State of FinTech in ASEAN

UOB

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Foreword

Financial technology companies (FinTechs), which combine innovative financial services business models with digital technologies, are disrupting the financial services industry globally. The financial services industry in the Association of Southeast Asian Nations (ASEAN) region too has seen a visible increase in FinTech adoption, with Singapore leading the way.

Demand for FinTech solutions in ASEAN is underpinned by the rapid adoption of technology, high-levels of mobile usage and rising rates of internet penetration, an increasingly urban, literate and young population, as well as a segment of consumers and small- and medium-sized enterprises (SMEs) underserved by traditional banking solutions. These factors and the economic potential of ASEAN have also attracted large numbers of investors to the region.

However, navigating the complexities of ASEAN, a 10-nation region with diverse economies, languages and cultures, is easier said than done. And for this reason, the ASEAN FinTech Network was formed, to unite and to facilitate collaboration between the FinTech ecosystems in each ASEAN country. In Singapore, the Singapore FinTech Association serves to connect Singapore FinTechs across ASEAN.

Building the ASEAN FinTech ecosystem is complicated and it involves various market participants and stakeholders coming together and working towards shared goals of a unified ASEAN Economic Community, increased financial inclusion for the unbanked and the seamless cross-border flow of goods, services and payments.

Realising the potential benefits FinTech innovation can bring to the region will require commitment and collaboration. Banks, FinTechs and regulators should continue to collaborate to create an ecosystem to drive greater access to financial services in ASEAN.

Working with the right partners can make or break a FinTech business. United Overseas Bank (UOB), EY, Singapore FinTech Association and the ASEAN FinTech Network have come together to produce the "State of FinTech in ASEAN", a reference guide to help you navigate your FinTech journey in ASEAN.

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Executive Summary

ASEAN embodies the aspiration of 10 uniquely different countries in Asia to bring about greater economic prosperity, and social and cultural progress for the people of ASEAN.

To achieve the 2025 ASEAN Economic Community (AEC) plan for regional economic integration, three strategic measures stand out as critical for the continued development of FinTech in the region:

1. Expand broadband access to more people and businesses to help bridge the digital divide between rural and urban areas.
2. Create a unified payment infrastructure to support mobile financial services, reducing the costs and complexities of cross-border payments and promoting financial inclusion.
3. Harmonise government policies and coordinate legal and regulatory frameworks in the areas of digital identity, privacy, trade and e-commerce.

Different gears, one direction

More than half the adult population of ASEAN is unbanked and this becomes more acute in rural areas. As a result, most of the focus of FinTechs has up until now been on payments and mobile wallets as the first step towards greater financial inclusion.

Countries such as Singapore and Thailand are already moving towards a common national payments infrastructure and QR code standard, which could become the payment standard for ASEAN in the future.

Except for Singapore, 70 per cent of wage payments and government transfers within ASEAN are still received in the form of cash, giving rise to a prime opportunity for digital wallets to thrive. Indonesia and Malaysia are already moving in this direction with more than 146 payment FinTechs being created, and this number is set to grow.

In ASEAN, peer-to-peer (P2P) lending is forecast by Allied Market Research to grow at a compound annual growth rate of 51.5 per cent to 2022. Indonesia, Malaysia and Singapore have clear regulations on P2P lending, which have encouraged the setting up of more than 40 P2P lenders in the past two years. Thailand has issued a consultation paper, whereas the Philippines and Vietnam are still at the nascent stage with few players currently operating locally.

The speed of FinTech adoption across ASEAN is varied, but the momentum is building.

Funding is fuelling the rise of FinTech in ASEAN

ASEAN as an engine of economic growth and prosperity has caught the eye of global investors and there is an abundant supply of early-stage funding in the region. Investment in Southeast Asia FinTechs jumped 33 per cent year-on-year to US$252 million in 2016, according to Tracxn (Fig. 1.2). Total investment in the region this year is poised to exceed US$338 million. Beyond the traditional forms of funding from angel investors and venture capitalists (VCs), crowdfunding, venture debt and bank venture funds have also contributed to the rise in dry powder available for investing in ASEAN FinTechs.

While FinTechs are still in their early stage in ASEAN, digital platforms such as e-commerce have proliferated, backed by internet giants who have the financial muscle to make large, billion dollar investments in the next unicorns of ASEAN. The battle for the consumer wallet and mindshare will continue to drive investment as internet giants seek to establish a foothold in ASEAN, starting in Singapore, Indonesia and Thailand.

Ultimately, it is still serving the customer that matters

"Innovation for innovation's sake" should not be the focus. Innovation should be used to add value to, and to improve people's lives. All this activity will come to naught if consumers and businesses do not adopt the solutions created. Therefore, it is imperative for FinTechs not only to be well-funded, they must have a solution that customers need and want, and strategic partners that can help connect them with customers.

With the abundance of funding, an encouraging regulatory climate, benefits from the AEC 2025 blueprint and the willingness of consumers to use FinTech solutions, there are many factors in favour of FinTechs in ASEAN. The litmus test, however, remains actual adoption and usage.

FinTechs, ASEAN is waiting for you.

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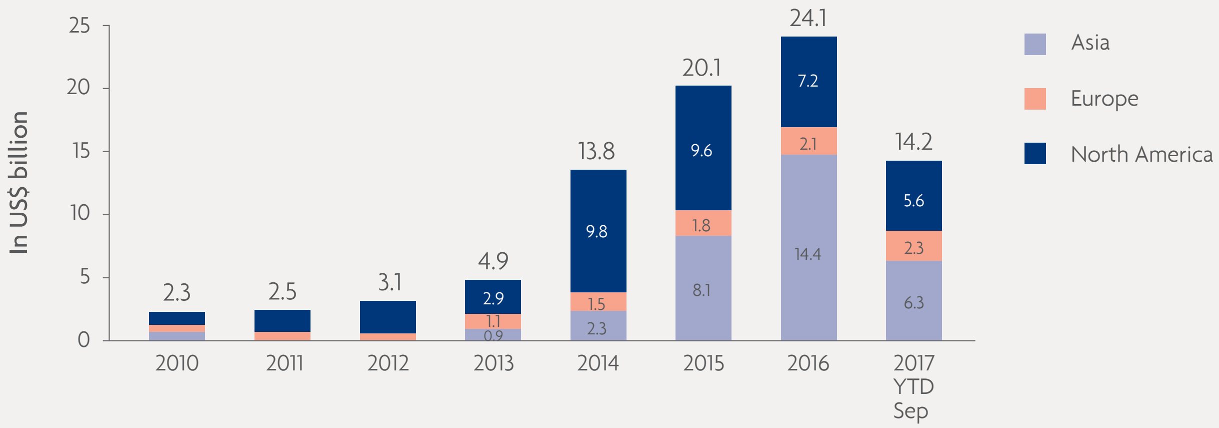
SECTION 1

Rise of FinTech in ASEAN

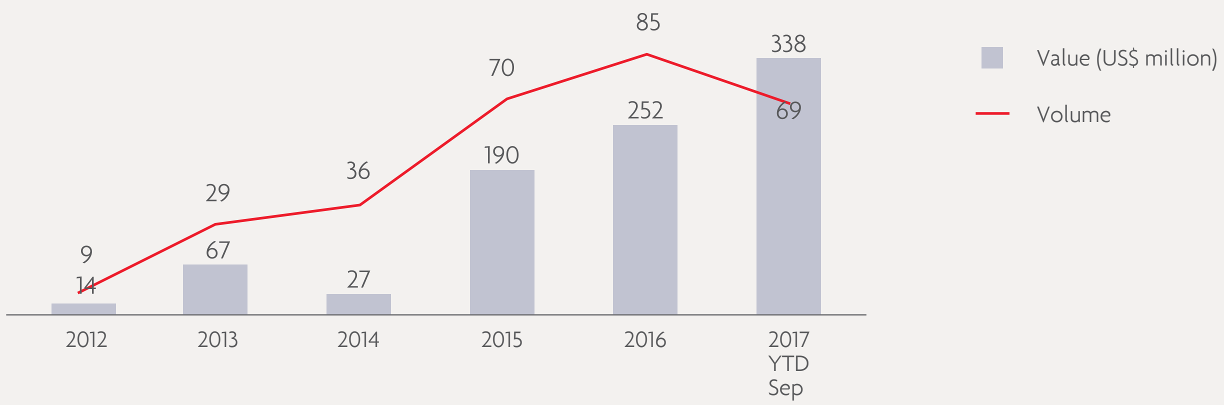
Fig. 1.1: Global FinTech investment activity



The global FinTech industry attracted more than US$24 billion in investment in 2016, ten times the level received in 2010 (Fig. 1.1).

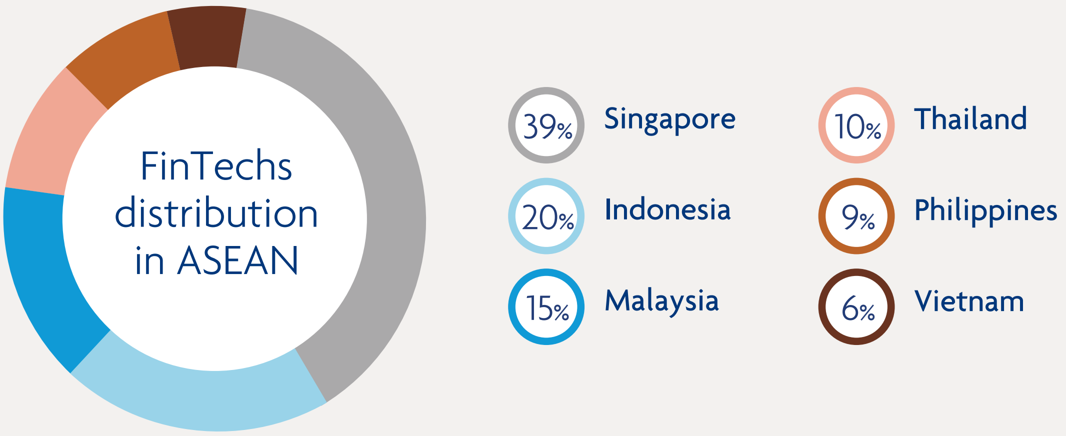
FinTech investment in Asia exceeded North America for the first time in 2016, led by blockbuster deals in China, including Alipay and Lu.com raising US$4.5 billion and US$1.2 billion respectively.

Fig. 1.2: FinTech funding ASEAN



ASEAN too is witnessing visible growth in FinTech. In 2016, investments in the Southeast Asian FinTech market increased to US$252 million, compared with US$190 million in 2015, a rise of about 33 per cent. Total investment up to September 2017 has already exceeded that of 2016 to reach US$338 million (Fig. 1.2). Most of the funding in the region is from seed and angel investors.

Fig. 1.3: FinTech distribution in ASEAN



Source for Fig. 1.1 to 1.3: Tracxn, Total number of FinTechs – 1228 in six countries

Data from Tracxn shows that Singapore is home to the lion's share of FinTechs in ASEAN, at 39 per cent (Fig. 1.3). Singapore's developed financial infrastructure and supportive regulatory policies have positioned the country well to compete with other global FinTech hubs, such as Hong Kong and London.

Indonesia, Malaysia and Thailand are fast catching up with Singapore as a preferred FinTech home, supported by high levels of mobile adoption, rising rates of internet penetration and an increasingly urban, literate and young population.

This has attracted large numbers of investors and FinTechs to focus their attention on the region.

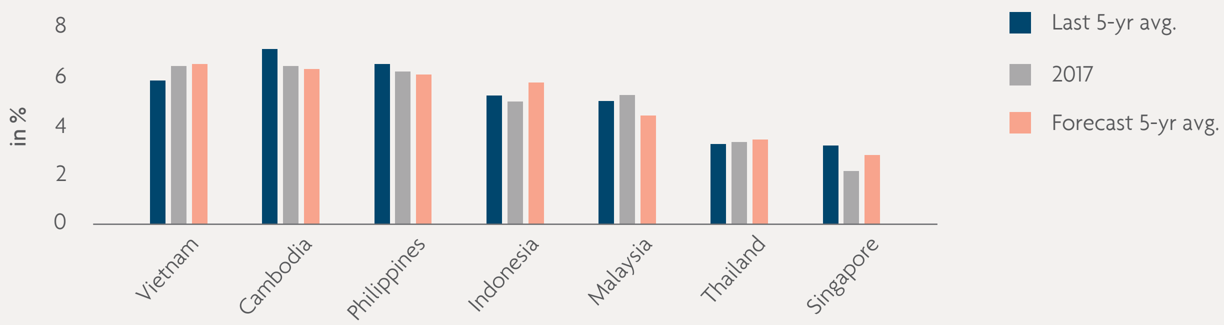
SECTION 2

Drivers of FinTech in ASEAN

Strong GDP growth, favourable demographics, digital readiness and regulatory initiatives offer a plethora of opportunities for FinTechs across the ASEAN region. Improved cross-border interoperability and policy standardisation will also help ASEAN to maximise the full benefits of digital technology.

2.1 Robust macroeconomic growth and a young urban population will drive FinTech demand in ASEAN

Fig. 2.1: Real GDP average growth (%)



Source: Business Monitor International

Strategically located in the heart of the Asia Pacific region - and home to two-thirds of the world's population – ASEAN is a dynamic economic hub of more than 630 million people, generating a Gross Domestic Product (GDP) of US$2.5 trillion and international trade of US$2.3 trillion in 2015.[1]

Around 50 per cent of ASEAN's population is under 30 years of age.[2] By 2030, this large young population will enjoy increased levels of literacy and contain many first-time job seekers. Southeast Asia's urban population is also expected to increase by an estimated 100 million, to 373 million people by 2030.[3]

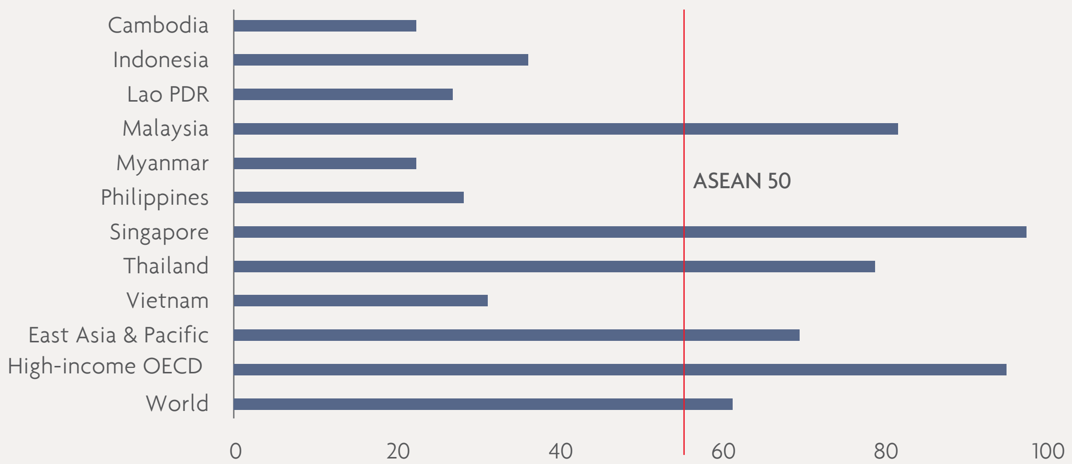
Overall, the future prospects of the ASEAN economies are positive, with Business Monitor International forecasting average real GDP growth of six per cent or higher in the emerging economies of Cambodia, Indonesia, the Philippines and Vietnam. The low government debt will also provide a fiscal cushion to ASEAN economies when compared with developed economies (Fig. 2.1).

Above average economic growth, together with a young, digitally-savvy population will help to stimulate middle-class spending which in turn will drive demand for financial services.

2.2 Banking penetration remains low for the majority of ASEAN countries

The ASEAN Economic Community's Vision for 2025 is focused on closing the digital gap, increasing financial access and literacy, expanding the scope of intermediary facilities (such as digital payments) and developing financial services for smaller firms and lower income groups. It supports information and communication innovation and technological developments such as big data and data analytics.

Fig. 2.2: Adults with an account (2014) (%)



Source: World Bank

As at 2014, more than half of the adult population of ASEAN does not have access to banking services, which means more than 264 million adults in Southeast Asia are unbanked.[4] The gap widens in rural areas, where 74 per cent of the population does not have access to a bank account.[5] Key barriers to financial inclusion include the lack of personal documents and credit history, poor financial infrastructure, logistical and delivery challenges, restrictive regulations and financial products offered by banks in major cities that are more suited for an urban population. The large unbanked/underbanked population of ASEAN makes it an attractive region for FinTech companies to develop solutions and to go to market.

Additionally, all the ASEAN countries including Malaysia, Singapore and Thailand, which have high levels of bank penetration, rate low in regard to credit availability in the micro, small and medium sized enterprise (MSME) sector. FinTechs in the region are also exploiting this credit gap to offer services to this underserved segment, which is not the traditional target segment of financial institutions.

2.3 ASEAN is ripe for digital adoption

Table 2.1: Digital readiness of ASEAN countries

Countries	Indonesia	Malaysia	Philippines	Singapore	Thailand	Vietnam
Population (in million), 2016[6]	261.1	**31.2**	103.3	5.6	**68.9**	92.7
Individual Internet users (per 100 people), 2016[7]	25.4	78.8	**55.5**	81.0	47.5	**46.5**
Fixed broadband subscribers (per 100 people), 2016[8]	1.9	**8.7**	5.5	25.4	**10.7**	9.9
Mobile subscriptions (per 100 people), 2016[9]	149.1	**141.2**	109.2	146.9	**172.6**	128.0
Active mobile-broadband subscriptions per 100 inhabitants, 2016[10]	67.3	91.7	46.3	144.6	94.7	46.6
Smartphone penetration, 2016[11]	24%	35%	15%	85%	37.7%	36
Network Readiness Index (Rank out of 139 countries), 2016[12]	73	31	77	1	62	79
Number of branches (per 100,000 people), 2015[13]	17.8	10.7	8.8	9.3	12.6	3.8
Number of ATMs (per 100,000 people), 2015[14]	53.3	51.1	25.3	60.0	113.5	24.0

With the exception of Singapore, ASEAN countries are in the early stages of their digital journey. The proportion of internet users varies, with Singapore, Malaysia and Philippines having penetration levels of above 50 per cent, whereas in Indonesia the number is only 25.4 per cent. However, the region ranks third globally in terms of the number of mobile users, behind only China and India. ASEAN ranks fourth globally in terms of the number of internet users, behind China, India and the US. Estimates indicate that combined, Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam represent the world's fastest growing internet market (~14 per cent five-year compound annual growth rate (CAGR)) with an existing internet user base of 315 million forecast to grow to around 480 million by 2020.[15]

Mobile access in these countries is high, even in comparison with the developed markets of the United Kingdom and the United States. Digital research firm GfK estimates that in 2016, around 90 per cent of online consumers access the internet daily via their smartphones. Low access to the formal financial sector but high and increasing mobile and internet penetration provides a huge opportunity for FinTech companies in the region to offer financial services to traditionally underserved segments. As a result, the e-commerce market is expected to be worth around US$88 billion by 2025.[16]

However, apart from Singapore and Malaysia, many of the ASEAN countries rank quite low in the Network Readiness Index (Singapore at #1 and Malaysia at #31, with the rest of the ASEAN countries ranking between 60 and 80). As consumer demand for digital services increases, governments must invest in building a robust infrastructure to support future demand.

2.4 Consumers are ready for FinTech solutions

Table 2.2: Customer response to usage of online- or mobile-only non-bank financial products or services in the past 12 months

	Indonesia	Malaysia	Singapore
Yes, and I plan to continue using them in the future	64	**49**	45
No, but I would consider using them in the future	21	26	**28**
Yes, but I don't plan to continue using them in the future	8	**7**	5
No and I would not consider them in the future	2	**6**	10
Don't know/I'm not sure	6	12	12

Source: EY Consumer Banking Survey 2016

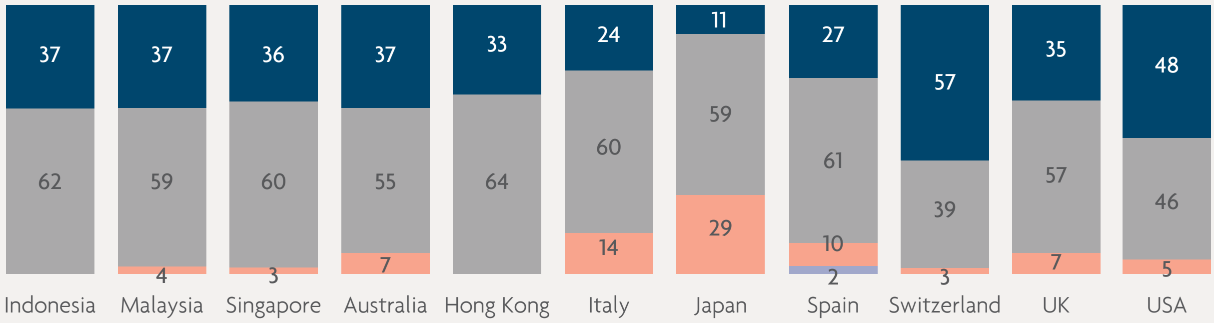
Consumers globally are becoming more receptive to alternative banking channels. In the past, the main drivers of competition in the financial services industry were price, product and scale of the branch network. Today, consumer experience is the main driver of channel choice. The emphasis now is on simplicity, speed, convenience, round-the-clock connectivity and responsiveness to consumer needs.

FinTechs appear to have an upper hand in conceptualising extremely simple and intuitive customer experiences. According to EY's Consumer Banking Survey 2016, 42 per cent of consumers globally have used an online/mobile-only non-bank financial service in the past year, signalling their willingness to try out FinTech solutions. Furthermore, 21 per cent of consumers indicated that they would consider trying out a FinTech solution in the future.

In ASEAN, more consumers have used non-bank financial services in the past 12 months; 64 per cent in Indonesia, 49 per cent in Malaysia and 45 per cent in Singapore.

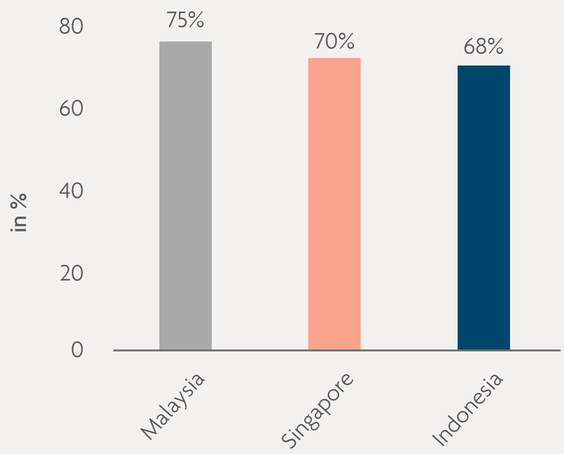
The remainder have not used them yet, are averse to using them, do not plan to use them in the future or do not know/are unsure of how to use them. One reason for this could be the absence of trust in online-only FinTechs, which have only been around for a few years and the consumers' desire to put their savings in safe and regulated financial institutions. For example, 54 per cent of Malaysian banking consumers said that they would not trust a financial service provider without physical branches.

Fig. 2.3: Trust in primary financial service providers



Source: EY Consumer Banking Survey 2016

Trust is essential in banking. Consumers in Indonesia, Malaysia and Singapore trust their banks more when compared with Western counterparts in the UK and the USA. More than 96 per cent of consumers in Indonesia, Malaysia and Singapore have moderate to complete trust in their primary financial services providers, compared with 94 per cent in the USA, 93 per cent in the UK, 88 per cent in Spain and 84 per cent in Italy (Fig. 2.3).



Source: EY Consumer Banking Survey 2016

"Banks have an important role to play in helping people achieve their life goals through their expertise across all types of financial products."

Unlike the relationship consumers have with their bank, the relationship between FinTechs and consumers has not been time-tested. Ninety-four per cent of global consumers have not moved their primary relationship to new companies offering simpler services than traditional banks. Consumers in ASEAN still believe that banks are relevant, despite their willingness to try out FinTech services – 75 per cent in Malaysia, 70 per cent in Singapore and 68 per cent in Indonesia still believe that banks have an important role to play in helping them achieve their life's goals because of their expertise across all types of financial products.

This suggests that the rising adoption of FinTech in ASEAN may be driven by FinTechs onboarding consumers who have not experienced banking services before, rather than a shift from banks to FinTechs.

2.5 Regulators are embracing change

Most ASEAN countries have already identified FinTech as a major growth area and have taken steps to nurture a supportive environment for FinTechs to prosper. Singapore is the market leader in ASEAN with the Monetary Authority of Singapore (MAS) taking a number of steps to promote FinTech. Backed by a supportive regulatory regime and progressive policy initiatives, Singapore stands competitively among global FinTech hubs.

Fig. 2.4: Benchmarked ranking of FinTech ecosystems globally

2015 rank by ecosystem attribute					
Region	Talent • Talent availability • Talent pipeline	Capital • Seed • Growth • Listed	Policy • Regulatory regimes • Government programmes • Taxation policy	Demand • Consumers • Corporates • Financial Institutions	Total points
United Kingdom	2	3	1	3	9
California	1	1	6	2	10
New York	3	2	7	1	13
Singapore	4	7	2	6	19
Germany	6	4	5	5	20
Australia	5	5	3	7	20
Hong Kong	7	6	4	4	21

Source: EY UK FinTech on the cutting edge, 2016

Relative rank: 1 = highest, 7 = lowest

Other ASEAN countries have been quick to follow suit, though their priorities and approaches are different. Most of the regulators are taking steps to facilitate innovation to ensure economies reap the benefit of innovation and remain competitive. At the same time, regulators are ensuring that they protect the integrity of the local financial services markets.

Table 2.3: Regulatory landscape of ASEAN

Country	Dedicated FinTech teams	FinTech industry enablers/utilities	FinTech regulations/ standards	FinTech regulatory sandbox
Singapore	FinTech and Innovation Group under the MAS	• National Know Your Customer (KYC) utility is a collaboration between Ministry of Finance and GovTech • Successfully completed its blockchain inter-bank payments proof-of-concept project • The Application Programming Interface (API) playbook recommends guidelines for developing financial services APIs • Industry-wide projects such as decentralised recordkeeping in trade finance supported by the Financial Sector Technology and Innovation scheme • Reducing financial requirements for crowdfunding platforms	• Consultation Paper on digital advice issued by MAS • Regulation on P2P lending and equity crowdfunding • Consultation Paper on payment roadmap issued by MAS	FinTech regulatory sandbox by MAS
Malaysia	Financial Technology Enabler Group by Bank Negara Malaysia (BNM) The Securities Commission Malaysia (SC)	• Investigating the potential of centralised digital identity, open APIs, etc. • Securities commission in Australia and Malaysia have entered into an innovation cooperation agreement to promote innovation in the financial services sector	• Regulation on P2P lending and equity crowdfunding • SC has introduced the Digital Investment Management framework • Plans to introduce regulation on cryptocurrencies	Financial Technology Regulatory Sandbox by BNM
Indonesia	Financial Services Authority/ Otoritas Jasa Keuangan (OJK) FinTech Office of Bank Indonesia (BI)	• Pundi X – Point-Of-Sales solution using cryptocurrency • OJK initiated Indonesia FinTech Festival and Conference • FinTech Office serves as a forum for assessment, risk mitigation and evaluation of FinTech business models	• Regulation on P2P lending • Regulation on minimum capital requisite for FinTech • New national payment gateway regulation published	Regulatory sandboxes by the OJK and BI respectively

Country	Dedicated FinTech teams	FinTech industry enablers/utilities	FinTech regulations/ standards	FinTech regulatory sandbox
Thailand	Securities and Exchange Commission (SEC) Bank of Thailand (BOT)	• Standardisation of QR codes between card networks • Investment promotion for FinTech • Digital Economy Plan • National e-Payment Master Plan • Planning to relax licensing requirements for digital advisory • Five-year corporate income tax exemption for new start-ups • Plan to create online authentication system • Stock Exchange of Thailand plans to launch a new blockchain-based platform for trading in start-up firms	• Regulation on equity crowd-funding and P2P lending • Guidelines on simplified advice to relax fiduciary duties for independent investment advisors • The new Payment Systems Act by end of 2017	BOT regulatory sandbox (excluding crowdfunding) SEC regulatory sandbox Office of Insurance Commission sandbox
Philippines	The Bangko Sentral ng Pilipinas (BSP)	• QBO Innovation Hub by Department of Trade and Industry and IdeaSpace • BSP working with RegTech for Regulators Accelerator to develop cutting-edge digital supervision tools and techniques • BSP considering adopting an automated complaint handling portal for customers and an API system for automated reporting for regulated entities	• Regulations on operations and reporting obligations of non-bank entities (remittance, money changing or forex dealings) • Regulations on operations and reporting obligations of virtual currency	
Vietnam	State Bank of Vietnam Steering Committee on FinTech	• Full legalisation of digital assets and cryptocurrencies • Expect to publish frameworks to aid and accelerate Vietnamese FinTech start-ups • Policy to implement National Payment Network by 2020		

The launch of the AEC in 2015 has the potential to unlock opportunities in ASEAN. Currently, the region has differing levels of digital penetration, internet speeds, infrastructure and standards. In an effort to push innovation across the ASEAN block, the International Finance Corporation together with MAS and the ASEAN Bankers Association have established the ASEAN Financial Innovation Network (AFIN) to enable real-time collaboration and cross-border policy harmonisation for better interoperability.

The industry sandbox approach under AFIN will help FinTechs, banks and regulators to test new innovations and to work towards financial inclusion. It gives banks in the region access to FinTech firms with whom they can collaborate to offer banking connectivity in a cost-efficient manner. The objective of the network is three-fold:[17]

- Address issues of connectivity, local compliance and cross-border compatibility;
- Create an industry sandbox to provide a cloud-based testing environment through which banks and FinTech players can develop, test and refine digital finance and inclusion solutions. The cloud-based approach will help in distribution of FinTech solutions to financial institutions located in multiple jurisdictions; and
- Facilitate discussions among participating regulators on cross-border policy harmonisation.

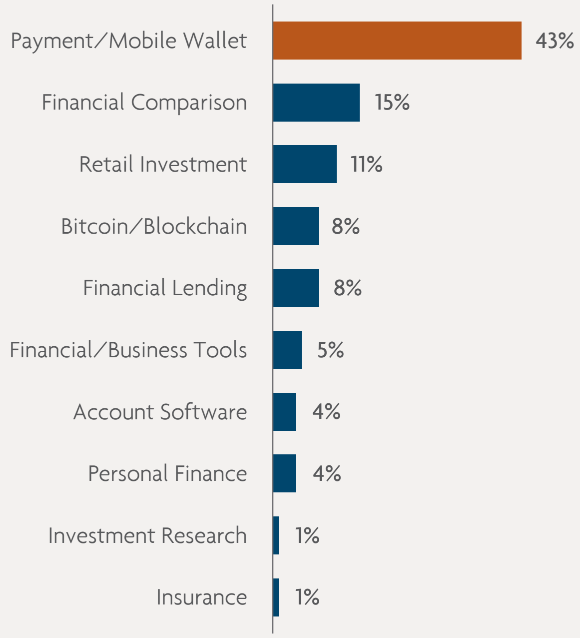
Additionally, the MAS along with the British government, insurers and InsurTechAsia have come together to promote digital innovation in the insurance sector within the region. One of the initiatives will be to launch the ASEAN InsurTech LaunchPad, where Singapore insurers can collaborate with InsureTech companies on digital innovation proofs-of-concept and pilots. The MAS and Bank of Thailand are also in discussions to connect their national digital payment systems – initial steps towards facilitating faster and seamless cross-border payments in ASEAN.

SECTION 3

Trends across sub-sectors

3.1 Payments

Fig. 3.1: Density of ASEAN FinTech industry by category



The impact of FinTech has been far more profound in shaking up the payments landscape vis-à-vis any other financial services area. New digitally-advanced start-ups are altering how, when and where payments are made.

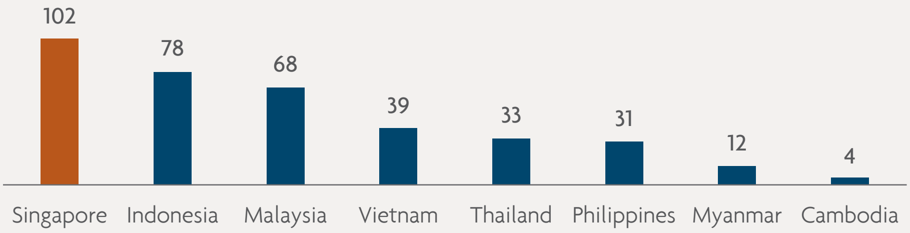
Online payments and mobile wallets (digital payments) dominate the ASEAN FinTech industry. The main driver of the payments innovation boom has been an expansion of internet access, combined with rising smartphone ownership – enabling real-time access and a sharp increase in the number of young, tech-savvy consumers. According to a Visa survey, 36 per cent of the population in Southeast Asia are active internet users and 70 per cent shop online at least once a month.[18]

Moreover, most member states of ASEAN are expecting an e-commerce boom. Convenience and security are the two main reasons for increased adoption of e-payments in the ASEAN region.

ASEAN economies are increasingly cashless, leading to greater awareness and adoption of digital payments. Bill payments, remittance and e-commerce are identified as key payment-related offerings in these markets.

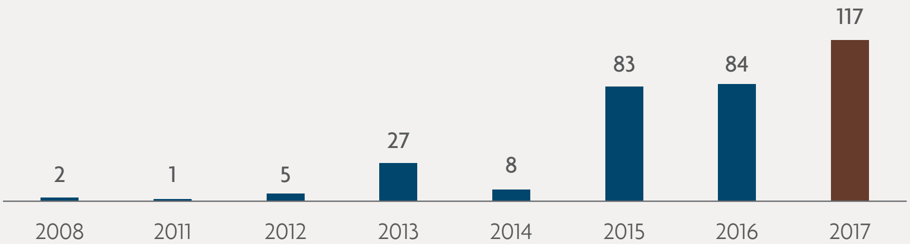
Snapshot of ASEAN FinTech Payment market

Fig. 3.2: Number of Payment FinTechs in ASEAN by country (as of YTD 2017)



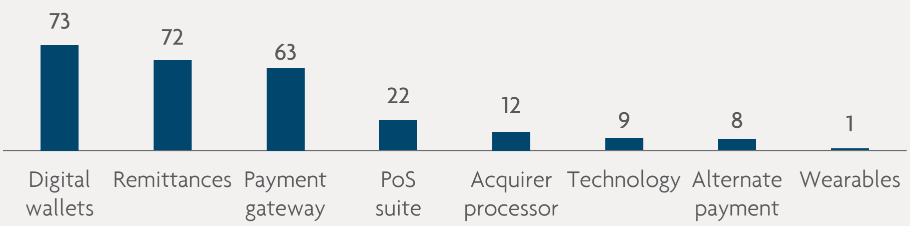
Source: Tracxn, accessed 9 October 2017

Fig. 3.3: Trend in total funding (US$ million)



Source: FinTech in Emerging ASEAN: Trends and Prospects, BBVA report, June 2017

Fig. 3.4: Investments in top business models (US$ million) (as of YTD2017)*



Source: Tracxn, accessed 9 October 2017; *in case of funding by business model, data is inclusive of pre-2011 amounts and excludes non-equity funding

According to Tracxn data, there are a total of 367 payment FinTech start-ups in ASEAN as of 9 October 2017. Singapore is the most developed payments market in the region, with almost 28 per cent of players (102 payment FinTechs) located in Singapore.[19]

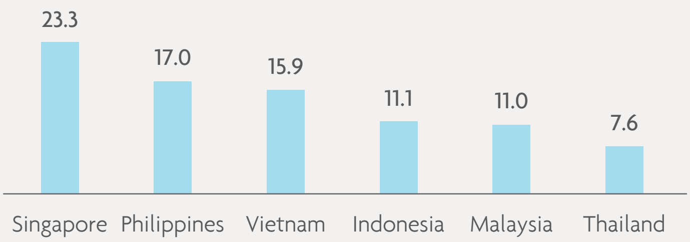
In terms of investment funding, payments is the most popular FinTech sub-sector. ASEAN-focused payment FinTech start-ups have received strong funding volumes during the last three years, registering a ten-fold spike from US$8 million to US$83 million in 2015. As of September 2017, US$117 million has already been invested in payment FinTech start-ups in ASEAN.

In the area of payments, digital wallets have received the highest amount of funds from investors, followed by remittance FinTechs and payment gateways. These top three categories are building blocks to enabling financial inclusion for the masses. The top two most funded companies in this category to date have been Vietnam-based mobile-first payment company, Momo (US$33.8 million), and Singapore-based mobile payment/e-commerce processing company, MatchMove Wallet (US$30 million).

Digital wallets

Strong growth projected for digital payments in ASEAN region over next five years

Fig. 3.5: Digital wallets penetration survey results (2015)



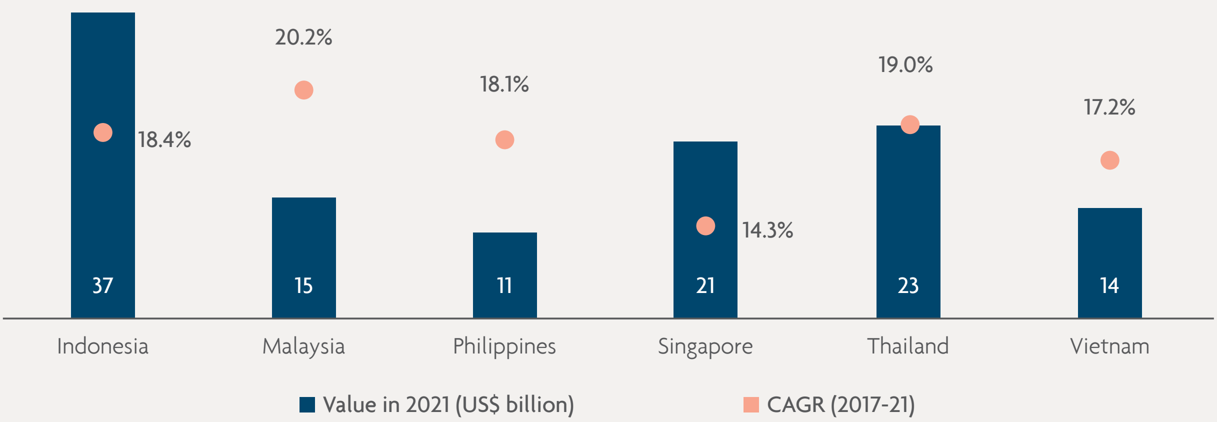
Source: MasterCard Wallet survey results, 2016

- Increased market penetration of smartphones is driving innovation in wallets as developments in biometric data and tokenisation are helping address payment security
- Singapore is the most mature cashless payments market with the highest digital wallet penetration

Singapore is the most mature cashless payments market with the highest digital wallet penetration at 23.3 per cent, followed by Philippines, Vietnam, Indonesia, Malaysia and Thailand. The increase in smartphone penetration in these countries is expected to provide a strong push to digital wallet adoption in the future.

There is also strong potential for penetration of digital payments into areas such as wage payments (71 per cent received in cash)[20], government transfers (69 per cent received in cash) and utility bills (89 per cent paid in cash). In the next five years, digital payments are expected to record double-digit five-year CAGRs across countries, with Malaysia expected to grow by 20.2 per cent CAGR from 2017 to 2021. Indonesia is also not far behind with 18.4 per cent growth and is expected to have the highest digital payments transaction value of US$37 billion in 2021.

Fig. 3.6: Digital payments transaction value and growth rate



Source: Statista, accessed on 9 October 2017

Digital payments readiness in ASEAN by country[21]:

Indonesia

Transaction value (2017):
Digital payments: **US$19 billion**
Mobile payments: **US$9 million**

Consumer readiness:
Smartphone penetration **24%**

Consumers who prefer using cards to cash 69%

Debit card penetration 50%

Estimated e-commerce GMV:
US$46 billion (2025)

Merchant acceptance:
POS machine penetration: 0.4%
(% of total population)

No. of POS machines: **1 million**

Key highlights:

- Payments is the most popular FinTech category in Indonesia (43 per cent of FinTechs belong to this category) as low card penetration is influencing innovation in the electronic payments space.
- Popular payment FinTech categories are digital wallets and payment gateway (PG) firms; PGs have evolved from being mere shopping enablers to fronting stores.
- E-commerce is expected to provide a greater push to payments: retail e-commerce sales are expected to double from US$5.6 billion in 2016 to US$10.3 billion in 2019.

Innovative FinTech player - case study:
Indonesian mobile POS FinTech player, **Moka**, provides POS software to restaurants and retail stores along with inventory management, business intelligence solutions, etc. It has acquired 1,000 stores since its launch in 2015.

Malaysia

Transaction value (2017):
Digital payments: **US$7 billion**
Mobile payments: **US$142 million**

Consumer readiness:
Smartphone penetration **35%**

Consumers who prefer using cards to cash 66%

Debit card penetration 144%

Merchant acceptance:
POS machine penetration: 1.1%
(% of total population)

No. of POS machines: **0.3 million**

Key highlights:

- Malaysia is moving towards a cashless economy. According to a survey by Visa, 68 per cent of participants said they were using more electronic means and moving away from cash.
- Banks are exploring tie-ups with FinTechs in the mobile payments domain.
- Use of digital wallets among Malaysian customers was 14 per cent (2H16). Highest increase of digital wallet usage was in the 25-34 age group (up from 15 per cent in 1H16 to 20 per cent in 2H16).

Innovative FinTech player - case study:
MyCash Online is a marketplace designed for the needs of migrant workers. It provides a wide range of money transfer financial services and enables consumers to make mobile airtime recharges internationally.

Philippines

Transaction value (2017):
Digital payments: **US$5 billion**
Mobile payments: **US$13 million**

Consumer readiness:
Smartphone penetration **15%**

No. of smartphones expected to reach 90m in 2021

Consumers who prefer using cards to cash 46%

Debit card penetration 20.5%

Merchant acceptance:
POS machine penetration: 0.17%
(% of total population)

No. of POS machines: **0.18 million**

Key highlights:

- Filipinos make ~2.5 billion payment transactions per month worth US$74 billion and only one per cent of these consist of e-payments.
- Huge unbanked population and individuals with low credit history reflects high potential for penetration of digital payments.
- The Philippines is the fastest growing market for smartphones in ASEAN and is expected to record robust growth due to low penetration.
- Digital payments are gaining popularity with the growing appeal of phone apps.
- Mobile payments and wallets is the most popular FinTech category (41 per cent of 60 FinTechs belong to this category).

Innovative FinTech player - case study:
Coins.ph is the leading Bitcoin wallet in the Philippines, which facilitates services such as cash transfer, bill payment and phone recharge. It also provides facilities to merchants to start accepting payments in Bitcoin with zero per cent fee.

Digital payments readiness in ASEAN by country[21]:

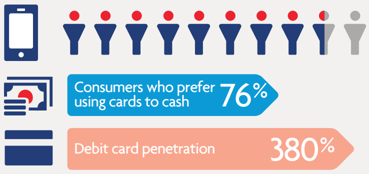
Singapore

Transaction value (2017):

Digital payments: **US$12 billion**
Mobile payments: **US$470 million**

Consumer readiness:

Smartphone penetration **85%**



Estimated e-commerce GMV:
US$5.4 billion (2025)
1 in 4 Singaporeans now use a digital wallet

Merchant acceptance:

POS machine penetration: 1.7%
(% of total population)

No. of POS machines: **0.1 million**

Key highlights:

- Singapore is one of the top cashless countries globally, with 69 per cent of consumer spending made through electronic modes.
- More than 50 per cent of the population participates in M-commerce and mobile usage at POS is expected to reach 29 per cent by 2020.
- 60 per cent of Singaporeans make purchases online, leading to increased demand for digital wallets.
- 35,000 unified POS terminals (which integrate multiple payment modes) have been rolled out across Singapore as at Nov 2017.
- Taskforce working on common QR code for Singapore, and MAS testing its own digital currency.
- FinTechs face strong competitive pressures from payment solutions offered by banks.

Innovative FinTech player - case study:

Card & Cash Payment Processor ("2C2P") provides a diverse range of innovative payment processing solutions (including payment gateways, real-time currency conversion, etc.) to merchants across the Asia Pacific region.

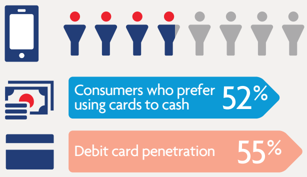
Thailand

Transaction value (2017):

Digital payments: **US$12 billion**
Mobile payments: **US$4 million**

Consumer readiness:

Smartphone penetration **38%**



Merchant acceptance:

POS machine penetration: 0.5%
(% of total population)*

No. of POS machines: **0.36 million**

Key highlights:

- According to Nielsen, 68 per cent of the Thai population use cash as the preferred mode of payment.
- Newly-launched electronic interbank transfer system, PromptPay, will play a key role in driving digital payments (30 million registrations expected by the end of 2017).
- The government's focus on e-payments presents opportunities for FinTechs.
- Top Thai banks are also launching new payment platforms to counter the competitive threat from the FinTech sector.

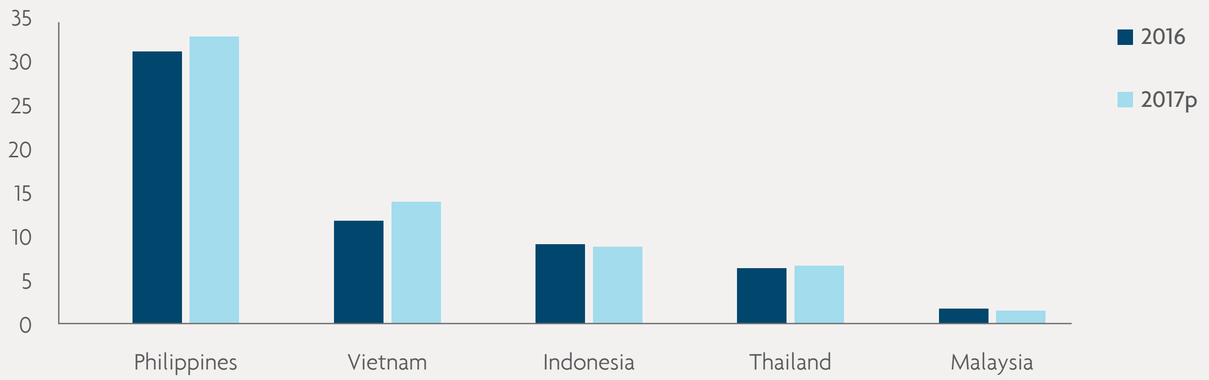
Innovative FinTech player - case study:

Omise is a payment API provider, which can be integrated into merchant websites, blogs or even social networks. Omise offers white label payment solutions and real-time fraud detection.

Remittances[22]

In 2016, ASEAN[a] received more than US$61 billion in remittances from migrant workers around the world. However, most of the remittance flow was in the form of cash. According to the Global Findex data, ~70 per cent of adults in ASEAN received remittances in cash; 61 per cent of adults who sent remittances used cash; and 33 per cent used informal channels for their transactions.[23] Remittance in ASEAN is a huge market and holds tremendous potential for digitisation.

Fig. 3.7: Inward remittance flows (US$ billion)



Source: Annual Remittances Data (updated as of Oct 2017), World Bank Migration and Remittances Data, accessed 11 October 2017

Traditionally, firms offering remittance and foreign exchange services charged higher rates as a means of protection against exchange rate fluctuations, but technological innovation has enabled money to be exchanged on a real-time basis, hence reducing the currency risk. Many FinTechs have recognised this opportunity and are active in the remittance market, looking to take advantage of the cost-saving opportunities. FinTechs are also leveraging distributed ledger technology to facilitate faster cross-border payments.

Case study: Cryptocurrency start-ups gain popularity in Philippines remittance industry[24]

In recent years, several cryptocurrency start-ups have emerged in the Philippines, providing low-cost remittance services for overseas workers. Blockchain-based remittance service providers such as Coin.ph and Toast are helping expand financial access. Coins.ph has attracted more than a million users and established a network of more than 22,000 disbursement and collection locations throughout the Philippines. In the case of Toast, the target audience is overseas workers in Singapore and Hong Kong.

Moreover, mainstream Bitcoin adoption is also surging as Filipinos are turning to it for remittance payments mainly due to the inefficiency of the local banking system. According to a 2016 report, 20 per cent of remittances from the Philippines to South Korea are processed in Bitcoin. Notably, in early 2017, Bankgko Sentral ng Pilipinas (BSP), the central bank, legalised Bitcoin as a payment method and is also regulating the local Bitcoin exchanges.

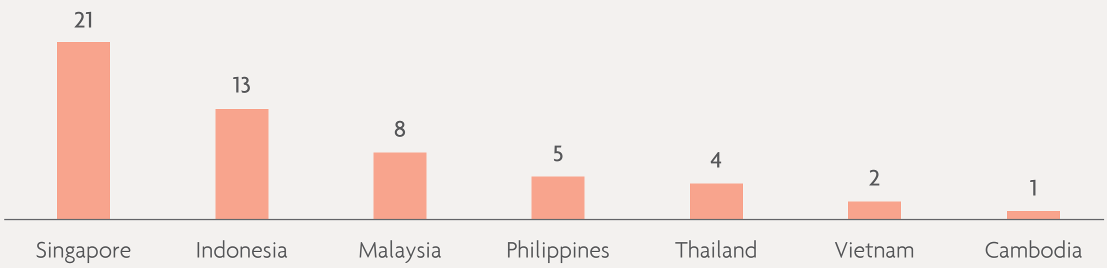
[a]Data available for Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand and Vietnam.

3.2	Peer-to-Peer (P2P) lending

The P2P lending segment has matured quickly in Europe, America, and across China since 2005. Allied Market Research predicts that the P2P market will grow at a CAGR of 51.5 per cent (2016-2022) to reach US$460.3 billion by 2022.[25]

The next growth frontiers are ASEAN, where P2P lending is still at a nascent stage (less than 0.1 per cent of all loans are originated through P2P lenders[26]). According to Tracxn data, there are 54 P2P lenders in the ASEAN region, which comprise eight per cent of the FinTech market.[27]

Fig. 3.8: No. of P2P lending platforms in ASEAN by country (YTD 2017)



Source: Tracxn, accessed 9 October 2017

Traditionally, the main target market for P2P lenders are consumers that are underserved by the formal banking system.

ASEAN countries have limited formal banking credit availability for the MSME sector. MSMEs (firms with<100 workers) comprise 74 per cent of total employment and approximately 41 per cent of GDP in ASEAN economies. Moreover, alternative funding sources such as venture and angel capital, private equity funds and SME exchanges are not well-developed enough to meet the growing demands of MSMEs in ASEAN. P2P lenders are leveraging technological advances to narrow this credit gap and to provide access to capital for this underserved segment[28]. As a result, there is huge potential for higher levels of P2P lending across ASEAN, especially for the MSME segment.

Case Study: P2P lender operating across several ASEAN countries
Funding Societies: A Singapore-based P2P lender with operations in Malaysia and Indonesia. It is focused on raising funds for SMEs who do not qualify for bank loans. Together with sister platform, **Modalku**, Funding Societies is currently the largest SME loan crowdfunding platform in ASEAN. As of July 2017, Funding Societies has crowdfunded more than US$50 million and offered 700 SME loans in ASEAN. It was the first platform to launch in Malaysia with a focus on raising funds for SMEs. It raised RM320,000 for two-term loan financing programmes within three weeks in March 2017 and aims to seal 80 to 120 deals in the next 12 months and raise RM10 to 20 million. The default rate of the platform is low at 2% (based on its 1.5-year track record operating in Singapore and Indonesia). It is the first P2P platform to become a member of the International Association of Credit Portfolio Managers (IACPM), a prestigious forum for credit risk management.

Highlights of P2P lending by ASEAN country:[29]

Singapore
- With a solid digital ecosystem, Singapore is well-placed to be a leading centre for P2P lending in ASEAN
- MAS regulates the P2P lending industry
- Crowdfunding platforms require a capital market services license to operate in Singapore

Indonesia
- P2P lenders can help increase financial inclusion and reduce the infrastructure financing gap of US$73.9 billion
- Many foreign firms, particularly from China and Japan, are making forays into Indonesia
- Indonesia recently set out regulations for P2P lending around ownership, investment, loan size and lender categories with an aim to supervise the FinTech sector and to encourage local P2P lending FinTechs

Malaysia
- P2P lending industry has strong potential and has support from regulators
- First country in ASEAN to regulate P2P financing FinTechs; Securities Commission Malaysia has provided P2P lending licenses to six FinTechs to widen funding avenues for SMEs; they are expected to be fully operational by end-2017

Vietnam
- Nascent P2P market
- Volume in P2P lending platforms is low
- It is difficult to bring borrowers and lenders on the same platform as there is lack of trust
- Players from Singapore and Indonesia entering/providing funds

Thailand
- P2P lending has started to gain acceptance; Bank of Thailand has issued a consultation paper on P2P lending
- New platforms can help narrow the huge interest rate spread at traditional financial institutions (rates for deposits at 2-4.5 per cent while loans average 15-36 per cent)
- P2P lending may get a market share of 2-8 per cent

Philippines
- P2P lending is a small market with limited number of players; yet to gain popularity
- New players are entering the market looking to disrupt the existing banking industry which has limited reach, leaving a large segment of the population outside the formal financial system

FinTechs launch Sharia-compliant lending products to target ASEAN's growing Islamic community
In Malaysia and Indonesia, more Sharia-compliant FinTech lending platforms are being established. Many FinTech players have launched Sharia-compliant products to broaden their footprint in Southeast Asia.

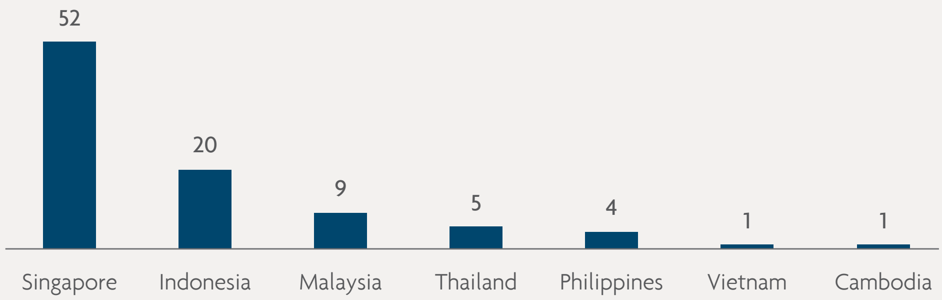
Case study: Malaysian FinTech company, HelloGold, has launched Sharia-compliant products and plans to target the ASEAN Islamic community
HelloGold: The Malaysian-based FinTech firm has certified its gold-based financial products as Sharia-compliant to cater to the demand from Islamic investors. This move is in line with FinTech companies using innovative techniques to broaden their foothold. HelloGold aims to widen its reach across emerging ASEAN markets and make gold savings available for the rising middle-income group. HelloGold has more than 3,000 users in Malaysia.

3.3 Savings and Investment

The consumer savings and investment management industry is witnessing a phase of significant demographic shift as assets are transferred to the millennial generation. FinTech start-ups offering digital investment services are gaining popularity with millennials, who are tech-savvy, believe in a do-it-yourself approach and generally prefer to avoid face-to-face business interactions.[30]

With 50 per cent of ASEAN's population under the age of 30[31], and an increasingly wealthy middle class, it is not surprising that savings and investment-related FinTechs are gaining a foothold in the region. According to Tracxn data, there are 92 savings and investment FinTechs in the ASEAN region[32].

Fig. 3.9: Number of savings & investment FinTechs by ASEAN country (YTD 2017)



Source: Tracxn, data as of 9th Oct 2017

These FinTechs have received strong funding in the last three years, totalling more than US$174 million from 2015 to 2017. In this category, the FinTechs offering solutions that aid customers in investing have received the maximum amount of funds, followed by aggregator FinTechs that enable customers to compare quotes of different financial products. The top two funded companies in this category are Singapore based multi-currency trading platform, M-DAQ (US$104.5 million), and Philippines-based financial comparison platform, MoneyMax (US$50 million).

Fig. 3.10: Trend in total funding (US$ million)

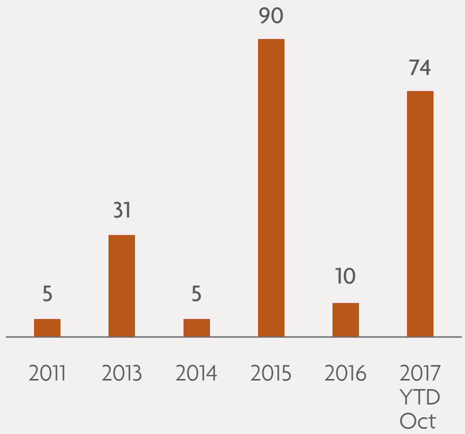
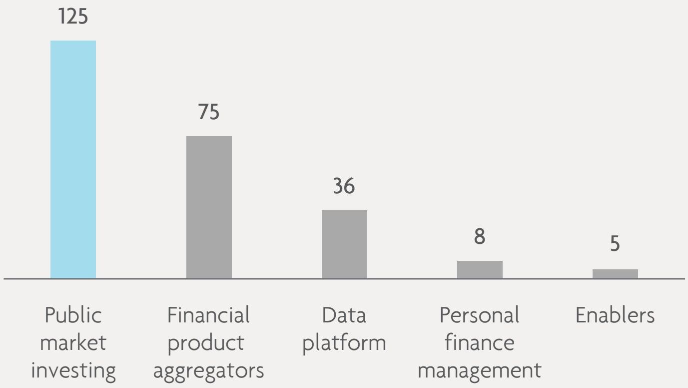


Fig. 3.11: Investments in top business models (US$ million) (as of YTD2017)*

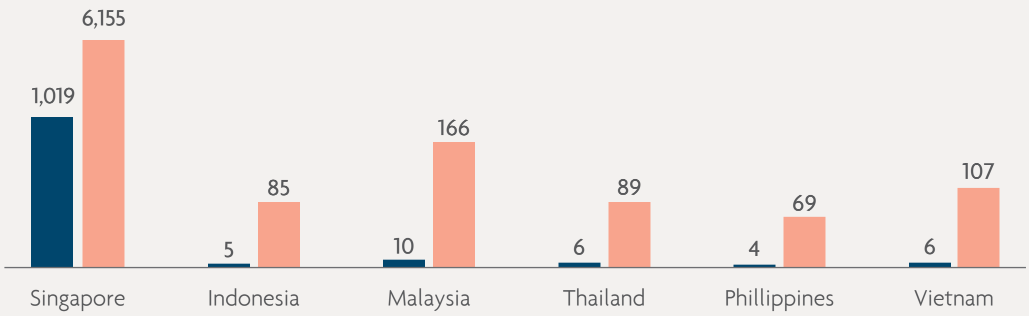


Source: Tracxn, October 2017; In case of Savings and Investment Fintechs, business models include financial service data platforms, private and public market investing, investment enablers, mid and back office solutions, financial product aggregators, personal finance management and financial literacy platforms; *in case of funding by business model, data is inclusive of pre-2011 amounts and excludes non-equity funding.

Rise of Robo-advisors in ASEAN: The emergence of the millenial generation, combined with the rise of middle-income consumer groups (traditionally unserved by wealth managers), has led to robo-advisors gaining traction. The rise of robo-advisors seeks to complement, not replace existing financial advisors who serve the wealthy in ASEAN.

EY's 2016 Consumer Banking Survey found that though 65 per cent of global consumers think having a digital presence is highly important, an equal percentage also think physical presence is highly important. Nearly 60 per cent indicate that they want to visit a branch or speak to a real person to purchase a new product or get advice, and say it is important that they can speak to a person at their bank 24/7 (55 per cent of consumers).

Fig. 3.12: Robo-advisors AUM by country (US$ million)



Source: Statista, accessed 16 October 2017

Key highlights in Savings and investment FinTech category in ASEAN:[33]

1 in 37 Singapore respondents had a robo–account and 43% is the robo-advisory services awareness rate.

Robo-advisors in Singapore mainly targeting millennials (est. 1.2m).

Growing Muslim population is leading to increasing demand for development of FinTech in terms of Shariah-compliant investment-related products in ASEAN, especially in Malaysia and Indonesia.

In Indonesia, Vietnam and Malaysia regulatory constraints make it difficult to promote ETFs, hence the robo-advisory model of the western world needs to be modified to suit local requirements.

Malaysia has introduced a digital investment services framework, setting out licensing and conduct requirements for offering of automated discretionary portfolio management services.

According to the Economist Intelligence Unit, customers in Thailand and Indonesia have the highest appetite for automated servicing although they have a small wealth management industry ($20b in assets).

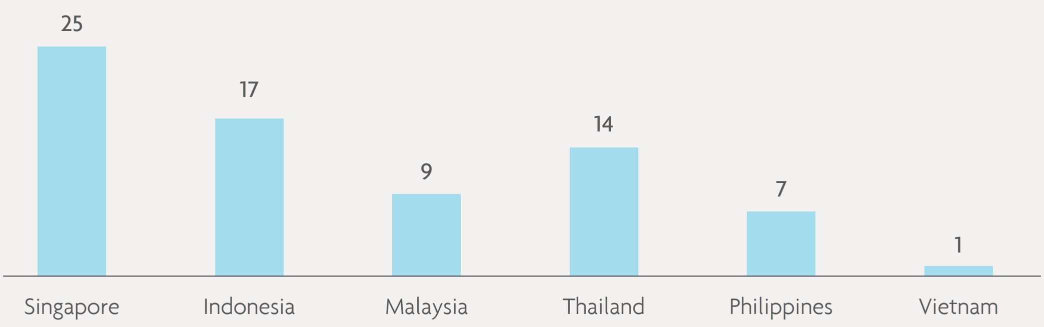
A number of foreign investors are eyeing the Vietnam market to launch robo-advisory platforms.

3.4 Emerging areas of technology

While payments, P2P lending and savings and investment remain the primary areas wherein FinTechs in ASEAN have focused their initiatives, some of the other emerging technology areas also hold strong promise:

InsurTech[34]

Fig. 3.13: Number of InsurTech firms by ASEAN country (YTD Oct 2017)



InsurTech is becoming a buzzword globally as FinTechs design digital innovations in the insurance sector. This is expected to lead to a rise in usage-based insurance and dynamically-adjusted premiums, while moving away from conventionally static premiums. This year, the ASEAN region witnessed strong funding of US$75 million in InsurTech. The most funded company in this category is Singapore Life (US$50 million).

Fig. 3.14: Trend in total funding (US$ million)

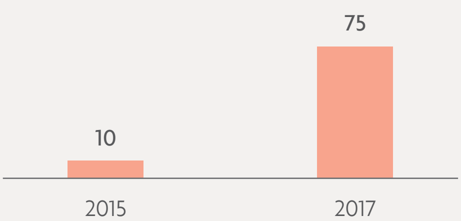
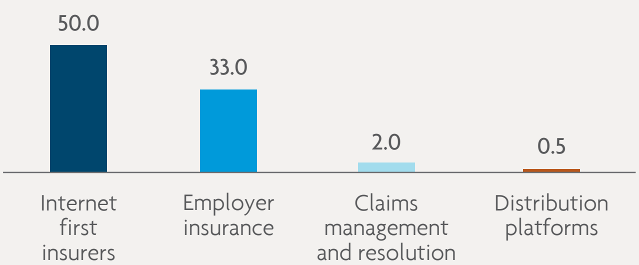


Fig. 3.15: Investments in top business models (US$ million) (as of YTD Oct 2017)*



Source: Tracxn, October 2017; *in case of funding by business model, data is inclusive of pre-2015 amounts and excludes non-equity funding

Notably, online aggregators, which enable better-informed insurance choices, are the most popular FinTech model across Western countries, as well as in India and China. However, in ASEAN, aggregators are not as prevalent, and even where they exist, for instance in Singapore, the functionality is still basic.

Telematics – the act of transmitting computerised information – is transforming the insurance industry globally. There are no specific regulations on telematics as yet across the ASEAN countries. InsurTech companies are also leveraging big data and internet of things to fuel growth.

Blockchain[35]

Blockchain is a potentially disruptive new-age distributive ledger technology that could revolutionise the ASEAN financial services industry, with wide applications in payments and trade transactions. Currently in the ASEAN region, beyond the payments and remittances market, blockchain exists largely in the pilot stage. Blockchain awareness is on the rise and ASEAN governments are keen on utilising the benefits of blockchain to facilitate financial and economic development, as well as good governance.

In March 2017, the MAS concluded its proof-of-concept project to test the use of blockchain in domestic interbank payments, working with the R3 consortium of financial institutions. The Malaysian Industry-Government Group for High Technology, an industry-government think tank, is collaborating with Bloktex, a domestic cryptocurrency and blockchain advocacy body to develop the country's blockchain industry and encourage foreign players to enter the market.

Artificial Intelligence[36]

Experts in the financial services domain believe that Artificial intelligence (AI) has the potential to become the primary channel through which financial service providers and customers will interact with in the next three years. In the ASEAN region, AI is still in its infancy. The banking sector has been a first mover in adapting AI but has faced difficulty in scaling up, mainly due to the lack of a skilled workforce and sufficient data.

Among ASEAN countries, Singapore is planning to set up the world's largest AI hub by 2018 with the aim to establish itself as a global leader in AI technologies. It plans to incubate 100 start-ups and build intellectual property in the area of AI. The Bangko Sentral ng Pilipinas, the central bank of Philippines, is looking to utilise artificial intelligence in regulatory and consumer protection functions.

Case study:

Singapore-based FinTech start-up, Active Intelligence (Active Ai), offers AI based platforms to help banks converse with their clients. It aims to have 100 million end-users in the next five years.

SECTION 4

Future of financial services in ASEAN

4.1 Increased ASEAN-wide cooperation needed to drive digital innovation

ASEAN markets differ significantly in terms of consumer preferences, technology infrastructure, regulations and policies. There are three areas that could be developed further to encourage greater levels of FinTech innovation and digital adoption.

- Expanding broadband access: In ASEAN, internet connectivity is increasing but large gaps still exist. Internet connectivity remains relatively poor in rural areas, especially in Indonesia, Thailand, the Philippines and Vietnam. Universal broadband access and widespread digital literacy will help to level the playing field between urban and rural populations and promote e-commerce and digital wallets.
- Creating a unified payment infrastructure: Creating a unified payments network will help ASEAN to reduce the costs and complexities of cross-border payments within the region. This includes implementing Real Time Gross Settlement (RTGS) systems, ACH systems domestically and common infrastructure standards.
- Policy harmonisation: Consumer protection laws vary significantly across ASEAN. At present, only Singapore, Malaysia and the Philippines have dedicated data protection laws. Indonesia, Myanmar and Vietnam have data privacy requirements as part of their respective electronic transaction laws. To create a common, unified and safe environment for customers, legal and regulatory frameworks around privacy, customs, digital trade, dispute resolution, cross-border data flow, e-commerce, and intellectual property can be harmonised. Steps taken to create digital identities for delivery of financial and social services will lead to interoperability across ASEAN countries, boosting FinTech adoption in the region.

  Though it is important to achieve harmonisation of regulations and practices across ASEAN, it might be challenging to achieve this in the short term. In the meantime, it is important that a regulatory framework be developed to help a FinTech operating in one country understand and navigate the markets in other ASEAN countries efficiently.

4.2 Nurturing the right talent

To build a sustainable financial services ecosystem, which includes a vibrant FinTech sector, it is imperative that ASEAN countries take steps to create an environment where technical, entrepreneurial and financial services talent can flourish. Currently, the FinTech workforce is relatively small in ASEAN, though the numbers are increasing. To nurture talent, countries can encourage STEM (science, technology, engineering and mathematics) education in schools and undertake a review of infocomm curriculum to replace/revise old curriculum with relevant material and skill development.

Academic pathways and education initiatives are the first steps to build a healthy pipeline of talent. Universities can play a key role in providing graduate pathways to FinTechs, promoting the sector and, in the longer term, adapting curriculums (e.g. towards entrepreneurship) and spearheading research (e.g. into artificial intelligence).

Having an intra-ASEAN support system that accommodates foreign talent through simple and flexible immigration policies and programmes would also be helpful in alleviating the FinTech talent supply crunch.

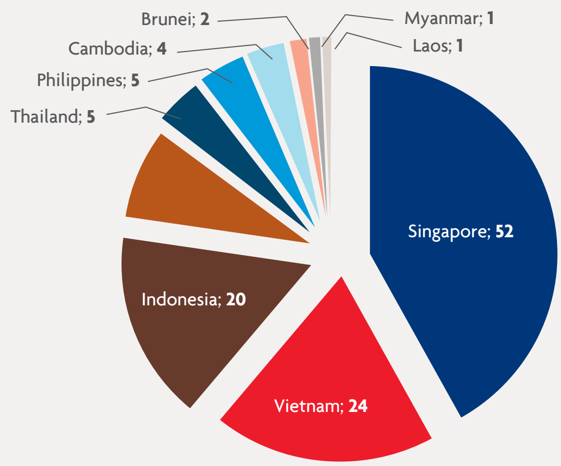
4.3 Collaboration between banks and FinTechs – the way forward

When the FinTech phenomenon first appeared on the horizon a few years ago, banks were either lukewarm or wary, particularly as the earlier dotcom bust was still fresh in the minds of many. In addition, the strength of the ASEAN growth engine was keeping the banks' core loans and deposits engine humming.

As innovation brought about by FinTech swept through the financial hubs from the US and the UK to China and Singapore, the phenomenon became an accepted reality; with the rise of adoption of innovative FinTech solutions, industry players and governments recognised that customers' needs and behaviours were changing. FinTech is now regarded as a tool to help ASEAN markets leap ahead.

Banks in ASEAN have responded to this rise by welcoming discussions and exploration of ideas via hackathons or innovation labs. Most banks have an incubator, accelerator or innovation lab to explore the ways in which they can partner with FinTechs. Singapore tops the list with more than 50, followed by Vietnam, Indonesia and Malaysia.

Fig.: 4.1 Estimated numbers of incubators, accelerators and innovation labs (by country)



Joining an accelerator programme based in ASEAN allows FinTechs to receive support and mentorship from industry players who in turn can adopt any breakthroughs happening under a shared roof.

In Singapore, several initiatives have been introduced comprising a consortium of banks and government agencies to run proofs-of-concept and pilots collectively, e.g. Infocomm Media Development Authority (IMDA)-led ASEAN KYC blockchain initiative with a consortium of banks. Banks have also increasingly opened up their core banking systems via APIs to facilitate the adoption of external FinTech solutions.

Case study

MyKey is an example where a bank has leveraged its corporate accelerator, The FinLab, to successfully integrate a P2P payment keyboard solution within a banking app. PayKey was integrated within UOB's Mighty mobile app to offer a seamless and secure banking experience. Customers can make P2P payments from any messaging app, a first in Singapore.

Collaboration is a mutual effort and FinTechs themselves can proactively seek opportunities with banks based in the region. Partnering with an ASEAN-focused bank can be a strategic advantage, with the FinTech gaining market access in ASEAN without having to execute expensive expansion plans.

Many banks too have realised that in some areas it makes more sense to collaborate with FinTech ecosystem partners, rather than to build innovation capabilities from within.

4.4 Abundant supply of FinTech funding in ASEAN

For 47 per cent[37] of start-ups, loans remain as one of the preferred financing options and banks are often the first port of call for fund seekers. However, start-ups face funding challenges at the outset, as most banks will not take on the credit risk of companies with a track record of less than three years. Founders are faced with limited funding options, from bootstrapping to turning to angel and venture investors, and may find themselves engulfed in complicated investment and financial terms, many of which have implications on future funding rounds or upon exit.

With the proliferation of accelerators across ASEAN, there are more FinTech start-ups that – having received mentorship and access to wider networks of business opportunities and investors – are better placed to survive and to scale, making them more attractive to investors keen on early-stage companies. Another area of activity is commercially-driven investments by banks, where equity stakes are taken in exchange for strategic partnership. Other investment modes include joint ventures where it is important to have some stake to signal a strong commitment.

Table 4.1: Notable investment funds by financial institutions in Asia

PingAn Global Voyager Fund (FinTech & Healthcare)	US$1 billion
Nomura FinTech Startup Fund	**US$92 million**
Siam Commercial Bank Digital Ventures	US$50 million
Mandiri Capital	US$37 million
Kasikorn Bank Beacon Fund	US$29 million

While there have been many incubator and accelerator programmes springing up in ASEAN that offer seed investment and VC funds at the Series A funding round, the more acute problem is at the Series B round where higher valuations mean that only the VC funds with really deep pockets can take the risk-return.[38]

According to a startup survey[39] commissioned by UOB in 2016, seven in ten start-ups, across the entire spectrum of early to mature stage start-ups, find it difficult to determine the type of funding that best suits their business expansion needs. While the variety of options can make it challenging for start-ups, the greater challenge lies in the lack of understanding of the various options available.

Banks in ASEAN have also started investing in FinTech via specially created funds (see Table 4.1) e.g. Siam Commercial Bank's Beacon Fund and Mandiri Capital. Others such as UOB invest through specially created entities such as UOB Venture Management. Often, the objectives are at least two-fold: investing to ride the wave of rising FinTech valuations and to leverage the FinTech's technological advantage to improve one's own products and services.

The introduction of venture debt in ASEAN in recent years has also helped FinTech start-ups with their financing needs. Venture debt minimises the dilution of equity and enables start-ups to accelerate growth based on the strength of VC backing and the start-up's cash burn rate. InnoVen, a joint venture between UOB and Temasek, has been a first mover in this space, with a commitment of US$500 million over five years to provide venture debt for high growth innovative tech start-ups throughout Asia.

Table 4.2: Notable investment funds with an ASEAN FinTech mandate

Rakuten Ventures	US$100 million
Golden Gate Ventures	US$60 million
Qualgro ASEAN Fund	US$50 million
East Ventures	US$28 million

Investment has increased in ASEAN, with non-bank venture funds also investing in FinTechs (see Table 4.2). In the 2H16 Tech Venture investment report by Tech in Asia, ASEAN seed-stage deals outnumber all others and are still growing, with bridge deals reporting significant growth. The exit ratio for ASEAN stood at 7.8x (141 deals, 18 exits)[40], with Indonesia being the main contributor.

Payments-related FinTechs have so far benefited from large investments. In 2016, Ant Financial invested US$22 million in M-Daq[41], a dynamic multi-currency exchange FinTech in Singapore and US$20 million in Ascend Money[42], an e-payment and micro loans FinTech in Thailand. More recently in 2017, Mandiri Capital also invested US$2 million in a payments start-up, Cashlez[43].

Yet, these investments in FinTech pale in comparison with investments into digital platforms in ASEAN. Grab dominated the headlines in 2017 for being the recipient of the largest investment to date (US$2.5 billion in July from Softbank). Other notable investments were mainly from Baidu, Alibaba and Tencent's expansion into ASEAN through major investments into Lazada and RedMart in Singapore, as well as Tokopedia and Go-Jek in Indonesia. The underlying link behind investments into these ride-hailing, e-commerce and e-marketplace platforms is the plan and the need to get ASEAN's banked and unbanked population, and the millions of SMEs that form the backbone of the ASEAN economies to transact electronically.

The lines between what constitutes a FinTech and a digital platform will continue to blur. In the foreseeable future, the battle for the consumer's wallet and mindshare will continue to drive this investment trend.

4.5 Future is bright for FinTechs in ASEAN

FinTechs involved in payment flows, asset management and trade finance are expected to create the greatest impact as trade continues to increase within ASEAN and with the rest of the world.

Promising FinTech companies in ASEAN could witness an increase in investment and acquisitions by investors who are looking to ride the next decade of ASEAN growth, as well as ASEAN banks seeking new and innovative digital capabilities.

While this is a good position for FinTechs to be in, those who can work effectively with banks to leverage their ASEAN banking network and knowledge of the local customer base will stand a better chance of success.

ASEAN holds promise for FinTechs, underpinned by unmet demand for financial services from the unbanked and underbanked. Regional banks, regulators, policymakers and academia have acknowledged the need for innovation and are taking steps to create an inclusive ecosystem. If the technology talent puzzle is also solved, ASEAN will be able to leap forward with FinTech – and enter the new economy as a key player in the global arena.

In the end, the ASEAN community will be the real winner.

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