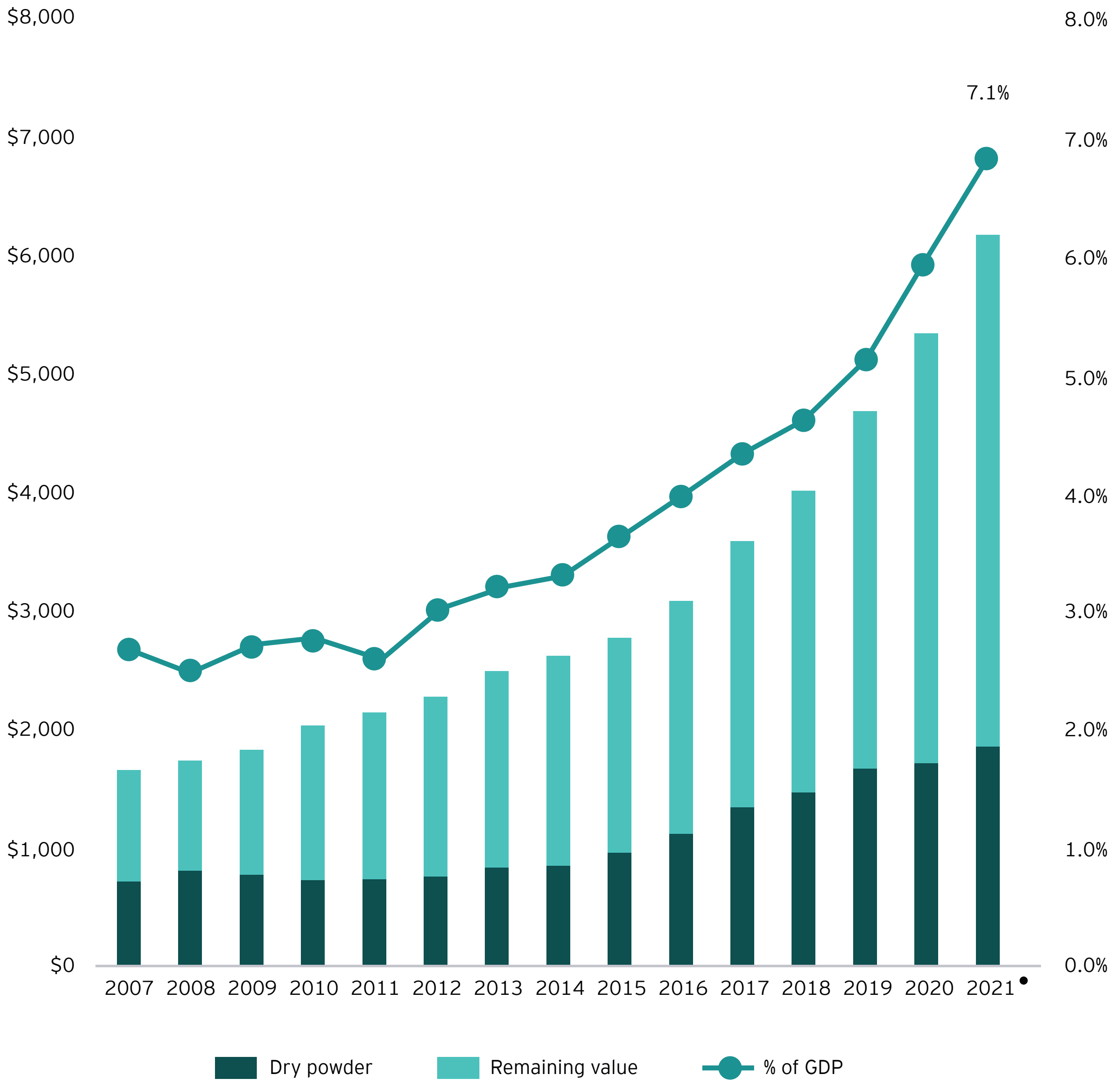
[45] "Venture Funding In Asia Shatters Record For Year And Quarter—Thanks In Large Part To China," *crunchbase news website*, news.crunchbase.com/venture/asia-china-2021-vc-startup-funding.

6.4.2 Private equity landscape

In total, 24,722[46] deals were announced in 2021, worth a disclosed aggregate US$1.2t, up from 17,618 deals worth just under half that amount the year before.

Global private equity (PE) and VC assets under management (AUM) — as % of GDP

Dry powder and unrealized value, and pitchbook



Private equity deal-making and fundraising is expected to continue at pace in 2022, although midmarket managers in both the US and Europe are mindful of high valuations and inflationary pressures as they deploy record amounts of cash.

A record US$1.32t[47] in dry powder sat in the asset class's coffers as of September 2021. Fundraising is expected to remain strong in the near future.

[46] "Global M&A By the Numbers: 2021 Recap," *S&P Global website*, spglobal.com/marketintelligence/en/news-insights/blog/global-ma-by-the-numbers-2021-recap.

[47] "Private equity managers expect another boom year in 2022," *S&P Global website*, spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/private-equity-managers-expect-another-boom-year-in-2022-68394243.

6.5 IPO landscape

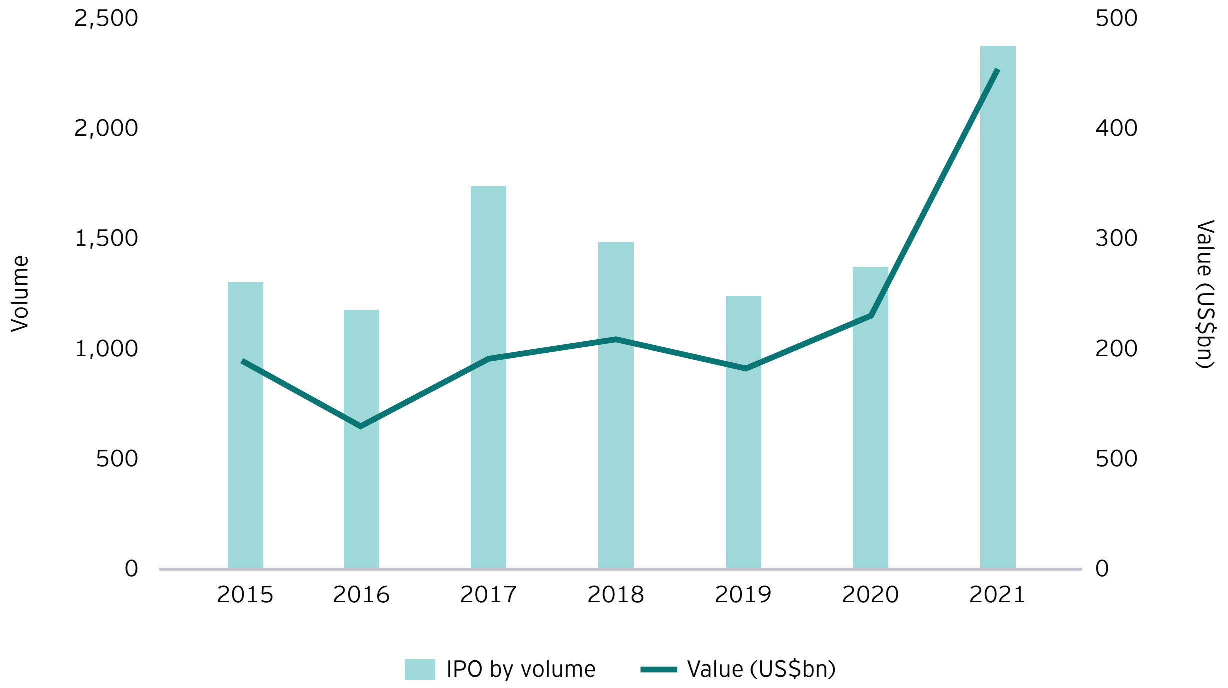
While global IPO volume and proceeds increased at a significant 73% and 81% respectively in 2021,[48] IPO activity in the APAC increased more modestly. Through 2021, the region saw 1,136 IPOs (a 28% increase), raising US$169.3b by proceeds (a 22% increase).

Japan launched the highest number of IPOs since 2006, with 128 IPOs raising US$6.8b in proceeds in 2021, a 38% and 104% increase YOY respectively. Australia and New Zealand launched 197 IPOs with US$9.2b in proceeds raised, a 159% and 144% increase respectively.

In ASEAN, growth was commendable with Indonesia (55 deals, raising US$4.8b) and Thailand (40 deals, raising US$4.1b) taking the lead in proceeds raised, followed by Philippines (6 deals, raising US$2.4b), Singapore (8 deals, raising US$1.2b) and Malaysia (23 deals, raising US$0.6b).

It is also worth noting that Hong Kong fell from being the APAC market leader in IPO issuance. IPOs launched fell to 98 in 2021, from 183 and 154 in 2019 and 2020 respectively. This marks some uncertainty in the APAC IPO landscape.[49]

Global IPO issuance, 2015 – 2021 (excluding SPACs)



IPO listings in the first quarter of 2022 have dipped to US$D65b in Q1, a YOY decrease of 70% in 2020.[50]

SPACs (Special Purpose Acquisition Companies) are growing in popularity as they made up 28% of the total global IPO value in 2021. In the year 2021, 681 IPOs were SPACs, which collectively raised US$172.3b.[51]

- **Total IPO value:** 2021 recorded US$601.2b (+87% YOY)
- **Total IPO volume:** 2021 recorded 3,021 listings (+88% YOY)

[48] "Global IPO market has record-breaking 2021, prepare for headwinds in 2022," *EY website*, ey.com/en_gl/news/2021/12/global-ipo-market-has-record-breaking-2021-prepare-for-headwinds-in-2022.

[49] "Number of newly listed companies at the Hong Kong Stock Exchange (HKEX) from 2015 to 2021," *Statista website*, statista.com/statistics/981630/hong-kong-number-of-newly-listed-companies.

[50] "How can you find the clarity to steer your growth?" *EY website*, ey.com/en_gl/ipo/trends.

[51] "Backed by SPACs, IPOs hit new heights in 2021," *White and Case website*, whitecase.com/insight-our-thinking/backed-spacs-ipos-hit-new-heights-2021.

However, not every stock exchange has taken a similar stance on SPACs. The China Securities and Regulatory Commission barred the mainland Chinese IBs it regulates from acting as promoters of SPAC in Hong Kong due to concerns over the risks associated with blank check firms. However, banks will be allowed to work as advisers on SPAC transactions under Hong Kong's listing framework. In Singapore, SGX launched new frameworks to allow SPACs to list on its exchange in September 2021.[52]

[52] "SGX introduces SPAC listing framework," *SGX group website*, sgxgroup.com/media-centre/20210902-sgx-introduces-spac-listing-framework.

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